

SCHEDULE 1

BANGOR BYPASS

CONDITION OF APPROVAL

MOD 2 – 74-12-2008 MOD

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Glossary and Abbreviations

ANZECC	Australian and New Zealand Environment Conservation Council
ARI	Average Recurrence Interval
CLG	Community Liaison Group(s)
CMS	Construction Method Statements
Construction	Commencement of any physical works under this Approval
DECC	NSW Department of Environment and Climate Change. Note a reference to the EPA and NPWS is to be taken as a reference to the DECC
Department, the	Department of Planning
Director-General, the	Director-General of the Department of Planning or delegate
Director-General's Report	the report of the Director-General of the Department of Planning entitled 'Proposed Bangor Bypass,' November 2002
DLWC	Department of Land and Water Conservation, NSW
DWE	NSW Department of Water and Energy
EIS	<i>The Bangor Bypass Environmental Impact Statement prepared for the</i>

EMP	RTA by Connell Wagner, dated February 2002
EMR	Environmental Management Plan
EP&A Act	Environmental Management Representative
EPA	<i>Environmental Planning and Assessment Act 1979</i>
ICLR	NSW Environment Protection Authority
L _{Aeq} 9hour	Independent Community Liaison Representative
	Equivalent continuous (constant) sound level over a 9 hour period from 10pm to 7am
L _{Aeq} 15 hour	Equivalent continuous (constant) sound level over a 15 hour period from 7am to 10pm
L _{Aeq} (15 mins)	Equivalent sound pressure level over a 15 minute interval
LA1(1 minute)	Sound pressure level exceeded for 1 per cent of the time measured over a 1 minute interval
LA10 (15 mins)	Sound pressure level exceeded for 10 per cent of the time over a 15 minute period
Minister, the	Minister for Planning
NPWS	National Parks and Wildlife Service, NSW
OEMP	Operational Environmental Management Plan
Proponent	Roads and Traffic Authority
Publicly available	Made available at the display centre on request
Reasonable and feasible	Consideration of best practice taking into account (as applicable): Benefit of proposed measures, technological and associated operational application in the NSW/Australian context. 'Feasible' relates to engineering considerations and what is practical to build. 'Reasonable' relates to the application of judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and nature and extent of potential improvements.
Representations Report	<i>The Bangor Bypass Representations Report</i> prepared by RTA Operations for the RTA, dated July 2002
RTA	Roads and Traffic Authority
SSC	Sutherland Shire Council
Substantial Construction	Does not include survey, acquisitions, fencing, test drilling/test excavations, building/road dilapidation surveys, minor surveys, minor clearing except where endangered ecological communities or threatened flora or fauna species would be impacted, establishment of site compounds in generally cleared, highly disturbed or non environmentally sensitive areas, minor access roads, minor adjustments to services/utilities and other minimal environmental/community impact activities.

General

1. The project shall be carried out in accordance with:
 - (a) the project contained in the Environmental Impact Statement (EIS), as modified by the Representations Report and as modified by the *Bangor Bypass Review of Environmental Factors Supplementary Environmental Assessment for Barry Road dated August 2003 and associated Submissions Report (dated October 2003) and Decisions Report (dated October 2003 and Bangor Bypass Stage 2 Modification Report (dated August 2008)*;
 - (b) all identified Sub Plans, safeguards and mitigation measures identified in the EIS and Representations Report and all additional information supplied by the RTA;
 - (c) the Director-General's Report; and,
 - (d) the Conditions of Approval granted by the Minister.

In the event of any inconsistency with the project as described in the documents referred to above, the Conditions of Approval granted by the Minister shall prevail.

These Conditions do not relieve the Proponent of the obligation to obtain all other approvals and licences from all relevant authorities required under any other Act. Without affecting the generality of the foregoing, the Proponent shall comply with the terms and conditions of such approvals and licences.

It shall be the ultimate responsibility of the Proponent to ensure compliance with all Conditions of Approval granted by the Minister.

Compliance

General

2. The Proponent shall comply with, or ensure compliance with, all requirements of the Director-General in respect of the implementation of any measures arising from the conditions of this Approval. The Proponent shall bring to the attention of the Director-General any matter that may require further investigation and the issuing of instructions from the Director-General. The Proponent shall ensure that these instructions are implemented to the satisfaction of the Director-General within such time that the Director-General may specify.
3. Where in any Condition of Approval any action cannot be done without the Proponent first having prepared any document or having obtained any approval (the "Pre-Condition"), that action may be done for a particular worksite, stage or preliminary works (the "Work") if the "Pre-Condition" has been satisfied for that Work.

Pre-Construction Compliance Report

4. At least one month prior to commencement of substantial construction (or within such period as otherwise agreed by the Director-General), the Proponent shall submit a report detailing how all conditions to be addressed prior to substantial construction have been complied with. The project must not commence until the Proponent has been advised in writing that the Director-General has approved the *Pre-Construction Compliance Report*.

This Report shall provide the following information as a minimum:

- (a) details demonstrating how the activities leading up to substantial construction have been addressed. Amongst other matters, these activities shall include:
 - (i) nomination and approval of Environmental Management Representative;
 - (ii) site surveying (assuming no clearance or site works are required),
 - (iii) establishment of the complaints management system and Community Involvement Plan required under this approval;
 - (iv) advertisement of activities;
 - (v) design and safety investigations, flora and fauna management, urban design and landscaping, noise and vibration management, dust management, soil and water management and traffic and spoil management requirements;
 - (vi) EMP preparation;
 - (vii) communications with Department of Planning and other relevant agencies; and,
 - (viii) compliance with all relevant Conditions of Approval.
- (b) a timeframe indicating when each of the conditions were complied with. This may include dates of submissions of the various studies and/or approval dates;
- (c) conditions placed on any approvals or licences issued by other agencies and actions taken (or proposed) to satisfy the requirements of approvals and/or studies; and,

- (d) a plan indicating how the conditions which apply to the construction stage will be satisfied.

Note:

If construction is undertaken in discrete stages then a Pre-Construction Compliance Report will need to be prepared in accordance with Condition 4 for each stage

Pre-Operation Compliance Report

5. At least one month (or within such period as otherwise agreed by the Director-General) prior to commencement of operation of any part of the project, the Proponent shall submit a *Compliance Report* for approval of the Director-General. This report shall detail how all conditions that apply prior to commencement of operation have been complied with. The report shall provide the following information as a minimum:
- (a) details demonstrating how each condition was satisfied during construction;
 - (b) a timeframe indicating when each condition was complied with. This may include dates of submissions of the various studies and/or requirements of various relevant conditions, approval dates, completion of any necessary works etc;
 - (c) summaries of major issues raised through the ongoing community consultation process and how these issues were addressed;
 - (d) summaries of major environmental issues, how they were managed, and lessons learned;
 - (e) Conditions placed on any approvals or licences issued by other agencies and action taken (or proposed) to satisfy the requirements of approvals and/or studies; and,
 - (f) a plan indicating how the Conditions which apply during the operation stage will be satisfied.

Note:

The Director-General shall provide a response within 1 month of receiving the Pre-Construction Compliance Report required by Condition 4 or the Pre-Operation Compliance Report required by Condition 5. The Director-General may request additional information if the report is considered incomplete. In such cases, the time between the date on which the Proponent receives the request, and the date on which the additional information is provided to the Director-General, shall not be taken into account in the 1 month period. The Director-General shall make any requests for additional information within 2 weeks of receipt of the Pre-Construction Compliance Report or the Pre-Operation Compliance Report from the Proponent.

Project Commencement

6. The Proponent shall notify the Director-General and all relevant authorities in writing at least 1 week prior to commencement of construction and operation. For the purposes of assessing compliance with these Conditions, the Proponent shall explicitly identify a date for construction and a date for substantial construction.

Dispute Resolution

7. The Proponent shall endeavour, as far as possible, to resolve any dispute between relevant public authorities arising out of the implementation of the Conditions of this Approval. Should this not be possible, the matter shall be referred firstly to the chief executives and directors of the agencies involved. If the matter cannot be resolved at that level, then it shall be referred to the Minister for resolution. The Minister's determination of the disagreement shall be final and binding on all

parties.

Complaints Management System

8. The Proponent shall implement a system (supported by adequate resources) prior to the commencement of construction which ensures all complaints received during construction are recorded and managed as expeditiously as possible. Minimum requirements of the Complaints Management System include:
 - (a) a toll free telephone number listed with a telephone company and advertised. This telephone number shall be attended when construction activities are occurring and enable any member of the public to reach a person who can arrange appropriate responses to the complaint(s) being made;
 - (b) adequate resourcing including human resources, communication and transport etc.;
 - (c) an appropriate person(s) to receive, log, track and respond to complaints within the specified timeframe. The name and contact details of the nominated person(s) shall be provided to SSC, relevant authorities and the Director-General upon appointment or upon any changes to that appointment;
 - (d) details of all complaints received during construction are to be recorded and at least a verbal response on what action is proposed to be undertaken is required within two hours during any night-time works and 24 hours during standard hours or non-construction times;
 - (e) a process for the provision of a more detailed response to the complainant within 10 days, if additional information exists (over and above that provided in the initial response);
 - (f) appropriate management structures to allow effective resolution of complaints; and
 - (g) a mediation system to ensure that all complaints are satisfactorily addressed to the greatest extent practicable. Where external or independent mediation is required, the mediator is to be approved by the Director-General.

Information on all complaints received, including the means by which they were addressed and whether resolution was reached with or without mediation, shall be included in the regular Environmental Monitoring Reports and shall be made available upon request.

Advertisement of Activities

9. Prior to the commencement of construction, and then at three (3)-monthly intervals, the Proponent shall advertise in relevant local newspapers, the nature of the works proposed for the forthcoming three months, the areas in which these works are proposed to occur, the hours of operation and a contact telephone number.

The Proponent shall ensure that the local community and businesses are kept informed (by appropriate means such as: newsletters, leaflets, newspaper advertisements, community noticeboards, etc.) of the progress of the project, including any traffic disruptions and controls, construction of temporary detours and work required outside the nominated working hours, in particular noisy works, prior to such works being undertaken.

10. The Proponent shall establish a project internet site prior to the commencement of construction and maintain the internet site until 12 months after opening the project to traffic. This internet site shall contain monthly updates of work progress, consultation activities and a planned work schedule, including but not limited to:
 - (a) a description of relevant approval authorities and their areas of responsibility;
 - (b) a list of reports and plans that are publicly available under this Approval and the

- executive summaries of those reports;
- (c) contact names and phone numbers of the project communications staff; and,
- (d) the toll-free complaints contact telephone number.

Updates of work progress, construction activities and planned work schedules shall be provided more frequently where significant changes in noise impacts are expected.

Communication and Consultation

Community Involvement Plan

11. The Director-General may waive the specific requirements for consultation as specified in Conditions 12 through 15 for preliminary works provided that the Director-General is satisfied that appropriate community consultation has been undertaken and subject to the approval of a specific Consultation Plan for the preliminary works.
12. The Proponent shall prepare a Community Involvement Plan for the construction period to be set in place prior to commencement of construction. The Community Involvement Plan shall set out the community communications and consultation procedures and protocols for the project, which shall comply with the obligations under the approval from the Minister, other approvals, licences and permits. The Plan shall also include but not limited to:
 - (a) details of the communication protocols and procedures and consultation team appointed to manage and implement the Plan during the construction period including qualifications and experience;
 - (b) details of the role of the Independent Community Liaison Representative (ICLR) and demonstration of how the independence of this representative will be maintained;
 - (c) a crisis and issues management plan identifying the range of consultation activities to be undertaken to minimise community reaction to construction activities;
 - (d) the maintenance and updating of the established stakeholder database including:
 - (i) identification of the local community likely to be affected by the project;
 - (ii) identification of residences, businesses and other sensitive land uses; and,
 - (iii) the specific communication needs of this community (ie. language translation, disabled access etc);
 - (e) procedures for informing users of the affected road network of planned traffic arrangements including temporary traffic switches;
 - (f) procedures for informing the local community of planned investigation and construction activities;
 - (g) provisions for dealing with complaints (particularly night time) and response requirements as specified in Condition No 8. This should include the respective protocols for the EMR, ICLR, Contractors, and any other relevant stakeholders in handling complaints and independent dispute resolution;
 - (h) provision for the Proponent's attendance and participation in all groups and public meetings forming part of the Community Involvement Plan; and
 - (i) the provision of training for all employees and sub-contractors on the requirements of the Community Involvement Plan.

Community Liaison Groups

13. Deleted

Independent Community Liaison Representative

14. The Director-General shall approve the appointment of the person(s) nominated by the Proponent to serve as the Independent Community Liaison Representative (ICLR), at least one month prior to the commencement of construction. In considering the appointment the Director-General shall take into account the qualifications of the ICLR particularly their experience in facilitation, mediation and dispute resolution. The ICLR shall serve for the duration of construction.

The role of the ICLR will include but not be limited to:

- (a) monitor and confirm that the Proponent meets all the communication and consultation obligations outlined in the approved Community Involvement Plan and as they arise during the course of the project;
- (b) be available for direct contact from the community during all hours that construction works are undertaken;
- (c) draw to the attention of the EMR and the Proponent all community complaints and issues; and,
- (d) assist the Proponent to mediate the resolution of disputes that can not be resolved by the EMR or the Proponent in consultation with the community.

The Proponent shall bear the cost of employing the ICLR.

Display Centre

15. Deleted

16. Deleted

Environmental Management

Environmental Management Representative

17. Prior to the commencement of construction, the Director-General shall approve the appointment of the person nominated by the Proponent to serve as the Environmental Management Representative (EMR). In considering the appointment, the Director-General shall take into account:
- (a) the qualifications and experience of the EMR including demonstration of general compliance with AS/NZS ISO 14012:1996 *Guidelines for Environmental Auditing : Qualification Criteria for Environmental Auditors*;
 - (b) the role and responsibility of the EMR; and,
 - (c) the authority and independence of the EMR including details of the Proponent's internal reporting structure.

The EMR shall have responsibility for:

- (i) considering and advising the Proponent on matters specified in the conditions of approval and compliance with such;
- (ii) certifying the environmental/community impacts as minor for all activities defined by the Proponent as not constituting substantial construction;
- (iii) endorsing the Construction EMP in accordance with Condition 19;
- (iv) reviewing and approving the Proponent's induction and training program for all persons involved in the construction activities and monitor implementation;

- (v) periodically monitoring the Proponent's environmental activities to evaluate the implementation, effectiveness and level of compliance of on-site construction activities with the Construction EMP and associated plans and procedures, including carrying out site inspections at least fortnightly;
- (vi) reporting monthly to the Director-General;
- (vii) recording and providing a written report to the Proponent of non-conformances with the Construction EMP and require the Proponent to undertake mitigation measures to avoid or minimise any adverse impacts on the environment or report required changes to the Construction EMP;
- (viii) directing the Proponent to stop work immediately, if in the view of the EMR an unacceptable impact on the environment is likely to occur, or require other reasonable steps such as the authorisation of hold points to be taken to avoid or minimise any adverse impacts;
- (ix) reviewing corrective and preventative actions to ensure the implementation of recommendations made from the audits and site inspections;
- (x) reviewing minor revisions to the Construction EMP;
- (xi) providing reports to the Department on matters relevant to the carrying out of the EMR role as necessary including notifying the Director-General of any stop work notices; and,
- (xii) endorsing the Operational EMP in accordance with Condition 22.

The EMR shall immediately, and at the same time, advise the Proponent and the Director-General of any major issues resulting from the construction of the project that have not been dealt with expediently or adequately by the Proponent.

The EMR shall be available during construction activities at the site and be present on-site during any critical construction activities as identified in the Construction EMP.

Environmental Management System

18. The Proponent shall appoint construction and, where relevant, operation head contractors that have a demonstrated capability and experience in the implementation of an Environmental Management System prepared in accordance with the AS/NZS ISO 14000 series or BS7750-1994 certified by an accredited certifier and/or have a proven environmental management performance record.

Construction Environmental Management Plan

19. Prior to the commencement of substantial construction, a Construction Environmental Management Plan (Construction EMP) shall be prepared, following consultation with the EPA, DLWC, NPWS, SSC and all relevant utility/service providers. The Construction EMP shall be prepared in accordance with the Conditions of this Approval, all relevant Acts and Regulations and accepted best practice.

The Construction EMP shall require approval by the Director-General prior to the commencement of substantial construction or within such time as otherwise agreed to by the Director-General. The Construction EMP shall be endorsed by the EMR as being in accordance with the Conditions of Approval and all undertakings made in the EIS and Representations Report prior to seeking approval of the Director-General.

Where construction activities are undertaken in discrete stages, the Proponent may prepare a staging schedule to the satisfaction of the Director-General. Individual EMPs relating to specific

stages of construction may then be prepared in accordance with the approved schedule.

The Construction EMP shall:

- a) address construction activities associated with all key construction sites, including staging and timing of the proposed works;
- b) cover specific environmental management objectives and strategies for the main environmental system elements and include, but not be limited to: flora and fauna; noise and vibration; air quality; water; erosion and sedimentation; access and traffic; property acquisition and/or adjustments; heritage; groundwater; contaminated spoil, spoil stockpiling and disposal; waste/resource management; flooding and stormwater control; visual screening; landscaping and rehabilitation; hazards and risks; energy use, resource use and recycling; and utilities; and,
- c) address, but not be limited to:
 - i) identification of the statutory and other obligations which the Proponent is required to fulfil during project construction including all approvals and consultations/agreements required from other authorities and stakeholders and key legislation and policies which control the Proponent's construction of the project;
 - ii) construction activities and processes associated with the relevant construction site(s), including staging and timing of the proposed works;
 - iii) length (time) of construction;
 - iv) specific hours of operation for all key elements including off-site movements;
 - v) locational details of important elements such as: temporary noise barriers; sedimentation basins and facilities; detention basins and/or constructed wetlands; portable offices and amenities; truck, plant and materials storage; access locations; provision of site hoardings etc;
 - vi) definition of the role, responsibility, authority, accountability and reporting of personnel relevant to compliance with the EMP;
 - vii) measures to avoid and/or control the occurrence of environmental impacts;
 - viii) the role and responsibility of the EMR;
 - ix) monitoring, inspection and test plans for all activities and environmental qualities which are important to the environmental management of the project, including performance criteria, specific tests, protocols (eg. frequency and location) and procedures to follow;
 - x) environmental management instructions for all complex environmental control processes which do not follow common practice or where the absence of such instructions could be potentially detrimental to the environment;
 - xi) the construction sub plans required under this approval;
 - xii) steps the Proponent intends to take to ensure that all plans and procedures are being complied with;
 - xiii) consultation requirements with relevant government agencies; and
 - xiv) community consultation and notification strategy (including local community, relevant government agencies and SSC), and complaint handling procedures.

Specific requirements for some of the main environmental system elements referred to in (b) shall be as required under the conditions of this Approval and/or as required under any licence or approval.

The Construction EMP(s) shall be made publicly available.

Note:

The Director-General shall provide a response to the Construction EMP within one (1) month of receipt of all relevant information from the Proponent assuming receipt of adequate and sufficient information. If a request is made by the Director-General for additional information, the period of time that elapses between the date on which the Proponent receives the request and the date on which the additional information is provided to the Director-General, shall not be taken into account in the one (1) month period referred to above.

Environmental Monitoring – Construction

20. The Proponent shall submit to the Director-General reports in respect of the environmental performance of the construction works and compliance with the Construction EMP and any other relevant conditions of this approval. The Reports shall be prepared six months after the start of construction and thereafter at six monthly intervals or at other such periods as requested by the Director-General to ensure adequate environmental performance over the duration of the construction works.

The Reports shall be submitted no later than one month after the six month period to which they apply and are to be certified by the EMR to confirm that all EMP requirements and Approval conditions have been complied with.

The Report(s) shall include, but not be limited to, information on:

- (a) applications for consents, licences and approvals, and responses from relevant authorities;
- (b) implementation and effectiveness of environmental controls and conditions relating to the work undertaken;
- (c) identification of construction impact predictions made in the EIS and any supplementary studies and details of the extent to which actual impacts reflected the predictions;
- (d) details and analysis of results of environmental monitoring;
- (e) the number and details of any complaints, including a summary of main areas of complaint, action taken, response given and intended strategies to reduce complaints of a similar nature;
- (f) the plan to be adopted for the project to ensure continued compliance over the coming six month period; and,
- (g) any other matter relating to the compliance with the conditions of this approval or as requested by the Director-General.

The report(s) shall be provided to the EPA, DLWC and SSC, and any other relevant government agency nominated by the Director-General. The report(s) shall also be made publicly available.

21. The Proponent shall ensure that it has an internal audit system and that internal audits are undertaken and endorsed by the EMR every six (6) months to ensure compliance with the EMP, the conditions of approval and all other relevant licences and approvals. Each audit must be completed within 6 weeks of the end of the 6 month period and be made available to the Director-General upon request.

Operational Environmental Management Plan

22. An Operational Environmental Management Plan (OEMP) shall be prepared and approved by the Director-General prior to opening of the project to traffic. The Plan shall be prepared in consultation with the EPA, DWE, NPWS, SSC and any other relevant government agency nominated by the Director-General. The Plan shall be prepared in accordance with the Conditions of this Approval, all relevant Acts and Regulations and accepted best practice management Sub Plans.

The OEMP shall be endorsed as being in accordance with the Conditions of Approval by the EMR prior to seeking approval of the Director-General.

The OEMP shall address the following:

- (a) identification of the statutory and other obligations which the Proponent is required to fulfil, including all licences/approvals and consultations/agreements required from authorities and other stakeholders and key legislation and policies which control the Proponent's operation of the project;
- (b) sampling strategies and protocols to ensure the quality of the monitoring program including specific requirements of DWE, NPWS, relevant Australian Standards and relevant EPA Guidelines;
- (c) monitoring, inspection and test plans for all activities and environmental qualities which are important to the environmental performance of the project during its operation, including a description of potential site impacts, performance criteria, specific tests and monitoring requirements, protocols (eg. frequency and location) and procedures to follow;
- (d) steps the Proponent intends to take to ensure compliance with all plans and procedures;
- (e) consultation requirements, including relevant government agencies, the local community and Councils, and complaints handling procedures; and,
- (f) strategies for managing the main environmental impacts including, but not limited to: noise; water quality; erosion and sedimentation; access and traffic; waste/resource management/removal/disposal; hydrology and flooding; visual screening, landscaping and rehabilitation; hazards and risks; and energy use, resource use and recycling.

Specific requirements for some of the main environmental system elements referred to in (f) shall be as detailed under the Conditions of this Approval and/or as required under any licence or approval.

The OEMP shall be made publicly available.

All sampling strategies and protocols undertaken as part of the Operational EMP shall include a quality assurance/quality control plan and shall be approved by the relevant regulatory agencies to ensure the effectiveness and quality of the monitoring program. Only accredited laboratories can be used for laboratory analysis.

Where a requirement of this condition is not considered applicable, then the Proponent must clearly demonstrate the reason for this when seeking the approval of the Director-General. If the Proponent has an environmental management system, which is applicable to the project, then that system may be proposed as the OEMP. Details of the existing system must be provided to the Director-General demonstrating its application to this project.

Note:

The Director-General shall provide a response to the Operational EMP within one (1) month of receipt of all relevant information from the Proponent assuming receipt of adequate and sufficient information. If a request is made by the Director-General for additional information, the period of time that elapses between the date on which the Proponent receives the request and the date on which the additional information is provided to the Director-General, shall not be taken into account in the one (1) month period referred to above.

Environmental Impact Audit Report

23. An Environmental Impact Audit Report shall be submitted to the Director-General, 12 months and 2 years from the project opening to traffic or as otherwise agreed to by the Director-General. The Environmental Impact Audit Report shall be prepared by an independent person(s) or organisation approved by the Director-General and paid for by the Proponent. The Report shall assess the key impact predictions made in the EIS and any supplementary studies and detail the extent to which actual impacts reflect the predictions. The Report shall provide details on actual versus predicted impacts for all key issues identified in the EIS. The suitability of implemented mitigation measures and safeguards shall also be assessed. The Report shall also assess compliance with the Operational EMP.

The Report shall discuss results of consultation with the local community in terms of feedback/complaints and issues of concern raised in relation to the operational phase of the project. The Proponent shall comply with all reasonable requirements of the Director-General, in consultation with the EPA and other relevant authorities with respect to any reasonable measure arising from, or recommendations in, the Report.

The Report shall be made publicly available.

Staging

24. The Proponent shall commence construction of at least the northern section of the North-South Link (including the intersection of the North-South Link/Menai Road/Alfords Point Road) within 12 months of the opening of the East-West Link unless a traffic assesment indicates to the satisfaction of the Director-General that Old Illawarra Road and the intersection of Old Illawarra Road/Menai Road/Alfords Point Road is operating satisfactorily during peak periods with only the East-West Link. This section shall be completed and opened to traffic within 18 months of construction commencement unless otherwise agreed by the Director-General.

Road Design

25. The Proponent shall construct the intersection of the North-South Link/East-West Link/Old Illawarra Road in accordance with the Concept Plan given in Figure 5 of the Director-General's Report.
26. The Proponent shall investigate the following design and alignment alternatives in consultation with SSC and the NPWS and to the satisfaction of the Director-General within three months of the date of this Approval unless otherwise agreed by the Director-General:
- (a) reducing the vertical design speed of the East-West Link to 80 km/hr so that the road surface more closely follows existing ground levels;
 - (b) the use of alternative treatments in proposed fill batters on the East-West and North-South Links such as retaining walls or engineered fills, particularly between chainages 1000 to 1500, 1550 to 1744, 1800 to 2200, 2350 to 2520 and 2680 to 2780 on the East-West Link and chainages 820 to 1060 on the North-South Link;
 - (c) shifting the North-South Link a further 10 to 15 metres to the east between chainage 400 and 850 and/or reducing the median width;
 - (d) alternatives to the proposed junction of the North-South Link with New and Old Illawarra Roads to improve safety and capacity characteristics.

In assessing design alternatives the Proponent shall consider the recommendations of the Road Design Review completed by ARUP (dated September 2002) and issues in relation to safety (including the findings of the Safety Audit required under Condition 27), noise impacts, visual impacts, access and impacts on flora and fauna.

Note:

The objective of the investigation shall be to reduce the bulk and scale of the project and minimise impacts on surrounding residences and flora and fauna.

27. The Proponent shall undertake a Safety Audit of the following project elements to ensure compliance with RTA's *Road Design Guide* and Austroads' *Guide to Traffic Engineering Practice*:

- (a) the layout of the junction between the North-South Link and New and Old Illawarra Roads;
- (b) the layout of the North-South Link/East-West Link/Old Illawarra Road interchange; and,
- (c) the reduced median widths along the East-West Link.

Property Impacts

Pre-Construction

28. Subject to landowner agreement, building condition surveys shall be conducted on all buildings/structures within six times the maximum depth of a cut (measured from any point in the cut) and/or 50 metres of construction activities that cause vibration. The surveys shall be completed prior to the commencement of construction works that may affect building condition. Surveys need not be completed where a geotechnical and vibration analysis endorsed by a qualified geotechnical engineer concludes that these structures will not be affected.
29. The owners of all properties to be surveyed, as identified in Condition 28, are to be advised at least fourteen days prior to the commencement of surveys of the scope and methodology of the survey and the process for making a claim regarding property damage. A copy of the survey shall be given to each affected owner at least three weeks prior to the commencement of construction. A register of all properties surveyed shall be maintained by the Proponent and provided to the Director-General upon request.
30. The acquisition of any land shall be in a responsive and sensitive manner and in accordance with the *Land Acquisition (Just Terms Compensation) Act 1991*. Affected landowners shall be notified prior to and during the property acquisition process. This notice shall contain sufficient detail to identify the land or interest being acquired including dimensions and any other information necessary to enable identification of the land or interest being acquired. This notification shall be given prior to access for construction purposes. Where compensation is payable the Proponent shall pay for independent valuation and legal advice if so requested in accordance with the Act.
31. The Proponent shall consult on a regular basis with all directly affected landowners regarding any practical and cost-effective measures to minimise impacts which may be implemented prior to the commencement of construction affecting properties or within such time as agreed with the relevant landowner.

Construction

32. Any damage to buildings, structures, lawns, sheds, gardens, fencing, etc. as a result of any construction activity direct or indirect (including vibration and groundwater changes) shall be rectified at no cost to the owner(s).

Regional Traffic

33. The RTA shall conduct number plate surveys and vehicle counts to identify the proportion of through traffic using Menai Road versus the Bypass during peak and off-peak periods on 3 typical weekdays (conducted over a 3 week period) 6 months and 2 years after opening. The surveys will be conducted at the eastern ends of both the East-West Link and Menai Road, and on Alfords Point Road north of Menai Road and on Old Illawarra Road south of the East-West Link. Should the proportion of through traffic using the East-West Link be shown to be less than predicted in the Representations Report, the RTA shall prepare a report within 3 months for the approval of the Director-General that investigates all reasonable and feasible measures to achieve the stated proportion of through traffic. This shall include measures to make the Bypass more attractive to motorists and shall include a program for implementation. If required, the RTA shall also assist SSC in investigating measures to make Menai Road less attractive, and to implement any such reasonable and feasible measures. This requirement shall be raised in any negotiations with SSC in reclassification of Menai Road to local road status.

Note:

The objective of this Condition is to ensure that the strategic justification for this project, particularly the major benefits to Menai Road, are achieved.

34. The RTA shall through the process of reclassifying Menai Road and Old Illawarra Road to local status, advise SSC to limit truck use on Menai Road between Yala Road and Akuna Avenue and on Old Illawarra Road between Barry Road and the southern intersection with the North-South Link to vehicles of a maximum 3 tonnes, unless otherwise agreed by the Local Area Traffic Management Committee.
35. The RTA shall investigate in consultation with the Department of Transport and bus service providers, the public transport infrastructure to be provided on Menai Road as part of the project. The findings of this investigation would be incorporated into the Urban Design Strategy and Implementation Plan for Menai Road required under Condition 60.

Local Traffic

36. The RTA shall in consultation with the Gandangara Local Aboriginal land Council (LALC) and SSC monitor the performance of the seagull intersection of the Gandangara LALC subdivision and the North/South Link. Should unacceptable queue lengths or a pattern of accidents result, then the RTA shall install a signalised intersection.
37. Within 6 months of this Approval, the Proponent shall, in consultation with Emergency Services, SSC and the affected community, commence preparation of Local Area Traffic Management (LATM) measures for Anzac Road and surrounding streets. The preparation of the LATM shall include a comprehensive consultation process.

The measures shall be installed at full cost to the Proponent as soon as practicable after opening the Bypass.

The key objective of the LATM measures shall be to restrict through traffic and ensure that alternative routes for traffic wishing to travel from the East-West Link up Anzac Road are relatively attractive.

Pedestrians and Cyclists

38. The Proponent shall provide a pedestrian crossing at the intersection of the Gandangara Subdivision access road with the North-South Link in consultation with the Gandangara LALC and SSC. The link shall be constructed in accordance with Austroads *Guide to Traffic Engineering Practice - Bicycles*.
39. The Proponent shall complete a Pedestrian and Cyclist Network Investigation and Implementation Strategy in consultation with SSC and the local community and to the satisfaction of the Director-General within six months of the date of this Approval to identify pedestrian/cycleways that have a nexus to and are to be provided as part of this project. This Investigation shall include, but not be limited to:
- (a) a link between the western end of Dilkara Circuit and Priest Road;
 - (b) a link between Elliot Road and Old Illawarra Road via Barry Road;
 - (c) an east-west link from Barry Road to Carter Road;
 - (d) a link between Shackel Road (south) and Menai Road;
 - (e) a link down the length of Anzac Road;
 - (f) a link between Lucas Heights School, New Illawarra Road to Old Illawarra Road, ending just north of Bradman Road; and,
 - (g) other links identified during consultation with SSC.

The Strategy shall include:

- (i) details of selected routes and connections to existing local and regional routes;
- (ii) timing and staging of all works and methodology for construction;
- (iii) methods to minimise the environmental impacts of construction and operation of the pedestrian/cycleways;
- (iv) details of lighting and safety and security;
- (v) details of landscaping works;
- (vi) details of proposed implementation timeframes; and,
- (vii) details of maintenance arrangements, responsibilities and where relevant funding requirements.

The pedestrian/cycleways to be provided shall be fully integrated with the Urban Design Strategy and Implementation Plan for Menai Road required under Condition 60 and be fully implemented within six months of opening the project to traffic.

Construction Traffic

Pre-Construction

40. A road dilapidation report shall be prepared for all non-arterial roads likely to be used by

construction traffic prior to commencement of substantial construction and after construction is complete. A copy of the reports shall be provided to SSC. Any damage resulting from the construction of the project, aside from that resulting from normal wear and tear, shall be repaired at the cost of the Proponent in consultation with SSC.

41. The Proponent shall consult SSC to develop management techniques for construction traffic on local roads, prior to the commencement of substantial construction. The Proponent shall monitor the use of local roads by construction heavy vehicle traffic in consultation with SSC and shall consult with SSC to develop measures to minimise and/or restrict use of local roads by heavy vehicle traffic if so required.

Nothing in Conditions 40 or Condition 41 shall be taken as restricting the Proponent from negotiating an alternative payment for damage to local roads with SSC, subject to the agreement of SSC.

42. A detailed Construction Traffic Management Sub Plan shall be prepared as part of the Construction EMP in consultation with SSC where local roads are affected. The Sub Plan shall include, but not be limited to:

- (a) identifying measures to minimise impacts on existing traffic (including pedestrians, vehicles, cyclists and disabled persons) including the staging of construction works to minimise lane closures during peak periods and delay to traffic;
- (b) identifying access points for construction sites;
- (c) delineating truck ingress and egress routes, entry and exit locations and the nature of loads;
- (d) identifying temporary and interim traffic arrangements including intersection and property access;
- (e) the provision of barriers between working and trafficked areas;
- (f) preparation of response plan which sets out the proposed response to any traffic, construction or other incident; and,
- (g) appropriate review and amendment mechanisms.

This Sub Plan shall be fully integrated with the Spoil and Fill Management Sub Plan required under Condition 105.

Construction Management

43. The Proponent shall ensure that legal access to all properties is maintained during construction and following opening the project to traffic. The Proponent shall ensure that any legal access affected by the project is reinstated to an equivalent standard or that adequate compensation is negotiated with the relevant landowner(s).
44. The Proponent shall ensure that all businesses affected by altered traffic arrangements are consulted at least 10 days prior to affectation and shall endeavour where reasonable and feasible to maintain critical access at all times.
45. The Proponent shall investigate the provision of bus pick-up and drop-offs from a central location(s) for each shift and car-pooling mechanisms to minimise worker traffic generation and parking requirements during construction. The Proponent shall incorporate any recommendations from this investigation into the Construction Traffic Management Sub Plan required under Condition 42.

46. The Proponent shall construct and open the underpasses and overpasses to traffic as soon as practicable after construction commencement to ensure that impacts on existing local access arrangements are minimised.

Flora and Fauna

Pre-Construction

47. A detailed Flora and Fauna Management Sub Plan shall be prepared for construction and operation in consultation with the NPWS, SSC, and DLWC and incorporated in the relevant EMP. The Plan shall clearly show how the mitigation measures identified in the EIS and the Representations Report will be implemented during construction and operation. The Plan shall be prepared by an appropriately qualified and experienced ecologist and clearly incorporate 'best practice' management of native flora and fauna as described in Condition 13 of Section 9 of the Concurrence Report issued by the Director-General of the NPWS on 17th July 2002. The Sub Plan shall include, but not be limited to:

- (a) the characteristics and location of the terrestrial and aquatic flora and fauna communities in the vicinity of the project;
- (b) the area of native vegetation clearing associated with the construction of the project;
- (c) procedures and timing for the clearance of vegetation and use of soil for construction including identification of requirements for seed collection;
- (d) detailed plans and maps of the construction footprint, areas to be cleared, important habitat areas, threatened species locations, and vegetation type and location;
- (e) design, location and construction of mitigation measures including where appropriate, nest boxes, salvaged trees containing hollows, glider and refuge poles, and any features associated with these mitigatory structures to encourage their use by fauna;
- (f) requirements to fence off and appropriately sign areas containing *Acacia pubescens* and *Melaleuca deanei* prior to construction;
- (g) strategies for minimising vegetation clearance within the worksite where possible and complete protection of vegetated areas outside the worksite;
- (h) re-use of top soil, cleared vegetation and leaf mulch including weed eradication;
- (i) replanting and rehabilitation of indigenous species, using materials that have been obtained from the site;
- (j) measures to use any surplus vegetation shall be identified including donation to community groups and distribution to the local community;
- (k) derivation of rehabilitation materials;
- (l) strategies for temporary and progressive revegetation which include measures to reduce air quality impacts;
- (m) a program for the active management and maintenance of all preserved, planted and rehabilitated vegetation (including aquatic vegetation) including watering regimes, fencing, replacement of vegetation that may have died and weed management; and,
- (n) a program and methodology for reporting on the effectiveness of terrestrial and aquatic flora and fauna management measures against performance goals.

Construction

48. The Proponent shall ensure that no more than 11 hectares of vegetation communities/fauna habitat are cleared for the construction of the East-West Link and 8.04 hectares for the construction of the North-South Link. The final amount of clearing shall be verified by the EMR and approved by the

Director-General.

49. The Proponent shall ensure that the clearing of vegetation does not directly affect stands of *Acacia pubescens* and, where practicable, avoid stands of *Melaleuca deanei* as described in the EIS and Representations Report. Conserved stands, replanted stands and translocated stands of this species shall be fenced off and marked with appropriate warning signage prior to construction commencing. These stands shall be managed in accordance with the requirements in Appendix D of the Director-General's Report so as to minimise risks of direct and indirect impacts from construction activities.

Any stands of *Melaleuca deanei* that are directly affected shall be managed in consultation with NPWS and Environment Australia as follows:

- (a) cuttings and seeds shall be taken from these stands prior to the commencement of construction for propagation by a suitably qualified plant nursery;
 - (b) propagated *Melaleuca deanei* will be replanted and maintained in suitable soil types/habitat within the project corridor (in addition to any other planted areas agreed to by NPWS); and,
 - (c) the affected clumps of *Melaleuca deanei* shall be translocated and maintained in suitable soil types within the project corridor.
50. The Proponent shall ensure that the clearing of vegetation, where practicable, avoids stands of Shale/Sandstone Transition Forest. Conserved stands of Shale/Sandstone Transition Forest shall be fenced off and marked with appropriate warning signage prior to construction commencing. These stands shall be managed in accordance with the requirements in Appendix D of the Director-General's Report so as to minimise risks of direct and indirect impacts from construction activities.
- At least 38 hectares of suitable compensatory habitat for the loss of Shale/Sandstone Transition Forest shall be acquired or otherwise set aside for compensation purposes, in consultation with NPWS and Environment Australia.
51. Timing of all vegetation clearing works are to occur outside the breeding season of the Greater Broad-nosed Bat and the Powerful Owl unless otherwise agreed by the Director-General following consultation with NPWS.
52. If, during the course of construction, the Proponent becomes aware of the presence of any threatened species which are likely to be significantly affected and are not recognised in an existing concurrence from NPWS for the project under the *Threatened Species Conservation Act 1995*, or listed under the *Fisheries Management Amendment Act 1997*, the Proponent shall immediately consult with the NPWS and/or NSW Fisheries as appropriate. Following this consultation, the Proponent shall meet all requirements as directed by the Director-General prior to recommencement of any works likely to affect any threatened species.
53. Pre-clearing surveys and surveys before each phase of construction shall be conducted for the Eastern Pygmy Possum, Powerful Owl, Large Bent-wing Bat, Greater Broad-nosed Bat, Eastern False Pipistrelle and East Coast Freetail Bat in consultation with NPWS. Should any of these species be detected, appropriate mitigation and/or compensation measures shall be implemented as detailed in Section 9 of the Concurrence Report issued by the Director-General of the NPWS on 17 July 2002. Should any of these species be detected breeding, then activities should cease until the end of the respective breeding season.

54. The clearing of vegetation shall be limited to areas that need to be used for construction of the project. Cleared vegetation must be re-used or recycled to the greatest extent practicable. No burning of cleared vegetation shall be permitted. Re-use options include removing millable logs, recovering fence posts, and mulching and chipping unusable vegetation waste for on-site use such as landscaping. All reasonable measures to use any surplus vegetation shall be undertaken including donation to community groups, distribution to the local community.
55. If permanent wetlands are constructed, macrophyte or water plant growth shall be undertaken within them, in accordance with the DLWC *Constructed Wetlands Manual*.

Visual Impacts, Landscaping and Urban Design

Pre-Construction

56. The Proponent shall prepare an Urban Design and Landscape Plan prior to the commencement of substantial construction in consultation with NPWS, DLWC, SSC and the affected community and to the satisfaction of the Director-General. The Plan shall be prepared by a suitably qualified urban designer/landscape architect. The Plan shall present an integrated urban design concept for the project, applying all design principles established in the EIS and associated documents. The Plan shall identify the design and treatments for each element including but not limited to:

- (a) location and identification of existing and proposed vegetation;
- (b) built elements including retaining walls, bridges and noise walls;
- (c) underpasses considering lines of sight and the incorporation of appropriate lighting and public art;
- (d) motorway and road furniture including safety barriers, kerbs, paving, signage, medians, breakdown facilities and, if required, emergency phones;
- (e) pedestrian and cycle elements including footpaths and paving, pedestrian crossings and fixtures (i.e. tree guards, seating, lighting, fencing and signage);
- (f) landscape elements including proposed treatments, finishes and materials of exposed surfaces (including colour specifications and samples); and,
- (g) lighting.

The Plan will also include:

- (h) sections and perspective sketches;
- (i) a schedule of species to be used in landscaping that includes the use of locally native species and specifies target survival rates for plantings;
- (j) Weed Management Action Plan meeting the requirements of NPWS and including but not limited to: scope of works, minimising physical disturbance, covering temporarily cleared surfaces with native vegetation mulch, revegetating cleared areas with local native plant species and regular removal of weeds and application of herbicide to newly establishing weed species;
- (k) timing and staging of works, methodology, monitoring and maintenance;
- (l) progressive landscape strategies incorporating other environmental controls such as erosion and sedimentation controls, dust mitigation, drainage (in accordance with Conditions 83 and 90); and,
- (m) decommissioning of all construction stage structures that are not part of the operational project.

57. All landscaping works shall be monitored and maintained by a suitably qualified landscape specialist at the Proponent's expense for a period of not less than three years. The Proponent shall implement any required remediative measures to maintain landscaping works to a high standard. Any landscaping within the road reserve shall be maintained by the Proponent for the life of the project unless transferred to SSC through the road classification process.

Specific Requirements

58. No commercial advertising shall be permitted within the road reserve for the project during construction or when in operation except for directional purposes.
59. All lighting for the project shall be designed, installed and operated in accordance with the requirements of AS1158-Road Lighting and AS4282-Control of the Obtrusive Effects of Outdoor Lighting.

Improvements to Menai Road

60. The Proponent shall prepare a detailed Urban Design Strategy and Implementation Plan for Menai Road in consultation with SSC and the local community and to the satisfaction of the Director-General within six months of the date of this Approval. The Urban Design Strategy and Implementation Plan shall include:
- (a) sections and perspective sketches;
 - (b) location and identification of all existing and proposed works including vegetation, pedestrian/cycleways, road crossings and bridges;
 - (c) public transport facilities;
 - (d) finishes of proposed surfaces (including paved areas), colours, materials and specifications for all proposed structures;
 - (e) management procedures for any required demolition works;
 - (f) timing and staging of all works and methodology for construction;
 - (g) road safety;
 - (h) details of proposed implementation timeframes; and,
 - (i) proposed responsibilities for implementation and maintenance.

The Urban Design Strategy and Implementation Plan shall be fully integrated with the Pedestrian and Cyclist Network Investigation and Implementation Strategy required under Condition 39 and the outcomes of the public transport facilities investigation required by Condition 35. The Strategy shall be fully implemented within six months of opening the Bypass to traffic.

Noise and Vibration

Pre-Construction

61. The Proponent shall complete additional background noise monitoring, in consultation with the EPA, to use in the development of the Construction Noise and Vibration Monitoring Sub Plan required by Condition 62 and the Operational Noise Management Sub Plan required by Condition 76.

Construction Noise and Vibration Management Sub Plan

62. A detailed Construction Noise and Vibration Management Sub Plan shall be prepared as part of the Construction EMP in consultation with SSC. The Sub Plan shall provide details of noise and vibration controls to be undertaken during the construction. The Sub Plan shall include, but not be limited to:

- (a) identification of each work area, site compound and construction depot;
- (b) identification of the specific activities that will be carried out and associated noise sources for each work area, site compound and construction depot;
- (c) identification of all potentially affected noise sensitive receivers including residences, schools, commercial premises and noise sensitive equipment;
- (d) identification of the appropriate construction noise objective for the project with regard to the requirements of Condition No. 64;
- (e) identification of appropriate construction vibration objectives with regard to the requirements of Condition No. 73;
- (f) determination of appropriate noise and vibration objectives for each identified noise sensitive receiver, with regard to the requirements of Condition Nos. 64 and 73;
- (g) assessment of potential noise and vibration from the proposed construction methods including noise from construction vehicles and noise impacts from required traffic diversions;
- (h) detailed examination of all feasible noise mitigation measures including the use of alternative construction methods where potential noise levels exceed the relevant objectives;
- (i) consideration of erecting operational stage noise mitigation measures prior to construction commencement;
- (j) description of management methods and procedures that will be implemented to control noise and vibration during construction;
- (k) description of specific noise mitigation treatments and time restrictions including respite periods, duration, and frequency;
- (l) justification for any activities outside the normal hours specified in Condition No. 63;
- (m) construction timetabling, in particular works outside standard hours, to minimise noise impacts;
- (n) a pro-active and reactive strategy for dealing with complaints including compliance with the construction noise and vibration objectives, particularly with regard to verbal and written responses;
- (o) noise and vibration monitoring, reporting and response procedures;
- (p) procedures for notifying residents of construction activities that are likely to affect their noise and vibration amenity;
- (q) contingency plans to be implemented in the event of non-compliances and/or noise complaints; and,
- (r) education of construction personnel about noise minimisation.

With respect to (h) above, the Proponent shall consider the use of a range of structural and non-structural measures during construction including barriers, acoustic treatment of residences, scheduling of construction activities to minimise impacts and temporary relocation of affected residents. The Proponent shall ensure that the mitigation measures referred to in Working Paper 3 of the EIS and in these Conditions are incorporated into the Sub Plan.

Construction Hours

63. All construction activities, shall be restricted to the hours of 7:00 am to 6:00 pm (Monday to Friday); 8:00 am to 1:00 pm (Saturday) and at no time on Sundays and public holidays.

Works outside these hours that may be permitted include:

- (a) any works which do not cause noise emissions to be audible at any nearby residential property;
- (b) the delivery of materials which is required outside these hours as requested by Police or other authorities for safety reasons;
- (c) emergency work to avoid the loss of lives, property and/or to prevent environmental harm; and
- (d) any other work as approved through the Construction Noise and Vibration Management Sub Plan process.

In relation to (d) above, local residents should be informed of the timing and duration of approved works at least 48 hours prior to commencement.

Construction Noise Guidelines

64. The construction noise objective for the project shall be to manage noise from construction activities as measured by a L_{A10} (15minute) descriptor to not exceed the background L_{A90} noise level by more than 5dB(A) at any residence or other noise sensitive receiver. The Proponent shall ensure that all feasible noise mitigation and management measures are implemented with the aim to achieve the construction noise objective. Any potential activities that may cause noise emissions that exceed the objective shall be identified and managed in accordance with the Construction Noise and Vibration Management Sub Plan required by Condition 62.

For the purposes of the noise objective for this Condition, 5dB(A) must be added to the measured construction noise level if the noise from the activity is substantially tonal or impulsive in nature in accordance with Chapter 4 of the *NSW Industrial Noise Policy*.

Construction Noise Management

65. The Proponent shall consider and apply feasible noise and vibration mitigation measures including considering:

- (a) maximising the offset distance between noisy plant items and nearby noise sensitive receivers;
- (b) avoiding using noisy plant simultaneously and/or close together, adjacent to sensitive receivers;
- (c) orienting equipment away from sensitive areas;
- (d) carrying out loading and unloading away from noise sensitive areas;
- (e) use of dampened tips on rock breakers;
- (f) use of portable enclosures around mobile and fixed plant where noise impacts are likely to be unacceptable;
- (g) using noise source controls to reduce noise from all plant and equipment including bulldozers, cranes, graders, excavators and trucks including the use of residential class mufflers. More examples of appropriate noise source controls are provided in Section 5 of the RTA Environmental Noise Management Manual;
- (h) selection of plant and equipment based on noise emission levels;
- (i) selecting site access points and roads as far as possible away from sensitive receivers; and,
- (j) use of spotters, Closed Circuit Television Monitors and 'smart' reversing alarms in place of traditional reversing alarms

66. Construction noise levels shall be monitored to verify compliance with the goals developed in the Construction Noise Impact Statements. Should monitoring indicate significant exceedances of these goals, the Proponent shall implement best available additional mitigation measures to the

satisfaction of the Director-General in consultation with the EPA.

67. The Proponent shall ensure that no public address systems are used at any construction sites outside standard working hours detailed in Condition 63 unless otherwise specified in the Construction Noise and Vibration Management Sub Plan. Any public address system shall be designed to minimise noise spillage off-site by incorporating best practice features and equipment such as directional speakers, volume control with background noise adjustments and locating and pointing speakers away from sensitive receivers.
68. The Proponent shall ensure that rock breaking, rock hammering, sheet piling and other activities which result in impulsive or tonal noise generation are scheduled between the following hours unless otherwise agreed by the Director-General through the Construction Noise and Vibration Management Sub Plan process:
- (a) 8 am to 6 pm, Monday to Friday; and,
 - (b) 8 am to 1 pm Saturday.

Where these activities are undertaken for a continuous three-hour period and are audible to noise sensitive receptors, a minimum respite period of at least one hour shall be scheduled before activities re-commence.

For the purposes of this condition 'continuous' includes any period during which there is less than a 60 minute respite between ceasing and recommencing any of the work the subject of this condition.

69. The Proponent shall ensure that all entry and departure of heavy vehicles to and from the site are restricted to the hours between 7:00 am and 6:00 pm, Monday to Friday, 8:00 am to 1:00 pm on Saturdays and at no times on Sundays and public holidays.
70. The Proponent shall ensure that wherever practical and where sensitive noise receptors may be affected, piling activities are completed using bored piles. If driven piles are required they shall only be installed as agreed by the Director-General in consultation with the EPA.
71. To minimise noise impacts during construction, the Proponent shall consult with SSC and affected landowners and where feasible, erect operational noise mitigation measures prior to the commencement of construction.
72. The Proponent shall consult with affected educational institutions and ensure that noise generating construction works in the vicinity of affected buildings are not timetabled during important events such as examination periods, unless other arrangements acceptable to the affected institutions are made at no cost to the affected institutions.

Vibration Criteria

73. Vibration resulting from construction of the project shall be limited to:
- (a) for structural damage vibration - German Standard DIN 4150 Part 3 – Structural Vibration in Buildings. Effects on Structures; and,
 - (b) for human exposure to vibration – the evaluation criteria presented in British Standard BS 6472- Guide to Evaluate Human Exposure to Vibration in Buildings (1Hz to 80 Hz) for low probability of adverse comment. These limits apply unless otherwise agreed by the Director-General in

consultation with the EPA through the Construction Noise and Vibration Management Sub Plan.

Vibration Management

74. A management procedure shall be implemented to deal with vibration complaints. This shall be detailed in the Noise and Vibration Construction Management Sub Plan. Each complaint shall be investigated and, where vibration levels are established as exceeding the set limits, appropriate amelioration measures shall be put in place to mitigate future occurrences.
75. Vibratory compactors shall not be used closer than 30 metres from residential buildings unless vibration monitoring confirms compliance with Condition 73.

Operational Noise Management Sub Plan

76. A detailed Operational Noise Management Sub Plan shall be prepared as part of the Operational EMP, to the satisfaction of the Director-General. The Sub Plan shall provide details of noise control measures to be undertaken during the operation stage and in accordance with the NSW Government's *Environmental Criteria for Road Traffic Noise* and the RTA's *Environmental Noise Management Manual*. The Sub Plan shall include, but not be limited to:
 - (a) clearly identify appropriate operational noise criteria in accordance with Condition 77;
 - (b) predictions of noise levels at all affected residential, recreational, commercial and industrial land uses;
 - (c) the location, type and timing of erection of permanent noise barriers and/or other noise mitigation measures demonstrating best practice;
 - (d) specific physical and managerial measures for controlling noise;
 - (e) consideration of reasonable and feasible noise mitigation measures (refer to Conditions 78, 79 and 81);
 - (f) the urban design issues relating to noise control measures; and,
 - (g) noise monitoring, reporting and response procedures including monitoring on surrounding roads which experience significantly increased traffic volumes as a result of the project.

Operational Noise Criteria

77. The sound pressure level due to road noise emissions when measured at one metre from the façade of a residential building or, if vacant, at any residential boundary (existing, zoned or in a draft EPI at the time of this approval) or any other noise sensitive premises shall be designed to meet the operational noise criteria below:
 - (a) For new road sections as defined by the Director-General:
 - (h) $L_{Aeq15\text{ hour}}$ 55 dB(A) (7:00 am to 10:00 pm); and,
 - (ii) $L_{Aeq9\text{ hour}}$ 50 dB(A) (10:00 pm to 7:00 am).
 - (b) For redevelopment of existing arterial roads as defined by the Director-General:
 - (i) $L_{Aeq15\text{ hour}}$ 60 dB(A) (7:00 am to 10:00 pm); and,
 - (ii) $L_{Aeq9\text{ hour}}$ 55 dB(A) (10:00 pm to 7:00 am).

Final noise mitigation shall be subject to Conditions 78, 79 and 81.

Operational Noise Management

78. As part of the Operational Noise Management Sub Plan, the Proponent shall complete a Barrier Sensitivity Analysis for the purpose of selecting and designing feasible and reasonable noise mitigation options in accordance with Practice Note IV of the RTA *Environmental Noise Management Manual* for the entire project to determine target barrier heights. The weightings applied to visual impacts and noise mitigation along the project shall be determined in close consultation with the CLGs and affected residents. Consideration should also be given to the inclusion of Perspex panels within noise barriers to reduce visual and overshadowing impacts.
79. The Proponent shall install all reasonable and feasible noise mitigation measures to ensure that the predicted road traffic noise levels do not exceed the levels specified in Condition 77. Mitigation measures, including barriers at heights determined under Condition 78, and individual property treatments shall be designed and implemented in consultation with affected land owners.
80. The design of noise mitigation measures shall be based on predicted noise levels which have been formulated considering road grade variations and the signposted speeds on the project.
81. The Proponent shall consider the use of open graded asphalt or other best practice low noise road surface materials.

Operational Monitoring

82. Monitoring of operational noise shall be undertaken in accordance with the Operational Noise Management Sub Plan and Practice Note VII of the RTA's *Environmental Noise Management Manual*. The Proponent shall, in consultation with the EPA, assess the adequacy of the traffic noise mitigation measures within 6 months to one year of opening the project with regard to the criteria specified in the Operational Noise Management Sub Plan. Should the assessment indicate a clear trend in traffic noise levels on the project and surrounding roads which exceed noise design goals defined in the approved Operational Noise Management Sub Plan, the Proponent shall implement further reasonable and feasible mitigation measures in consultation with affected landowners and/or occupiers including consideration of inclusion of noise barriers and the acoustic treatment of buildings.

Air Quality

Pre-Construction

83. As part of the Construction EMP, a specific Dust Management Sub Plan shall be prepared. The Sub Plan shall provide details of all dust control measures to be implemented during the construction stage, including, but not be limited to:
 - (a) identification of potential sources of dust;
 - (b) dust management objectives in accordance with appropriate EPA guidelines
 - (c) a monitoring program to assess compliance (by sampling and obtaining results by analysis) in accordance with Table 1;
 - (d) details of mitigation measures to be implemented during normal operations
 - (e) details of mitigation measures to be implemented during periods of extreme climatic conditions where high level dust episodes are likely to occur;

- (f) establishment of a protocol for handling dust complaints in accordance with the complaints management system required by Condition 8;
- (g) a reactive dust management procedure detailing how and when operations are to be modified to minimise the potential for dust emissions, should emission levels exceed the criteria;
- (h) progressive revegetation strategy for exposed surfaces in accordance with Conditions 56 and 90 with the aim of minimising exposed surfaces to 6000m²; and,
- (i) a community consultation protocol.

Table 1 – Ambient Dust Monitoring

Pollutant	Units of Measure	Frequency	Method ¹
Dust deposition rate	g/m ² /month	Continuous	AM-19
TSP	µg/m ³	Continuous	AS3580.9.8-2001 ²
Pollutant	Units of Measure	Frequency	Method ¹
Siting	-	-	AM-1

¹ – NSW EPA, 2001, Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales

² – Without size selective PM₁₀ inlet

Construction

- 84. Construction vehicles using public roads shall be maintained and covered to prevent any loss of load, whether in the form of dust, liquid or soils. Construction vehicles shall be maintained and wheel wash facilities or equivalent shall be constructed at exits points of all unsealed construction sites/compounds to minimise tracking any mud, dirt or other material onto any street which is opened and accessible to the public. In the event of any spillage, the Proponent is required to remove the spilt material within 24 hours.
- 85. Water sprays and tankers shall be used to minimise the amount of dust generated, especially on hot, dry, windy days.
- 86. The Proponent shall ensure that trucks and other vehicles travelling on internal haul roads do not exceed 25km/hr.

Greenhouse Gases

Construction Stage

- 87. The Proponent shall promote the reduction of greenhouse gases by adopting energy efficient work practices including, but not limited to:
 - (a) developing and implementing procedures to minimise energy waste;
 - (b) conducting awareness programs as part of induction for all site personnel regarding energy conservation methods; and,
 - (c) conducting regular energy audits during the project to identify and address energy wastage.
- 88. The EMR shall verify that no rainforest timbers are used in any construction activities.

Sustainable Energy

- 89. The EMR shall verify that green power is purchased for the supply of at least 50% of the electrical

energy requirements for the construction of the project.

Water Quality, Erosion and Sediment Control

Soil and Water Quality Management Plan

90. As part of the Construction and Operational EMPs, detailed Soil and Water Management Sub Plans shall be prepared in consultation with the DLWC, NSW Fisheries, the Southern Sydney Catchment Board, Sydney Water and SSC. The Plans shall be prepared in accordance with the Department of Housing's guideline *Managing Urban Stormwater - Soils and Construction* 1998, the RTA's *Guidelines for the Control of Erosion and Sedimentation in Roadworks* and where appropriate, DLWC's *Constructed Wetlands Manual*. The Plans shall be prepared prior to construction or operation as appropriate. The Soil and Water Quality Management Sub Plans shall contain, but not be limited to:

- (a) management of the cumulative impacts of the development on the quality and quantity of surface, including stormwater in storage, sedimentation basins and flooding impacts;
- (b) details of short and long-term measures to be employed to minimise soil erosion and the discharge of sediment to land and/or waters including the exact locations and capacities of sedimentation basins;
- (c) detailed erosion and sedimentation controls including a strategy to manage the extent of exposed ground surface during construction in accordance with Conditions 56 and 83;
- (d) identification of all potential sources of water pollution and a detailed description of the remedial action to be taken or management systems to be implemented to minimise emissions of these pollutants from all sources within the subject site;
- (e) detailed description of water quality monitoring to be undertaken during the pre-construction, construction and operation stages of the project including base line monitoring, identification of locations where monitoring would be carried out and procedures for analysing the degree of contamination of potentially contaminated water;
- (f) measures to handle, test, treat, re-use and dispose of stormwater, effluent and contaminated water and soil;
- (g) procedures for the re-use, treatment and disposal of water from sedimentation basins and constructed wetlands;
- (h) measures for the use of water reclaimed or recycled on-site;
- (i) contingency plans to be implemented in the event of fuel spills or turbid water discharge from the site; and,
- (j) a program for reporting on the effectiveness of the sedimentation and erosion control system against performance goals.

Construction

91. The Proponent shall ensure that all appropriate soil and erosion and sediment control works are in place prior to commencement of any works with potential to cause soil erosion or generate sediment. Erosion and sediment protection measures shall also be in place before the commencement of any stockpiling activity.

92. The Proponent shall only construct sedimentation and erosion controls under this Approval in locations that satisfy the following criteria:

- (a) sites to be located within the project footprint assessed in the EIS;

- (b) sites to be located with ready access to access tracks;
- (c) sites shall not be constructed over water or sewer pipelines unless otherwise agreed to by SWC;
- (d) sedimentation basins are not to be located within 100m of waterways unless adequate controls are implemented to protect water quality in case of overflows or otherwise agreed to by the DLWC;
- (e) sites are not to involve the utilisation or modification of any existing waterways;
- (f) sites are to have low conservation significance for flora and fauna and they are not to require any clearing of native vegetation beyond that which must be cleared for the project in any case;
- (g) if land is leased to enable construction of a temporary sediment basin, it shall be restored following construction to a level equal or better than the original condition;
- (h) sedimentation basins on private land shall be fenced to minimise safety risks; and,
- (i) all controls are to be designed and constructed in accordance with the Department of Housing's Guideline *Managing Urban Stormwater – Soils and Construction*.

93. Permanent stormwater control measures for the operational phase of the project shall be installed and utilised as soon as possible after construction commencement.
94. During construction, an appropriately qualified soil conservationist shall be consulted regularly to undertake inspections of temporary and permanent erosion and sedimentation control devices to ensure that the most appropriate controls are being implemented and maintained in an efficient condition at all times and meet the requirements of any relevant approval or licence condition(s).

Operation Stage Control Measures

95. All facilities including wetland filters, grass filter strips, gross pollutant traps and sedimentation basins shall be inspected regularly and maintained in a functional condition for the life of the project. Construction stage water quality structures shall be maintained for six months after construction or until revegetation has provided groundcover to at least 70% of the exposed ground surface (whichever is the shorter).
96. Road stormwater shall be treated through gross pollutant traps, stormwater interceptors, constructed stormwater wetlands and/or detention basins. Gross pollutant traps shall be constructed at discharge locations where it is not possible to construct water quality ponds. Gross pollutant traps shall be designed to operate during a 1 year ARI flood event and shall provide for control of coarse sediments and collection of trash and litter. The design of gross pollutant traps shall incorporate adequate by-pass mechanisms to manage events greater than the 1 year ARI flood event.

Spill Management

97. The Proponent shall provide detention systems for containment of spills and materials arising from accidents. The systems shall be consistent with the RTA's *Code of Practice for Water Management – Road Development and Management*.

In the event of a spill, the Proponent shall ensure that all material spilled is removed as soon as practicable and within at least 24 hours.

Flooding and Hydrology

Pre-Construction

98. The Proponent shall develop a detailed Flooding and Drainage Management Sub Plan for the project as part of the Construction EMP in consultation with the DECC and SSC. The Sub Plan shall be in accordance with the measures identified in DIPNR's *Floodplain Development Manual: the Management of Flood Liable Land* dated April 2005 (or its latest edition). The objective of the Sub Plan shall be to not increase inundation levels or durations during a 100 year ARI flood event in any areas.

Construction

99. All surface water flows from construction sites shall be detained through appropriate measures to ensure that there is no exacerbation of existing flooding in consultation with the DECC. The Proponent shall consult with SSC on appropriate and specific measures to be implemented.

Operational Drainage Design

100. The cross drainage system shall be designed to ensure that there is no exacerbation of existing flooding or water logging in consultation with the DECC, SSC and Landcom.

Groundwater

101. A detailed Groundwater Management Sub Plan shall be prepared as part of the Construction EMP in consultation with the DLWC. The Sub Plan shall include:

- (a) identification of potential settlement impacts on the project and nearby structures;
- (b) a description of groundwater quality, including the potential for contamination; and,
- (c) groundwater inflow control, handling, treatment, and disposal.

Heritage

Further Investigation

102. The Proponent shall survey the area thought to contain the sandstone structure located by Navin in 1993. If the sandstone structure is located, the Proponent shall immediately advise the Director-General and the Heritage Office and shall prepare a Heritage Report of the structure in consultation with the Heritage Office and SSC. The Report shall determine the future management requirements for the structure.

Non-indigenous Heritage Management Sub Plan

103. The Proponent shall prepare a Non-indigenous Heritage Management Sub Plan, in consultation with the Heritage Council and SSC as part of the Construction EMP. This Sub Plan shall include:
- (a) The findings of the investigation into the sandstone structure;
 - (b) details of any licences and approvals required; and,

- (c) procedures to be implemented if previously unidentified items/areas are located during construction in accordance with Condition 104.

Unexpected Items

104. If during the course of construction the Proponent becomes aware of any heritage items or archaeological material, all work likely to affect the site(s) shall cease immediately and relevant authorities, including NPWS, NSW Heritage Council and the relevant Local Aboriginal Land Council, shall be consulted to determine an appropriate course of action prior to the recommencement of work at that site. Appropriate supporting documentation would need to accompany any application for required permit/consent(s).

Spoil and Fill Management

105. The Proponent shall prepare a Spoil and Fill Management Sub Plan and incorporate this Sub Plan into the Construction EMP. This Sub Plan shall include:

- (a) mass diagrams showing the preferred transfer of cut material to fill areas;
- (b) methods for managing temporary material stockpiles (of fill, topsoil, rock, etc.);
- (c) methods for managing cut material that is not suitable for reuse on-site;
- (d) how imported fill material will be sought, handled, stockpiled and placed;
- (e) a contingency plan to be implemented in the case of unanticipated discovery of contaminated material during construction.

The Spoil and Fill Management Sub Plan shall be fully integrated with the Construction Stage Traffic Management Sub Plan required by Condition 42, the Waste Management and Re-use Sub Plan required by Condition 108, the Dust Management Sub Plan required by Condition 83 and the Soil and Water Management Sub Plan required by Condition 90.

106. All clean and/or treated spoil shall be re-used or recycled where possible and cost-effective to do so. The Proponent shall ensure that spoil generated from construction activities is maximised in preference to importing fill.

107. The haulage of spoil to and from the site shall be limited to the hours between 7:00 am and 6:00 pm, Monday to Friday, 8 am to 1 pm on Saturday and at no times on Sundays or public holidays.

Waste Management and Re-use

108. As part of the Construction EMP, a detailed Waste Management and Re-use Sub Plan shall be prepared. The Sub Plan shall specify specific waste management measures to be followed during the construction period by the construction contractor. It shall be consistent with the *Waste Avoidance and Resource Recovery Act 2001*, and the EPA's *Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes*, and shall identify requirements for waste avoidance, reduction, reuse and recycling. The Sub Plan shall provide details of requirements for:

- (a) handling;
- (b) stockpiling;
- (c) disposal of wastes: specifically contaminated soil or water, concrete, demolition material,

- cleared vegetation, oils, grease, lubricants, sanitary wastes, timber, glass, metal, etc.; and
- (d) identifying any site for final disposal of any material and any remedial works required at the disposal site before accepting the material.

This Sub Plan shall include but not be limited to:

- (i) methods for management of all wastes generated by the project;
- (ii) an outline of comprehensive plans of action for key waste streams;
- (iii) implementation of the waste hierarchy, including the demand for water, by seeking to avoid waste generation as a priority, the reuse, recycling or reprocessing of waste and, as a last resort, disposal of waste;
- (iv) arrangements for waste which cannot be re-used, recycled or reprocessed to be disposed of at a licensed waste disposal facility;
- (v) procedures for separating excavation and demolition waste and for identifying destinations for the material;
- (vi) the provision of rubbish skips at all construction sites and site compounds and their regular removal or emptying and installation of segregated bins for recyclable materials and provision for material to be reused or recycled wherever possible;
- (vii) except where a sewer is available, the discharge of sewerage from site amenities to holding tanks for removal by tankers;
- (viii) ;
- (ix) ensuring that local roads affected by construction remain intact to reduce the need for new paving materials;
- (x) erecting signs within construction sites and site compounds encouraging employees to reduce, re-use, or recycle wherever possible;
- (xi) the disposal of chemical, fuel and lubricant containers and solid and liquid wastes;
- (xii) appropriate induction and training of all employees and sub-contractors in the waste hierarchy and the requirements of this Waste Management and Re-use Sub Plan;
- (xiii) undertaking regular audits of waste management; and,
- (xiv) keeping of a waste management register of all significant waste collected from construction sites and site compounds for disposal, including amounts, date and time and details and locations of disposal.

As part of the Sub Plan, an Action Plan shall be prepared to promote the use of recycled materials, including construction and landscape materials. The Plan shall detail how the project gives consideration and support to the Government's *Waste Reduction and Purchasing Policy*. The Plan shall also include details on measures to implement energy conservation best practice.

109. Any waste material that is unable to be re-used, reprocessed or recycled shall be disposed at a landfill that can legally receive that waste.

Utilities and Services

110. The Proponent shall identify the services potentially affected by construction activities to determine requirements for diversion, protection and/or support. This shall be undertaken in consultation with the relevant service provider(s). Any alterations to utilities and services shall be carried out to the satisfaction of the relevant service provider(s), and unless otherwise agreed to, at no cost to the service/utility provider(s).

111. The Proponent shall ensure that disruption to services resulting from the project are minimised and shall be responsible for ensuring that affected local residents and businesses are advised prior to any service disruption.

Hazards and Risks

112. As part of the Construction and Operational EMPs, the Proponent shall prepare and implement a Hazards and Risk Management Sub Plan. This Sub Plan shall include, but not be limited to the following:
- (a) details of the hazards and risks associated with the project;
 - (b) procedures for storing and handling chemicals and fuel during construction to prevent spills;
 - (c) pro-active and reactive mitigation measures including contingency plans to be implemented in the event of a pollution incident;
 - (d) maintenance of detention basins and their immediate surrounds to ensure that they remain free from dry material likely to lead to an escalation of a burning liquid fuel fire from an accident; and,
 - (e) fencing to prevent unauthorised access.

Location of Construction Facilities

113. The Proponent shall only establish construction compounds, stockpiles or any other ancillary facilities under this Approval in locations that satisfy the following criteria, unless otherwise agreed to by the Director-General:
- (a) sites to be within the road reserve wherever possible;
 - (b) sites to access the local road network as determined in the Construction Traffic Management Sub Plan required by Condition 42;
 - (c) on relatively level land;
 - (d) sites to be separated from nearest residences by at least 100m unless it can be demonstrated that residents will not experience adverse impacts on noise, visual and air quality impacts;
 - (e) sites above the 100 ARI flood level ; and,
 - (f) sites are to have a low conservation significance for flora and fauna and heritage and are not to require any clearing of native vegetation beyond that which must be cleared for the project in any case.

Where the above criteria can not be met, the Proponent must demonstrate that there will be no significant adverse impact.