

THIS DOCUMENT

This document has been produced by the Office of the Appeals Convenor as an electronic version of the original Statement for the proposal listed below as signed by the Minister and held by this Office. Whilst every effort is made to ensure its accuracy, no warranty is given as to the accuracy or completeness of this document.

The State of Western Australia and its agents and employees disclaim liability, whether in negligence or otherwise, for any loss or damage resulting from reliance on the accuracy or completeness of this document.

Copyright in this document is reserved to the Crown in right of the State of Western Australia. Reproduction except in accordance with copyright law is prohibited.

Published on: 28 February 2012

Statement No. 890

**STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED
(PURSUANT TO THE PROVISIONS OF THE
ENVIRONMENTAL PROTECTION ACT 1986)**

**OUTER HARBOUR DEVELOPMENT – PORT HEDLAND
BHP BILLITON IRON ORE (BHPBIO)**

Proposal:

The proposal is to construct and operate the Outer Harbour Development which includes landside and marine infrastructure for the handling and export of iron ore from BHPBIO's operations (Figure 1).

The Boodarie stockyard infrastructure will supply an overland conveyor to a transfer pad located to the west of the existing Finucane Island facilities. A piled jetty will transfer ore material to the ship loaders located at the piled wharf.

The proposal is further documented in Schedule 1 of this statement.

Proponent:

BHP Billiton Iron Ore Pty Ltd

Proponent Address:

225 St Georges Terrace,
PERTH WA 6000

Assessment Number: 1735

Related Implementation Statement: 00740

Report of the Environmental Protection Authority: 1427

The proposal referred to in the above report of the Environmental Protection Authority may be implemented. The implementation of that proposal is subject to the following conditions and procedures:

Published on

1 Proposal Implementation

- 1-1 The Proponent shall implement the proposal as documented and described in Schedule 1 of this statement subject to the conditions and procedures of this statement.

2 Proponent Nomination and Contact Details

- 2-1 The proponent for the time being nominated by the Minister for Environment under sections 38(6) or 38(7) of the *Environmental Protection Act 1986* is responsible for the implementation of the proposal.
- 2-2 The proponent shall notify the Chief Executive Officer of the Office of the Environmental Protection Authority (CEO) of any change of the name and address of the proponent for the serving of notices or other correspondence within 30 days of such change.

3 Time Limit of Authorisation

- 3-1 The authorisation to implement the proposal provided for in this statement shall lapse and be void five years after the date of this statement if the proposal to which this statement relates is not substantially commenced.
- 3-2 The proponent shall provide the CEO with written evidence which demonstrates that the proposal has substantially commenced on or before the expiration of five years from the date of this statement.

4 Compliance Reporting

- 4-1 The proponent shall prepare and maintain a compliance assessment plan to the satisfaction of the CEO.
- 4-2 The proponent shall submit to the CEO the compliance assessment plan required by condition 4-1 at least six months prior to the first compliance report required by condition 4-6, or prior to implementation, whichever is sooner.

The compliance assessment plan shall indicate:

- 1 the frequency of compliance reporting;
- 2 the approach and timing of compliance assessments;
- 3 the retention of compliance assessments;
- 4 the method of reporting of potential non-compliances and corrective actions taken;
- 5 the table of contents of compliance assessment reports; and
- 6 public availability of compliance assessment reports.

- 4-3 The proponent shall assess compliance with conditions in accordance with the compliance assessment plan required by condition 4-1.
- 4-4 The proponent shall retain reports of all compliance assessments described in the compliance assessment plan required by condition 4-1 and shall make those reports available when requested by the CEO.
- 4-5 The proponent shall advise the CEO of any potential non-compliance within seven days of that non-compliance being known.
- 4-6 The proponent shall submit to the CEO the first compliance assessment report fifteen months from the date of issue of this Statement addressing the twelve month period from the date of issue of this Statement and then annually from the date of submission of the first compliance assessment report.

The compliance assessment report shall:

- 1 be endorsed by the proponent's Managing Director or a person delegated to sign on the Managing Director's behalf;
- 2 include a statement as to whether the proponent has complied with the conditions;
- 3 identify all potential non-compliances and describe corrective and preventative actions taken;
- 4 be made publicly available in accordance with the approved compliance assessment plan; and
- 5 indicate any proposed changes to the compliance assessment plan required by condition 4-1.

5 Public Availability of Data

5-1 Subject to condition 5-2, within a reasonable time period approved by the CEO of the issue of this Statement and for the remainder of the life of the proposal the proponent shall make publicly available, in a manner approved by the CEO, all validated environmental data (including sampling design, sampling methodologies, empirical data and derived information products (e.g. maps)) relevant to the assessment of this proposal and implementation of this Statement.

5-2 If any data referred to in condition 5-1 contains particulars of:

- a secret formula or process; or
- confidential commercially sensitive information,

the proponent may submit a request for approval from the CEO to not make this data publically available. In making such a request the proponent shall provide the CEO with an explanation and reasons why the data should not be made publically available.

6 Marine Benthic Communities

6-1 The proponent shall ensure that the dredging of the berth pockets, swing basin and shipping channel as described in Schedule 1, achieves the following environmental protection outcomes:

- i. no irreversible loss of, or serious damage to benthic habitats outside of the Zone of High Impact shown in Figure 2 of Schedule 1, unless and until a revised Zone of High Impact has been approved by the CEO in accordance with condition 6-10 to have effect;
- ii. no detectible net negative change to benthic habitats relative to the baseline state of those habitats, outside of the Zone of High Impact and Zone of Moderate Impact, shown in Figure 2 of Schedule 1, unless and until revised Zones of High and/or Moderate Impact have been approved by the CEO in accordance with condition 6-10 to have effect.

Note: For the purpose of condition 6-1 the terms “**irreversible loss**” and “**serious damage**”, will have the same meaning as those terms in the Environmental Protection Authority’s Environmental Assessment Guideline Number 3 (2009).

6-2 At least two months prior to the commencement of dredging of the berth pockets, swing basin and shipping channel, unless otherwise approved by the CEO, the proponent shall revise the *Draft BHPBIO Outer Harbour Development Dredging and Spoil Disposal Management Plan* (October 2011, Rev 0) to meet the objectives set out in condition 6-3 and address the requirements of condition 6-4, to be approved by the CEO.

6-3 The objectives of the final *BHPBIO Outer Harbour Development Dredging and Spoil Disposal Management Plan* are to ensure that the dredging of the berth pockets, swing basin and shipping channel is managed:

- i. to achieve the environmental protection outcomes set in condition 6-1; and
- ii. with the aim of meeting the management targets and reducing adverse impacts on marine benthic habitats, as far as practicable.

6-4 The *Draft BHPBIO Outer Harbour Development Dredging and Spoil Disposal Management Plan* (October 2011, Rev 0) revised in accordance with condition 6-2 shall include:

- i. locations of impact and reference monitoring sites;
- ii. descriptions of impact and reference monitoring sites, including key physical attributes, geographic locations and measures of the baseline condition of benthic communities to be monitored;

- iii. descriptions of the management targets, and the environmental variables to be monitored for the evaluating the achievement of objectives set in conditions 6-3 (i) and (ii);
- iv. the monitoring and data evaluation procedures to be applied so as to assess achievement of the objectives set in conditions 6-3 (i) and (ii);
- v. the monitoring methodologies and procedures to be applied to:
 - a. measure relevant physical indicators (e.g. water currents, water quality conditions including turbidity, photosynthetic radiation and light attenuation coefficient, and sediment deposition rates) at a frequency to allow adaptive dredge management; and
 - b. measure biological indicators (depending on weather conditions) to inform adaptive environmental management at an appropriate frequency;
- vi. management trigger indicators and values for relevant physical and biological indicators to be applied in a risk-based tiered approach for the management of the environmental impacts of turbidity generating activities;
- vii. evidence demonstrating that the monitoring required to assess achievement of objectives set in conditions 6-3 (i) and (ii), is based on tests using appropriate effect size(s) and statistical power values;
- viii. management actions that will be implemented in the event that the management triggers values set in condition 6-4-(vi) are not met;
- ix. methods and procedures that will be implemented to regularly characterise, spatially-define and report the observed plume caused by the dredging of the berth pockets, swing basin and shipping channel; and
- x. procedures for timely reporting of monitoring data, management responses and contingency measures.

6-5 The proponent shall provide relevant stakeholders with a final copy of the *BHPBIO Outer Harbour Development Dredging and Spoil Disposal Management Plan* required under condition 6-2.

6-6 The proponent shall implement the approved *BHPBIO Outer Harbour Development Dredging and Spoil Disposal Management Plan* required under conditions 6-2 to 6-4 and make that plan publicly available in a manner approved by the CEO.

6-7 In the event that monitoring carried out under the approved *BHPBIO Outer Harbour Development Dredging and Spoil Disposal Management Plan* determines that any of the environmental protection outcomes set in condition

6-1 are not being achieved during the dredging of the berth pockets, swing basin and shipping channel, the proponent shall:

- i. immediately suspend turbidity-generating activities that are contributing to the non-achievement;
- ii. within 24 hours of that suspension, report the non-achievement to the CEO and that it has suspended the relevant turbidity-generating activities; and
- iii. within 48 hours of that suspension, report to the CEO:
 - a. the results of the monitoring that led to that suspension;
 - b. the findings of investigations into the status of relevant environmental measures against achievement of the environmental protection outcomes set in condition 6-1;
 - c. the turbidity-generating activities and metocean conditions which occurred in the monitoring period prior to the non-achievement and until the time of suspension at the time of the non achievement of environmental protection outcomes set in condition 6-1; and
 - d. the results of the most recent water quality and sediment deposition monitoring.

6-8 If, after suspending any turbidity-generating activities under condition 6-7, in the report required by condition 6-7(iii), the proponent:

- i. determines that environmental protection outcomes set in conditions 6-1 are being achieved; or
- ii. provides strong evidence that a particular turbidity generating activity did not cause the non-achievement,

and the CEO concurs with the findings of the proponent's report, then the proponent may recommence turbidity-generating activities.

6-9 If condition 6-8 does not apply, and the proponent wishes to recommence the turbidity-generating activities which are suspended under condition 6-7, the proponent:

- i. shall submit to the CEO a report detailing the following:
 - a. the results of the most recent environmental monitoring for relevant monitoring and reference sites, including identifying where an environmental protection outcome is not being achieved, and those sites where there is strong evidence that non-achievement of an environmental protection outcome is reasonably expected to be recorded as part of the same event;

- b. the turbidity-generating activities which were being undertaken in the monitoring period prior to the environmental protection outcome not being achieved and until the time of suspension;
- c. the metocean conditions as monitored in the most recent monitoring period prior to the environmental protection outcome not being achieved and until the time of suspension;
- d. the results of the most recent monitoring of relevant physical indicators (e.g. water quality and sediment deposition);
- e. proposed revised Zone of High Impact and/or Zone of Moderate Impact;
- f. additional management actions proposed to be implemented so that the recommencement of turbidity-generating activities which are part of the dredging of the berth pockets, swing basin and shipping channel which will ensure environmental protection outcomes set in condition 6-1 are achieved in the proposed revised zones; and
- g. any other information considered relevant by the proponent in support of its Proposal to recommence all turbidity-generating activities that remain suspended after implementing condition 6-7.

6-10 The CEO may, having regard to a report submitted by the proponent under condition 6-9, approve revised Zones of High or Moderate Impact to have effect for the purpose of condition 6-1 in which case the proponent may then continue or recommence turbidity-generating activities which are part of the dredging of the berth pockets, swing basin and shipping channel subject to the approved revised Zones. The CEO may also, having regard to a report submitted by the proponent under conditions 6-4(x) or 6-9, require the proponent to implement other additional practicable management actions proposed in this report, as part of the approved *BHPBIO Outer Harbour Development Dredging and Spoil Disposal Management Plan* (conditions 6-2 to 6-4).

Marine benthic surveys

6-11 The proponent shall, within six months following the date of this Statement, or at least four months prior to the commencement of any marine works that may impact the marine environment, whichever is sooner, unless otherwise approved by the CEO, prepare a Scope of Works for surveys of the marine environment referred to in condition 6-12 for the approval of the CEO.

6-12 The surveys of the marine environment are to be conducted in accordance with the approved Scope of Works at the times as indicated below, unless otherwise approved by the CEO, so as to establish the following:

- i. the baseline state of the marine environment prior to the commencement of any marine works;

- ii. the state of the marine environment at the mid-term of the marine works period associated with the dredging of the berth pockets, swing basin and shipping channel;
- iii. the first post-development state of the marine environment associated with the dredging of the berth pockets, swing basin and shipping channel; and
- iv. a second post-development state of the marine environment having regard to the findings of previous surveys.

6-13 The Scope of Works for surveys of the marine environment required in condition 6-12 shall include the following where relevant having regard to when the survey is conducted:

- i. procedures and methods for the collection of quantitative environmental data for:
 - a. water quality;
 - b. hydrodynamic conditions including direction and velocity of water currents;
 - c. the physical characteristics of native sediments and development-influenced sediments suspended in the water column and deposited on the benthos;
 - d. the natural and development-influenced rates, and spatial and temporal patterns of sediment deposition;
 - e. the spatial extent, distribution, community composition (at a suitable taxonomic resolution to differentiate different communities), natural variability including seasonality and condition of benthic habitats; and
 - f. confirming the extent, distribution and condition of benthic habitats at representative sites.
- ii. timing for the implementation and completion of the surveys having regard to the types and sequence of surveys referred to in condition 6-12;
- iii. procedures for the use of survey data to assess compliance with relevant environmental protection outcomes in condition 6-1; and
- iv. timing and frequency of reporting.

6-14 Prior to the commencement of dredging and in accordance with the approved Scope of Works required under condition 6-13, the proponent shall undertake the baseline state of the marine environment survey.

- 6-15 At the time specified in the approved Scope of Works and in accordance with the approved Scope of Works, the proponent shall undertake the surveys for the state of the marine environment at the mid-term of the marine works.
- 6-16 At the time specified by the approved Scope of Works and in accordance with the approved Scope of Works, the proponent shall undertake the surveys for the state of the marine environment at the completion of dredging of the berth pockets, swing basin and shipping channel as described in Schedule 1.
- 6-17 No longer than 5 years following completion of dredging of the berth pockets, swing basin and shipping channel and in accordance with the approved Scope of Works, the proponent shall undertake a second post-development state of the marine environment survey to determine compliance with the environmental protection outcomes set in condition 6-1 (or any approved revised environmental protection outcome), unless otherwise approved by the Minister.
- 6-18 The proponent shall report the findings of the baseline state of the marine environment survey required by condition 6-14 to the CEO within three months of having completed that survey.
- 6-19 The proponent shall report the findings of subsequent state of the marine environment surveys required by conditions 6-15, 6-16 and 6-17 and include in each report an appraisal of compliance with environmental protection outcomes set in condition 6-1, to the CEO within four months of having completed each survey.

7 Protection of Intertidal Habitats (Mangroves)

West Creek Crossing

- 7-1 Prior to the commencement of construction, the proponent shall prepare a West Creek Crossing Plan for the infrastructure corridor across West Creek, to be approved by the CEO.

The objective of the West Creek Crossing Plan is to identify the crossing type and construction methodology to be adopted which minimises impacts on mangrove communities, tidal flows and aquatic habitats in West Creek.

The actual type of infrastructure crossing to be adopted above shall be contained within the disturbance envelope referred to in condition 7-3 and shown in Figure 3.

- 7-2 The proponent shall construct the West Creek crossing infrastructure according to the option identified and adopted in the approved West Creek Crossing Plan required by condition 7-1.

Mangroves

- 7-3 The proponent shall ensure that the implementation of the proposal does not cause the permanent loss of mangroves, either through direct or indirect

impacts, other than the mangroves located within the disturbance envelope in Figure 3 in Schedule 1 of this statement.

Note: 'Permanent loss' is defined as the mortality of, or long term serious damage to, mangrove communities. This includes a long-term decline in the crown condition of the mangrove communities.

7-4 The total area of mangroves to be affected by permanent loss within the disturbance envelope shall not exceed the agreed mangrove loss as defined in Table 1 of Schedule 1.

7-5 Following the completion of the construction of the West Creek crossing, the proponent shall undertake mangrove health surveys and report to the CEO the total permanent loss of mangrove communities caused by the proposal:

1 after:

- a) 2 months;
- b) 1 year; and
- c) 2 years, or

2 at a frequency to the satisfaction of the CEO,

to verify the requirements of conditions 7-3 and 7-4 have been met.

The reports shall include co-ordinates and a map confirming the area of mangrove loss caused by the proposal does not exceed the area of permanent loss referred to in condition 7-4.

8 Marine Fauna Interaction – Marine Pile Driving, Dredging and Marine Construction Vessels and Onshore Facility light sources

8-1 The proponent shall engage dedicated Marine Fauna Observers who must:

- i. demonstrate a knowledge of marine wildlife species in the Pilbara region, including Threatened and Migratory Species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), and *Wildlife Conservation (Specially Protected Fauna) Notice 2010(2)* and priority listing, and their behaviours;
- ii. have the capacity, subject to safety considerations, to move and make observations and other relevant records independently within the vicinity of marine construction activities (including pile driving and dredging);
- iii. be on duty during all daylight hours when pile-driving and/or dredging operations are conducted; and
- iv. maintain a log of:

- a. observations of cetaceans in a format consistent with the National Cetacean Sightings and Strandings Database;
- b. observations of marine fauna, including injured or dead fauna within 500 metres of the marine construction activities referred to in condition 8-1(ii);
- c. observations of fauna behaviour, in particular any behaviour that could be interpreted as a display of disturbance or distress;
- d. management response by the proponent in relation to observation of disturbed or distressed fauna, and injured or dead fauna; and
- e. observation hours in relation to the duration of the pile driving and dredge activity.

8-2 The proponent shall within six months of completing pile driving operations, lodge cetacean records with the National Cetacean Sighting and Strandings Database at the Australian Antarctic Division and with the Department of Environment and Conservation (DEC).

8-3 At least one member of the crew on each vessel undertaking construction activities (dredge, piling vessels) will be trained in marine fauna observations and mitigation measures, including the requirements of the *Wildlife Conservation (Closed Season for Marine Mammals) Notice 1998*, as amended or replaced from time to time, and maintain a watch and a log of fauna observed during transit and construction activity consisting of: GPS coordinates; species (if known); and behaviour. Logs are to be submitted to the DEC on an annual basis at the same time as submitting the compliance assessment report required by condition 4-6 to the CEO.

8-4 Vessels engaged in construction of the nearshore or offshore marine facilities shall not exceed those speeds specified in the Marine Fauna Management Plan required under condition 8-11 or a speed designated by the Department of Transport or relevant Port Authority, whichever is lesser.

8-5 Subject to condition 8-9, no marine pile driving operations shall commence until the Marine Fauna Observer (or observers) required by condition 8-1 have verified that no cetacean(s) or dugong(s) have been observed within a radius of 1,500 metres or marine turtle(s) within a radius of 300 metres from piling operations during the 30 minute period immediately prior to commencement of piling operations.

8-6 Prior to commencement of full power marine pile driving, the proponent shall implement soft start-up procedures that slowly increase the intensity of noise emissions over a period of no less than 15 minutes.

8-7 If the Marine Fauna Observer(s) required by condition 8-1, or any other person, observes a marine turtle enter within 100 metres of a piling operation, or

cetacean or dugong within 500 metres of a piling operation, that piling operation is to be suspended.

8-8 Marine pile driving that has been suspended in accordance with condition 8-7 shall not recommence until the cetacean or dugong has moved beyond 1,500 metres from the suspended piling operation or the marine turtle beyond 300 metres of their own accord, or the cetacean, dugong or marine turtle has not been observed within the exclusion zone for a period of 30 minutes. Marine pile driving that has been suspended for more than 15 minutes shall recommence with soft start-up procedures as required by condition 8-6.

8-9 No marine pile driving operations shall occur between the hours of sunset and sunrise during the peak southern migration of mother and calf humpback whale pods defined as 10 August to 10 October in any year.

8-10 This part has been left blank intentionally.

Marine Fauna Management Plan

8-11 Prior to the commencement of constructing the marine components of the proposal, unless otherwise approved by the CEO, the proponent shall prepare a Marine Fauna Management Plan in consultation with the DEC and Commonwealth Department of Sustainability, Environment, Water, Population and Communities, which is to be approved by the CEO.

The objective of this Marine Fauna Management Plan is to ensure that the proponent constructs and operates the proposal so as to:

- i. detect; and
- ii. avoid, or where this is not practicable, mitigate,

impacts upon conservation significant marine fauna, from construction and operation of the proposal.

Note: For the purposes of this condition the term 'conservation significant marine fauna' includes marine mammals, marine turtles and sawfish listed as threatened under the EPBC Act or *Wildlife Conservation (Specially Protected Fauna) Notice 2010(2)* as amended or replaced from time to time.

8-12 The proponent shall include the following in the Marine Fauna Management Plan:

- i. a description of the environmental stressors relating to the construction and operation of the marine components of the proposal which are likely to impact on conservation significant marine fauna. (environmental stressors may include, but are not limited to, noise, vibration, light spill and glow, vessel strike, dredge entrainment, and changes to coastal processes with the potential to impact on important marine fauna habitats);

- ii. a description of design features and management actions which the proponent will implement to avoid, or where this is not practicable, mitigate impacts of the environmental stressors relating to the construction and operation of the marine components of the proposal on conservation significant marine fauna (for example, darkness strategies that avoid, or where this is not practicable, significantly reduce the level of light glow from the construction and operations of the proposal, and associated vessels to a degree that minimises interference with nesting turtles and hatchlings);
- iii. environmental performance standards to determine whether the design features and management actions are achieving the plan objectives referred to in condition 8-11; and
- iv. a process (including a monitoring programme) to determine that the environmental performance standards are being achieved.

8-13 The proponent shall implement the approved Marine Fauna Management Plan required under conditions 8-11 and 8-12.

8-14 The proponent shall make the approved Marine Fauna Management Plan required under conditions 8-11 and 8-12 publicly available in a manner approved by the CEO.

8-15 The proponent shall review annually the approved Marine Fauna Management Plan.

8-16 The proponent shall report to:

- i. the CEO any non-achievement of the environmental performance standards referred to in condition 8-12(iii) within 21 days of it having determined non-achievement and its recommendations as to how the plan should be amended to ensure standards are achieved; and
- ii. the DEC any natural or proposal attributable injury or mortality of conservation significant marine fauna within 24 hours of the observation.

Underwater Noise Monitoring and Review Plan

8-17 Prior to commencement of marine pile driving activities, unless otherwise approved by the CEO, the proponent shall prepare, with the advice of an expert(s) in the field of noise propagation modelling in the marine environment, an Underwater Noise Monitoring and Review Plan for the marine pile driving activities, to be approved by the CEO, which:

- i. measures underwater noise from pile driving operations to establish a library of sound signals:
 - a. at varying distances from the noise source;

- b. when driving piles of different sizes and types;
 - c. during the concurrent piling of different numbers of piles;
 - d. in conditions of different water depths; and
 - e. in different driving conditions (substrate types);
- ii. reviews the predictive capacity of the noise propagation model used for the pile driving and make recommendations for improving the accuracy of underwater noise modelling in the future.

8-18 The proponent shall implement the approved Underwater Noise Monitoring and Review Plan required under condition 8-17.

8-19 The results of the approved Underwater Noise Monitoring and Review Plan are to be published within one year after the completion of the pile driving operations in a manner approved by the CEO.

9 Operational Marine Environmental Quality

9-1 During the operation of the proposal, the proponent shall manage activities associated with the marine components of the proposal as set out in Schedule 1, with the aim of achieving the environmental quality objectives and levels of ecological protection as indicated in Figure 4.

9-2 The Moderate Ecological Protection Area for the port is defined as the area contained within 250 metres of the shipping berths and ship turning basin as indicated in Figure 4 of Schedule 1. Outside of the Moderate Ecological Protection Area a High Level of Ecological Protection shall be maintained.

Note: Schedule 2 describes Environmental Quality Objectives and associated Levels of Ecological Protection and provides guidance on allowable levels of change and appropriate guidance on trigger values.

9-3 Prior to the commencement of commissioning the marine components of the proposal, unless otherwise approved by the CEO, the proponent shall prepare a Port Marine Environmental Quality Management Plan.

The objective of the Port Marine Environmental Quality Management Plan is to ensure that the operational activities of the proposal are managed to ensure the requirements of conditions 9-1 and 9-2 are met.

The Port Marine Environmental Quality Management Plan shall include:

- i. protocols and procedures for monitoring and evaluating the quality of water and sediment in marine waters surrounding the proposal;

- ii. a threat assessment and baseline sediment and water quality data for indicators relevant to identified threats over a number of tidal cycles and seasons;
- iii. environmental quality indicators and associated 'trigger' levels (i.e. environmental quality guidelines and environmental quality standard) based on the guidelines and recommended approaches in the *Australian and New Zealand Guideline for Fresh and Marine Water Quality (ANZECC & ARMCAMZ, 2000)* and the State Water Quality Management Strategy Document No. 6 for assessing performance against the environmental quality objectives and associated levels of ecological protection set out in Schedule 2;
- iv. the reporting procedures, including the format, timing, and frequency for the reporting of monitoring data against the relevant trigger levels and environmental quality objectives;
- v. a framework for development of management and contingency actions to be implemented in the event that any trigger levels referred to in condition 9-3(iii). are not met; and
- vi. location of impact and reference monitoring sites.

9-4 The proponent shall implement the approved Port Marine Environmental Quality Management Plan required by condition 9-3.

9-5 In the event that monitoring required by condition 9-4 indicates that the environmental quality objectives and levels of ecological protection established through condition 9-1, and described in Schedule 2, are not being met, or are not likely to be met, the proponent shall report the findings to the CEO within seven working days, along with a description of the management actions to be taken to meet the required level of environmental quality.

10 Terrestrial Flora and Vegetation

10-1 The proponent shall implement actions and measures set out in the *Port Hedland Outer Harbour Development Significant Terrestrial Species Management Plan* (Significant Species Management Plan) dated September 2011, during the construction of the proposal. The objective of the Significant Species Management Plan is to minimise potential impacts of construction on significant flora species and their habitats during construction of the landside infrastructure component as described in Schedule 1.

10-2 The proponent shall not clear or directly disturb the ground or any vegetation beyond the proposal disturbance envelope depicted in Figure 5 and defined in Table 1 of this Statement.

11 Introduced Marine Pests

- 11-1 The proponent shall manage non-trading vessel activities and immersible equipment activities whilst engaged for the implementation of the proposal with the objective of preventing the introduction of marine pests into State waters. For the purpose of this condition, Introduced Marine Pests are those species known to be introduced marine pests, or any other species demonstrating invasive characteristics.
- 11-2 Prior to the departure of any non-trading vessels and associated immersible equipment engaged for the implementation of the proposal (including dredges and pile driving barges), from any port into State waters, the proponent shall:
- i. undertake a risk assessment for Introduced Marine Pests. The risk assessment will be undertaken in accordance with a risk assessment procedure approved by Department of Fisheries; and
 - ii. submit the risk assessment, including all inputted data and results to the Department of Fisheries for a determination of the risk level (high, or low) to be assigned to the vessels or associated immersible equipment.
- 11-3 The proponent shall ensure that any non-trading vessel or immersible equipment assessed in accordance with conditions 11-2 (i) and (ii) and determined by the Department of Fisheries to be of high risk of Introducing Marine Pests, do not enter State waters unless and until:
- i. the non-trading vessel or immersible equipment has been inspected by an Officer of the Department of Fisheries, or a suitably qualified invasive marine pest expert approved by the Department of Fisheries; and
 - ii. the proponent has provided evidence to the Department of Fisheries, certifying that:
 - a. there is no sediment on or within the non-trading vessel and immersible equipment;
 - b. ballast water (if any) has been, or will be, managed according to the Australian Quarantine and Inspection Service ballast water requirements as amended or replaced from time to time;
 - c. no Introduced Marine Pests have been identified on or within any vessel or immersible equipment inspected or;
 - d. where an Introduced Marine Pest has been identified on or within any vessel or immersible equipment then;
 1. the vessel has been subsequently cleaned and the cleaned vessel has been inspected by an Officer of the Department of Fisheries or a suitably qualified invasive marine pest expert approved by the Department of Fisheries,

2. any cleaning or treatment activities undertaken to address Introduced Marine Pests risk, has been undertaken to an extent that the non-trading vessel or associated immersible equipment is determined by the Department of Fisheries to represent a low risk to the West Australian marine environment; and
- iii. vessel and immersible equipment inspections have been conducted no more than seven days prior to vessel or immersible equipment departure for Port Hedland; or
- iv. if a vessel is determined by the Department of Fisheries to be of a high risk and has entered State waters, without meeting the requirements of conditions 11-3 (i), (ii) and (iii), then it must be inspected within 48 hours of arrival in State waters by an Officer of the Department of Fisheries or a suitably qualified invasive marine pest expert approved by the Department of Fisheries.

Note: Arrangements for inspection within the Port of Port Hedland shall be carried out in consultation with the Harbour Master.

11-4 If non-trading vessels and associated immersible equipment are to be transferred without exemption (condition 11-5) from Port Hedland to other locations within State waters, the proponent shall, at least 14 days prior to departure from Port of Port Hedland, undertake an inspection or submit a demobilisation risk assessment report to the Department of Fisheries that is informed by the Introduced Marine Pests monitoring of Port Hedland Introduced Marine Pests monitoring shall:

- i. be consistent with monitoring design, implementation and reporting standards set out as part of the National Monitoring Network for the Prevention and Management of Marine Pest Incursions, as approved by the Monitoring Design Assessment Panel of the Marine Pest Sectoral Committee (MPSC), or as otherwise approved by the Department of Fisheries.
- ii. include a review of target priority Introduced Marine Pest species prior to each monitoring survey;
- iii. include a range of sample sites focusing on habitats considered most capable of facilitating the establishment of priority target species throughout all areas of port activities including anchorages, wharves, jetties, slipways, harbours and natural substrates, within the waters of the marine leases held by the proponent;
- iv. be undertaken a minimum of once each year for the life of the proposal; and
- v. include suitable targeted sampling and analysis of specimens removed during port and vessel maintenance activities.

- 11-5 Specified vessels and immersible equipment and vessels used to undertake single or multiple bunkering or other routine operational activities at neighbouring ports such as Dampier will be exempt from the Introduced Marine Pests risk mitigation measures referred to in condition 11-4 if, prior to arriving or departing from Port Hedland, the Department of Fisheries, has issued a written exemption for that specified vessel and immersible equipment to enter and or leave Port Hedland prior to an identified date, based on comprehensive information submitted by the proponent that includes a risk assessment supported by documentation demonstrating biofouling management actions and a vessel activity profile since the most recent dry-dock cleaning.
- 11-6 The proponent shall, throughout the life of the proposal notify the Department of Fisheries, the Port Hedland Harbour Master and the CEO of any known or suspected Introduced Marine Pests detected in the waters within the marine leases held by the proponent at or adjacent to Port Hedland within 24 hours following detection, or following subsequent sample analysis undertaken as part of inspection or monitoring activities.
- 11-7 In the event that Introduced Marine Pests are detected during either the inspection of non-trading vessels and immersible equipment required by condition 11-3, or during monitoring surveys required by condition 11-4, and the introduction is a result of proposal related activities, the proponent shall, in consultation with the Department of Fisheries and the CEO, develop and implement an Introduced Marine Pests Management Strategy to prevent wherever practicable, the establishment and proliferation of that organism, aiming to control and potentially eradicating that organism, and to minimise the risk of that organism being transferred to other locations within Western Australia.
- 11-8 The proponent is to submit a report detailing the outcomes of the implementation of the Introduced Marine Pests Management Strategy to the Department of Fisheries and the CEO within a month of the commencement of the implementation of the Introduced Marine Pests Management Strategy and thereafter as required by the CEO.

12 Construction Dewatering Effluent Management

- 12-1 Prior to the commencement of construction of the car dumpers the proponent shall submit a Hydrogeological and Dewatering Effluent Investigation Report to be approved by the CEO. The objective of the Report is to investigate appropriate onsite reuse options for dewatering effluent from the construction of the car dumpers, prior to the consideration of effluent disposal to the marine environment. The Report shall include:
- i. results of groundwater monitoring and modelling, including defining the lateral extent of the predicted cone of depression of the water table caused by dewatering;
 - ii. required volumes and flow rates for dewatering;

- iii. dewatering effluent water quality, including defining action criteria for chemical parameters that would trigger the implementation of contingency plans if exceeded;
- iv. evaluation of options for reuse of dewatering effluent onsite including dust suppression (and other construction activities);
- v. evaluation of options for reinjection/infiltration;
- vi. evaluation of options for disposal to the marine environment;
- vii. prediction of the toxicity and bioaccumulatory/biomagnification potential of the final discharge under typical conditions;
- viii. identification of management and treatment options for dewatering effluent; and
- ix. comparison of environmental impacts of options considered in conditions 12-1 (iv), (v) and (vi).

12-2 Based on the Hydrogeological and Dewatering Effluent Investigation Report required by condition 12-1, the proponent shall identify a dewatering and effluent disposal strategy for implementation, to be approved by the CEO.

12-3 The proponent shall implement the dewatering and effluent disposal strategy approved under condition 12-2.

12-4 If discharge of dewatering effluent to the marine environment is part of the strategy approved in condition 12-2, then the proponent shall prepare a Groundwater and Effluent Discharge Operating Strategy to be approved by the CEO, prior to the construction of the car dumpers. The Strategy shall include:

- i. interim Environmental Quality Objectives and levels of ecological protection that would apply for the period of the discharge;
- ii. predictions of the number of dilutions required to achieve the Environmental Quality Objectives and levels of ecological protection, based on predictions in condition 12-1(vii);
- iii. design of discharge infrastructure to achieve the necessary number of dilutions;
- iv. an environmental quality monitoring plan to monitor and manage the environmental consequences of the discharge spanning the range of expected conditions, and including for bioaccumulatory/biomagnifying substances;
- v. water quality triggers and environmental quality criteria, for constituents of the discharge considered relevant by the CEO, that should be achieved to

maintain the interim environmental quality objectives and levels of ecological protection in the Port Hedland Harbour;

- vi. timing and volume of effluent discharge;
- vii. protocols and procedures for water quality monitoring under a range of tidal conditions;
- viii. treatment and management actions to apply to the effluent prior to discharge, to meet the environmental quality criteria referred to in condition 12-4(v);
- ix. contingency options for additional treatment or management actions should environmental quality objectives not be achieved; and
- x. procedures for reporting the results of water quality monitoring, non-achievement of any environmental quality objectives and effectiveness of the contingency actions.

12-5 The proponent shall implement the approved operating strategy required by condition 12-4 during the construction of the car dumpers.

13 Staging of Plans

13-1 Where a plan, program, report or survey is required by these conditions to be prepared and approved prior to the commencement of an activity, it is required that the plan, strategy, report or survey can be prepared and approved as per the relevant condition requirements for a component or stage of the activity, allowing staged implementation.

14 Review of Plans

14-1 If the proponent amends any plan, program, report or strategy or other document required by these conditions, the proponent must implement the amended plan from the date of the amendment.

14-2 If any plan, program, report or strategy is required to be approved under these conditions, the proponent may only make a significant amendment to the plan, program, report or strategy if the amendment is also approved. Significant amendments are those amendments which alter the obligations of the proponent, that is, are not minor or administrative.

15 Decommissioning

15-1 At least six months prior to the anticipated date of closure, the proponent shall submit a decommissioning and rehabilitation management plan, as approved by the CEO.

16 Residual Impact and Risk Management Measures

- 16-1 In order to mitigate for significant residual impacts and risks (permanent and temporary) of the proposal to marine benthic habitat, mangroves, marine fauna, the proponent shall undertake the following residual impact and risk management measures, consistent with financial, governance and accountability arrangements described in Schedule 3 (proponent residual impact and risk management measures – BHPBIO Outer Harbour project), unless otherwise agreed with the CEO.
- 16-2 The proponent will contribute \$500,000 over two years to relevant scientific research, on the basis described in Schedule 3 (Project A). The aim of the project is to understand the ecology of the Green Sawfish (*Pristis zijsron*) and contribute to regional studies being undertaken to understand sawfish migration. By 30 September 2012, or unless otherwise approved by the CEO, the proponent, in consultation with the Department of Fisheries and the Commonwealth Department of Sustainability, Environment, Water, Population and Communities, will submit a plan for approval by the CEO to fund relevant research.
- 16-3 The proponent will contribute \$3 million over four years to relevant scientific research, on the basis described in Schedule 3 (Project B). The aim of the project is to add to the understanding and management of the impacts and risks to conservation significant marine fauna (ie. whales, dugongs, dolphins, sea turtles) from marine and coastal development in the Pilbara region. By 30 September 2012, unless otherwise approved by the CEO, the proponent, in consultation with the DEC, will submit a plan for approval by the CEO to fund relevant research.
- 16-4 The proponent will contribute \$3 million over two years to the Western Australian Marine Science Institute dredging science node, on the basis described in Schedule 3 (Project C). The aim of the project is to add to the understanding and management of the impacts of dredging on tropical marine communities in Western Australia. By 30 September 2012, or unless otherwise approved by the CEO, the proponent will submit a plan to fund relevant research.
- 16-5 The proponent will undertake or fund marine habitat mapping (Project D), on the basis described in Schedule 3 (\$1 million over four years). The aim of the project will be to map intertidal habitat at the mouth of the DeGrey River, Mandora Marsh, and the Turner River delta. By 30 September 2012, or unless otherwise approved by the CEO, the proponent will submit a plan for approval by the CEO to fund the project according to a methodology and standard agreed by the CEO on advice of the DEC.
- 16-6 The proponent will contribute \$2.5 million over 6 years to management actions that improve the conservation of marine fauna (Project E). By 30 September 2012, or unless otherwise agreed by the CEO, the proponent, in consultation with the DEC, will submit a plan for approval by the CEO to fund relevant

conservation actions consistent with the guidance provided by the indicative or final 80 Mile Beach Marine Park management plan.

16-7 The proponent shall make publicly available, in a manner approved by the CEO, all conservation and research outcomes from Projects A, B, C, D and E.

16-8 The CEO may approve redirection of all or part of the financial contributions from Projects A, B, C D, or E to another project identified in condition 16 if the proponent and the CEO agree that better environmental outcomes may be achieved.

**HON BILL MARMION MLA
MINISTER FOR ENVIRONMENT; WATER**

The Proposal (Assessment No. 1735)

The proposal will involve the construction and operation of landside and marine infrastructure for the handling and export of iron ore. The proposal includes:

- rail connections and spur from the existing BHP Billiton Iron Ore mainline to proposed stockyards at Boodarie;
- rail loops at Boodarie;
- stockyards and associated infrastructure at Boodarie (e.g. car dumpers, stackers, reclaimers and lump screening plant);
- an infrastructure corridor (including conveyors, access roadway and utilities) from the stockyards to the proposed marine jetty (offshore from Finucane Island);
- an abutment, jetty, wharf, dredged channel, basins and berthing pockets offshore from Finucane Island, to accommodate bulk carriers; and
- supporting infrastructure including access roads, upgrades to existing roads and utilities, buildings, temporary construction facilities and communication systems.

The Outer Harbour Development will be established in four stages, with incremental expansions brought online over a five year period to reach the maximum capacity. The combined offshore and onshore construction period will last approximately eight years if each stage is built sequentially.

The proposal is expected to provide an additional nominal export capacity of approximately 240 Mtpa of iron ore to BHP Billiton Iron Ore's Port Hedland operations.

The location of the various project components is shown in Figure 1.

The main characteristics of the proposal are summarised in Table 1. A detailed description of the proposal is provided in sections 1 to 2 of the BHP Billiton Iron Ore, Proposed Outer Harbour Development, Port Hedland, Public Environmental Review, prepared by BHP Billiton Iron Ore, Perth Western Australia (April 2011).

Figures (attached)

1. Location of major components of the proposal
2. Zones of Impact from Dredging
3. Estimated loss of mangroves required for infrastructure corridor
4. Levels of Ecological Protection for the Proposed Outer Harbour
5. Terrestrial disturbance envelope

Table 1: Summary of Key Proposal Characteristics

Element	Description
General	
Proponent	BHP Billiton Iron Ore Pty Ltd.
Project Location	Port Hedland, Western Australia.
Proposal Description	Staged development of rail, iron ore handling, stockpiling and shiploading facilities at Port Hedland. Infrastructure includes a jetty, wharf and shipping channel offshore of Finucane Island with onshore infrastructure including ore transport (rail) and ore handling infrastructure (car dumpers, stockyards and conveyor system) and associated supporting infrastructure.
Construction Period	Staged construction, each stage nominally 2-3 years.
Marine Infrastructure	
Export Capacity	Marine infrastructure nominal capacity of approximately 240 Mtpa.
Wharf	Approximately 2 kilometres (km) in length. Eight berths and four shiploaders.
Jetty	Approximately 4 km in length (piled construction).
Shipping Channel	Approximately 2 km in length
Dredge Material	Volume: Approximately 42 million cubic metres (Mm ³).
Landside Infrastructure	
Capacity	Landside infrastructure nominal capacity of 300 Mtpa.
Infrastructure Corridor	From the Boodarie stockyards to Finucane Island and includes: <ul style="list-style-type: none"> • Access roadway and tracks; • Five conveyors up to 8 km in length; and • Power, water and communication utilities.
Stockyards	Staged development. Each stage comprises ore stockpiles, a car dumper, two stackers, reclaimer and lump screening plant. Two rescreened fines yard.
Rail	Loop: Five rail loops, one for each car dumper. Connections to the existing rail infrastructure. Western Spur: approximately 32 km in length.
Footprint	
Vegetation Clearing	Total area: Up to 970 hectares (ha); which includes up to 29.5 ha of Mangroves

Schedule 2

The Environmental Quality Objectives and Levels of Ecological Protection to be achieved in marine waters for the Proposal (Condition 9)

Area	Environmental Quality Objectives	Level of Ecological Protection for Maintenance of Ecosystem Integrity
<p>Marine waters within 250 m from ship turning basin and berthing areas.</p>	<ul style="list-style-type: none"> • Maintenance of ecosystem integrity. • Maintenance of seafood for human consumption. • Maintenance of aquaculture. • Maintenance of primary contact recreation. • Maintenance of secondary contact recreation. • Maintenance of aesthetic values. • Maintenance of cultural and spiritual values. • Maintenance of industrial water supply. 	<p>Moderate - To allow moderate changes in the quality of water, sediment and biota (eg moderate changes in contaminant concentrations that cause small changes, beyond natural variation, in ecosystem processes and abundance/biomass of marine life, but no detectable changes from the natural diversity of species and biological communities). For this protection level the 90% species protection guideline trigger values* for toxicants in water apply. For other physical and chemical parameters the trigger values are based on the 95th percentile of natural background measurements. Trigger values should be derived in accordance with the recommended approaches in ANZECC & ARM CANZ (2000). For sediments the ISQG-low* apply. For dissolved oxygen the median dissolved oxygen concentration in waters ≤0.5 metres from the seafloor, calculated over a period of up to 6 weeks, should not fall below 80% saturation at any site, and they should never fall below 60% saturation.</p>
<p>Marine waters beyond the areas of Moderate.</p>	<ul style="list-style-type: none"> • Maintenance of ecosystem integrity. • Maintenance of seafood for human consumption. • Maintenance of aquaculture. • Maintenance of primary contact recreation. • Maintenance of secondary contact recreation. • Maintenance of aesthetic values. • Maintenance of cultural and spiritual values. • Maintenance of industrial water supply. 	<p>High – To allow small changes in the quality of water, sediment and biota (e.g. small changes in contaminant concentrations with no resultant detectable changes beyond natural variation in the diversity of species and biological communities, ecosystem processes and abundance/biomass of marine life). For this protection level the 99% species protection guideline trigger values* for toxicants in water apply. For other physical and chemical parameters the trigger values are based on the 80th percentile of natural background measurements. Trigger values should be derived in accordance with the recommended approaches in ANZECC & ARM CANZ (2000). For sediments the ISQG-low* apply. For dissolved oxygen the median dissolved oxygen concentration in waters ≤0.5 metres</p>

		from the seafloor, calculated over a period of up to 6 weeks, to fall below 90% saturation at any site, and should never fall below 60% saturation.
--	--	---

* From National Water Quality Management Strategy Report 4, *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (2000) or its updates.

Schedule 3

Schedule: Proponent Residual Impacts and Risk Management Measures

Project	Value and Timeframe	Responsibility to implement	Governance	Cost
Project A Understanding the ecology of sawfish, and contribute to the regional studies being undertaken to understand sawfish migration.	\$250,000 by 30 September 2012 \$250,000 by 30 September 2013	BHP Billiton Iron Ore CEO OEPA to approve	SEWPaC/ BHP Billiton Iron Ore / DoF	\$0.5 million over 2 years
Project B Support research on marine fauna (whales, dolphins, dugongs and sea turtles) in the Pilbara region.	\$750,000 by 30 September 2012; \$750,000 by 30 September 2013; \$750,000 by 30 September 2014; \$750,000 by 30 September 2015.	BHP Billiton Iron Ore / Partner CEO OEPA to approve	BHP Billiton Iron Ore / DEC / OEPA	\$3 million over 4 years
Project C Improve the understanding and management of the impacts of dredging on tropical marine communities.	\$1.5 million by 30 September 2012; \$1.5 million by 30 September 2013	BHP Billiton Iron Ore / WAMSI CEO OEPA to approve	OEPA/ WAMSI / BHP Billiton Iron Ore	\$3 million over 2 years
Project D Contribute to the regional data - regional mapping and surveys of Mangroves (intertidal BPPH) at the mouth of the De Grey River, Mandora Marsh and the Turner River delta.	\$250,000 by 30 September 2012; \$250,000 by 30 September 2013; \$250,000 by 30 September 2014 \$250,000 by 30 September 2015	BHP Billiton Iron Ore / Partner CEO OEPA to approve	BHP Billiton Iron Ore / DEC / OEPA	\$1 million over 4 years
Project E Improve the conservation of	\$300,000 by 30 September 2012;	BHP Billiton Iron Ore / Partner	BHP Billiton Iron Ore / DEC	\$2.5 million over 6

<p>marine fauna consistent with the guidance provided by the indicative or final 80 Mile Beach Marine Park management plan.</p>	<p>\$300,000 by 30 September 2013; \$400,000 by 30 September 2014; \$500,000 by 30 September 2015; \$500,000 by 30 September 2016; \$500,000 by 30 September 2017</p>	<p>CEO OEPA to approve</p>		<p>years</p>
---	---	----------------------------	--	--------------

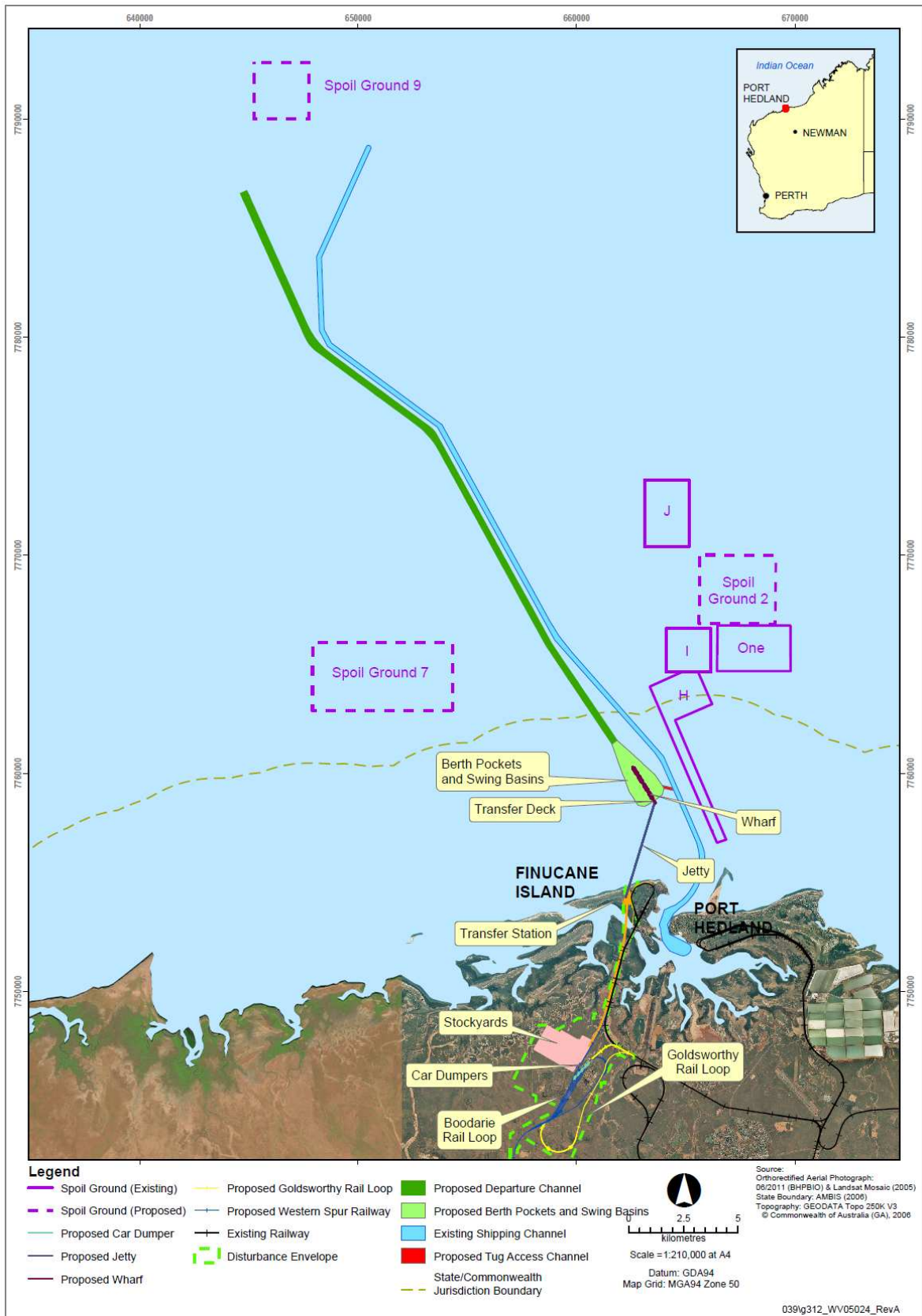


Figure 1: Location of major components of the proposal

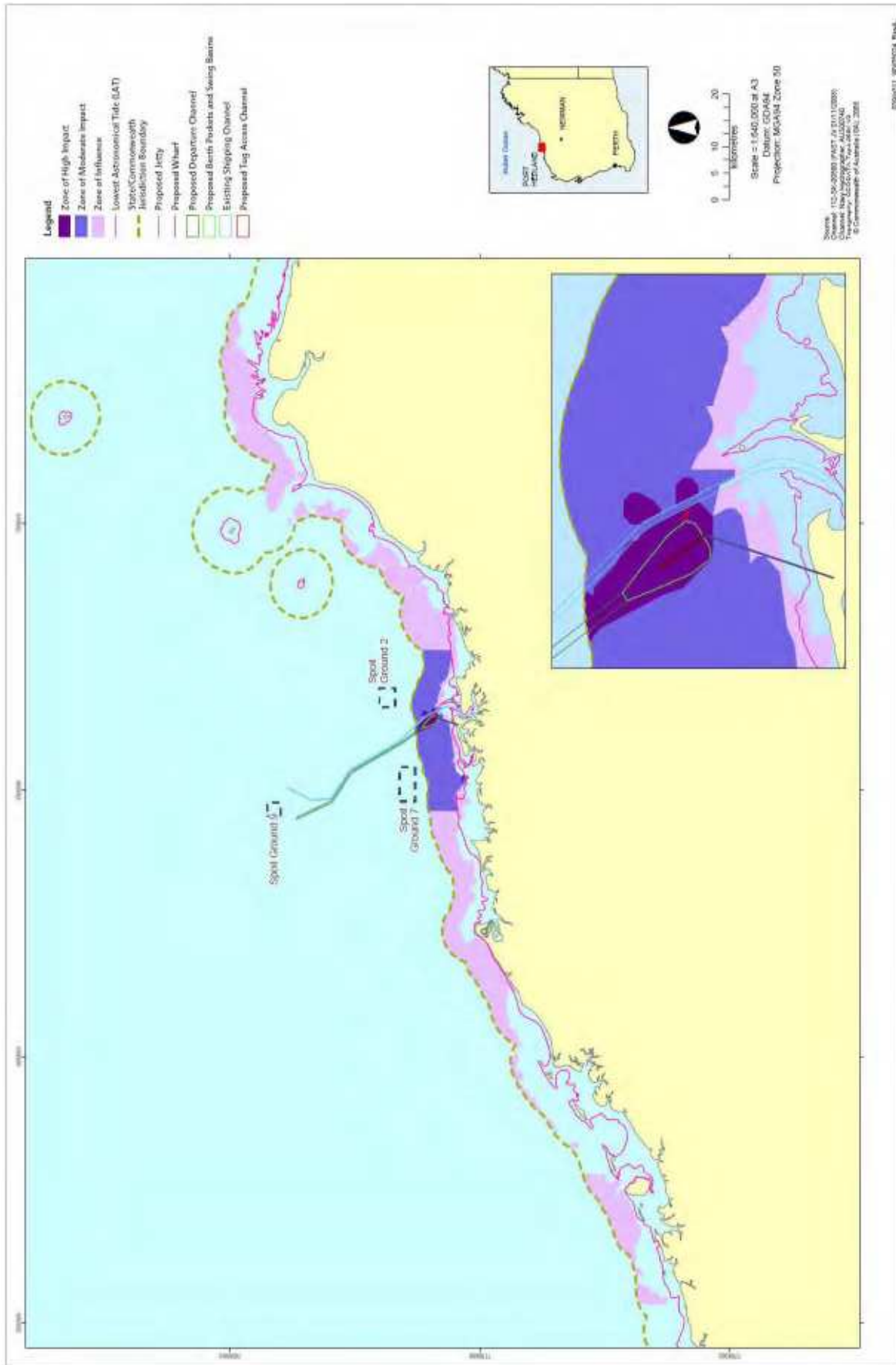


Figure 2: Zones of Impact from Dredging



Figure 3: Estimated loss of mangroves required for infrastructure corridor

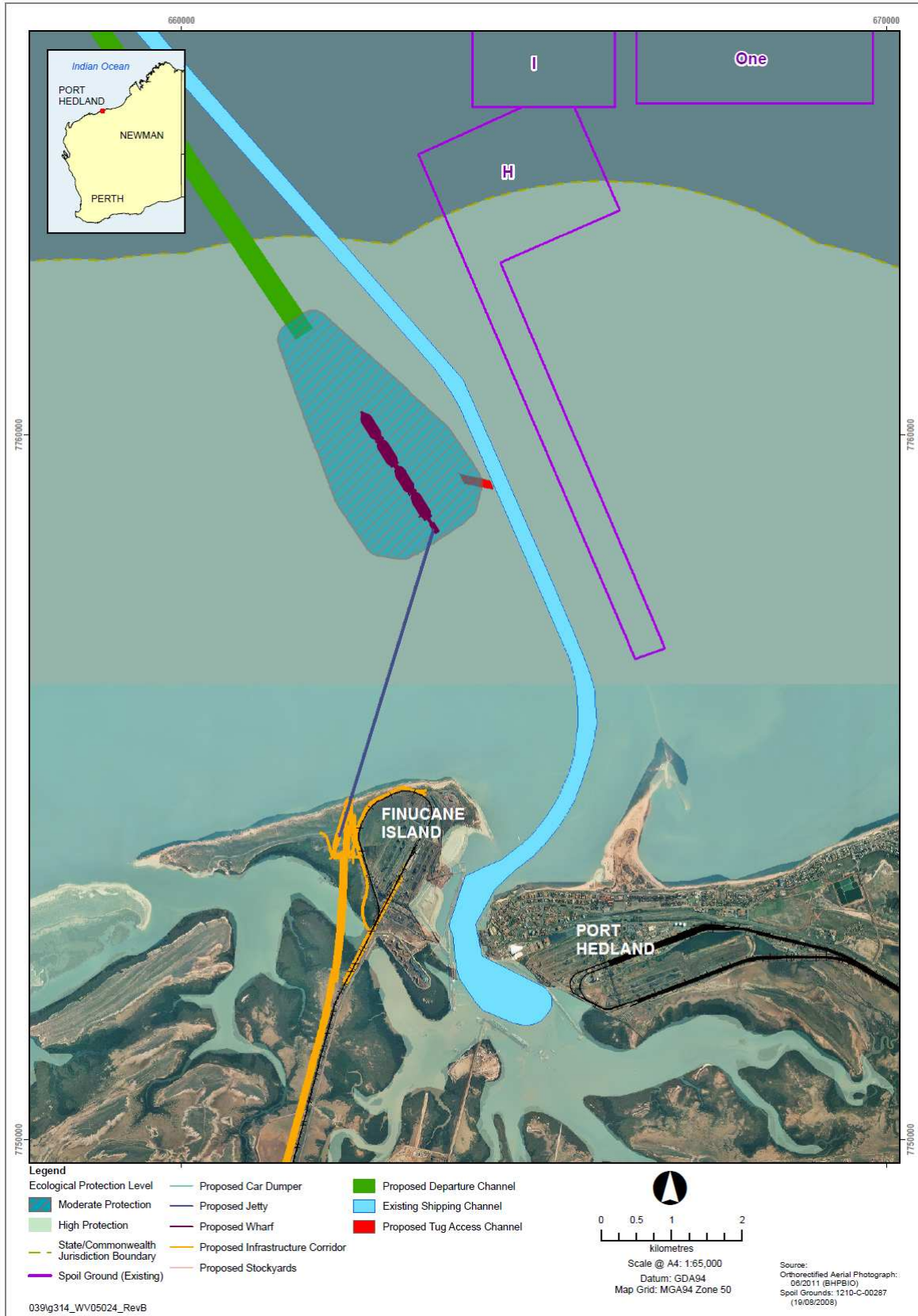


Figure 4: Levels of Ecological Protection for the Proposed Outer Harbour

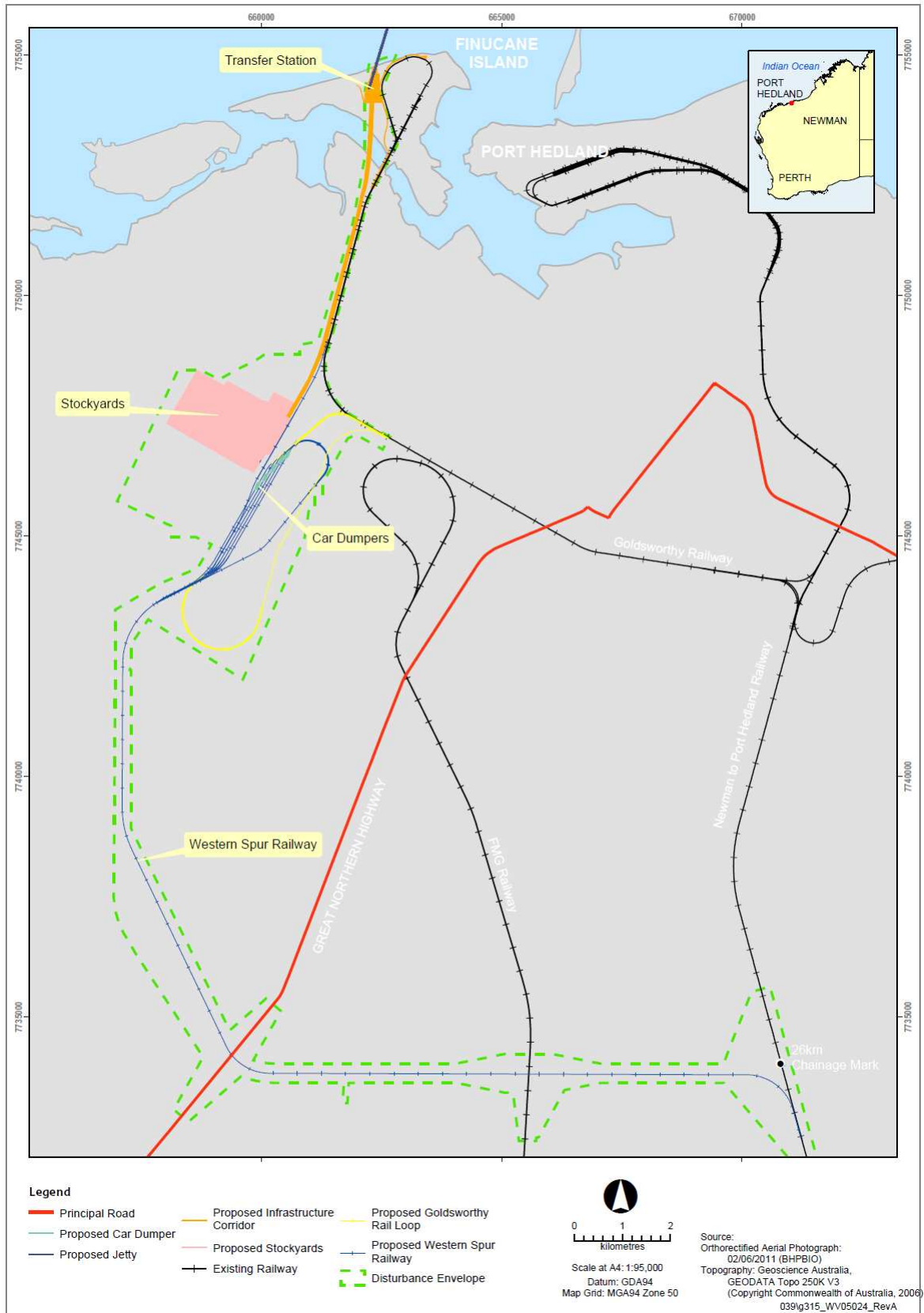


Figure 5: Terrestrial disturbance envelope