



Works Approval

Environmental Protection Act 1986, Part V

Works Approval Holder: BC Pilbara Iron Ore Pty Ltd

Works Approval Number: W5657/2014/1

Registered office: Level 1
15 Rheola Street
WEST PERTH WA 6005

ACN: 107 492 517

Premises address: BC Iron Cape Preston East Bulk Loading Facility
Within the following coordinates (Datum GDA94);

Point	Easting	Northing
1	418999.7	7693688
2	418874.6	7694458
3	418875.3	7694790
4	419023.0	7694774
5	419191.0	7696502
6	419390.0	7696485
7	419265.8	7695146
8	419448.3	7694980
9	419246.1	7694744
10	419217.5	7694711
11	419192.0	7694448
12	419600.0	7693564
13	419722.0	7692863
14	419249.8	7692965

MARDIE WA 6714
As depicted in Schedule 1

Issue date: Thursday, 3 March 2016

Commencement date: Monday, 7 March 2016

Expiry date: Saturday, 6 March 2021

The following category/s from the *Environmental Protection Regulations 1987* cause this
Premises to be a prescribed premises for the purposes of the *Environmental Protection Act 1986*:



Category number	Category description	Category production or design capacity	Approved premises production or design capacity
58	Bulk material loading or unloading: premises on which clinker, coal, ore, ore concentrate or any other bulk granular material (other than salt) is loaded onto or unloaded from vessels by an open materials loading system.	100 tonnes or more per day	10,000,000 tonnes per annum

Conditions

This Works Approval is subject to the conditions set out in the attached pages.

Date signed: 19 May 2016

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Alana Kidd

Manager Licensing – Resource Industries

Officer delegated under section 20
of the *Environmental Protection Act 1986*



Works Approval Conditions

1 General

1.1 Interpretation

1.1.1 In the Works Approval, definitions from the *Environmental Protection Act 1986* apply unless the contrary intention appears.

1.1.2 In the Works Approval, unless the contrary intention appears:

'Act' means the *Environmental Protection Act 1986*;

'CEO' means Chief Executive Officer of the Department of Environment Regulation;

'CEO' for the purpose of correspondence means;

Chief Executive Officer
Department Administering the Environmental Protection Act 1986
Locked Bag 33
CLOISTERS SQUARE WA 6850
Email: info@der.wa.gov.au

'Commissioning' means the process of operation and testing that verifies the works and all relevant systems, plant, machinery and equipment have been installed and are performing in accordance with the design specification set out in the works approval application;

'freeboard' means the distance between the maximum water surface elevations and the top of retaining banks or structures at their lowest point;

'Premises' means the area defined in the Premises Map in Schedule 1 and listed as the Premises address on page 1 of the Works Approval;

'Schedule 1' means Schedule 1 of this Works Approval unless otherwise stated;

'Stage 1' means construction of the initial stockpile layout, with ore trucks dumping to ground and front end loader used to push-up ore to, and reclaim from, the stockpiles;

'Works Approval' means this Works Approval numbered W5657/2014/1 and issued under the Act; and

'Works Approval Holder' means the person or organisation named as the Works Approval Holder on page 1 of the Works Approval.

1.1.3 Any reference to an Australian or other standard in the Works Approval means the relevant parts of the standard in force from time to time during the term of this Works Approval.

1.1.4 Any reference to a guideline or code of practice in the Works Approval means the current version of the guideline or code of practice in force from time to time, and shall include any amendments or replacements to that guidelines or code of practice made during the term of this Works Approval.

1.2 General conditions

1.2.1 The Works Approval Holder shall construct the works in accordance with the documentation detailed in Table 1.2.1:



Table 1.2.1: Construction Requirements¹

Document	Parts	Date of Document
Works Approval Application Form	All	24 March 2014
Iron Ore Holdings Ltd – Bulk Loading Facility Works Approval Application – Cape Preston East Project	All, including Drawings and Appendices	Updated 11 September 2014
Email from Gavin Edwards, Preston Consulting, titled “RE: IOH Bulk Loading Facility Works Approval – Cape Preston East” received 11 September 2014.	All	11 September 2014
BC Iron Limited – CPE Construction – Environmental Management Plan – Land Contractors. WPCP-7300-NM-PL-0001 Rev D 13/07/2015.	All, including Drawings and Appendices	13 July 2015
BC Iron Limited – CPE Construction – Environmental Management Plan – Marine Contractors	All, including Drawings and Appendices	31 March 2015
BC Iron Limited – CPE Construction – Commissioning Management Plan – WPCP-7400-PM-PL-0001 Rev C 29/04/2015	All, including Drawings and Appendices	29 April 2015
Email from Les Purves, BC Iron Limited, titled “RE: Iron Ore Holdings Ltd - Bulk Loading Facility - Cape Preston East” received 18 December 2014.	All, including Drawings and Appendices	18 December 2014
Email from Les Purves, BC Iron Limited, titled “RE: Iron Ore Holdings Ltd - Bulk Loading Facility - Cape Preston East” received 21 April 2015.	All, including Drawings and Appendices	21 April 2015
Letter from Les Purves, BC Iron Limited, titled “RE: Environmental Protection Act 1988 – Works Approval Application: Request for further information” received 30 July 2015.	All, including Drawings and Appendices	30 July 2015
Email from Les Purves, BC Iron Limited, titled “RE: Construction/commissioning/operation summary and schedule” received 9 September 2015.	All, including Drawings and Appendices	9 September 2015
Email from Les Purves, BC Iron Limited, titled “RE: Seeking clarity on ancillary infrastructure and other minor components” received 6 November 2015.	All, including Drawings and Appendices	6 November 2015
Email from Les Purves, BC Iron Limited, titled “FW: 151112_DER_CPE_BLF_WAA_Response_To_Enquiries” received 12 November 2015.	All, including Drawings and Appendices	12 November 2015
Email from Les Purves, BC Iron Limited, titled “RE: Update and Premises Map” received 10 December 2015.	All, including Drawings and Appendices	10 December 2015
Email from Les Purves, BC Iron Limited, titled “BC Pilbara Works Approval amendment” received 3 May 2016.	All, including attachments	3 May 2016

Note 1: Where the details and commitments of the documents listed in condition 1.2.1 are inconsistent with any other condition of this works approval, the conditions of this works approval shall prevail.

1.2.2 The Works Approval Holder shall commission the BC Iron Cape Preston East Bulk Loading Facility (Stage 1) for a period not exceeding four months.



2 Improvements

2.1.1 The Works Approval Holder shall complete the improvements in Table 2.1.1 by the date of completion in Table 2.1.1.

Table 2.1.1: Improvement program		
Improvement reference	Improvement	Date of completion
IR1	<p>The Works Approval Holder shall, prior to commencing commissioning of the BC Iron Cape Preston East Bulk Loading Facility (Stage 1), submit an updated version of the <i>BC Iron Limited – CPE Construction – Commissioning Management Plan</i> to the CEO. The commissioning plan shall include details relating to:</p> <ul style="list-style-type: none">(a) commissioning of Stage 1 including timeframes;(b) expected emissions and discharges during commissioning and the environmental implications of the emissions;(c) how emissions and discharges will be managed during commissioning;(d) the monitoring that will be undertaken during the commissioning period;(e) how accidents or malfunctions will be managed;(f) start up and shut down procedures; and(g) reporting proposals including accidents, malfunctions and reporting against the commissioning plan. <p>Commissioning shall be carried out in accordance with the commissioning plan.</p>	3 months prior to commencing commissioning of Stage 1
IR2	<p>The Works Approval Holder shall, prior to commencing commissioning of the BC Iron Cape Preston East Bulk Loading Facility (Stage 1), prepare and submit to the CEO a Dust Management Plan. As a minimum the Dust Management Plan must include, but not be limited to, information on:</p> <ul style="list-style-type: none">(a) all potential sources of dust on the premises for Stage 1 (commissioning and operation);(b) potential dust impacts on sensitive receptors;(c) dust control initiatives undertaken on site to manage potential dust impacts;(d) complaints management; and(e) a dust monitoring program including details on;<ul style="list-style-type: none">- dust monitors;- sampling locations and frequency with consideration of sensitive receptors;- trigger values for boundary and jetty dust monitors to evoke actions to manage particulate matter as PM₁₀ (with reference to National Environmental Protection Measure (NEPM) standards off the Premises); and- management action(s) including timeframes in the event of a trigger exceedance including consideration of wind speed and direction and whether the exceedance is attributable to the BC Iron Cape Preston East Bulk Loading Facility operations.	3 months prior to commencing commissioning of Stage 1



IR3	<p>The Works Approval Holder shall, prior to commencing commissioning of the BC Iron Cape Preston East Bulk Loading Facility (Stage 1), prepare and submit to the CEO a Stormwater Management Plan. As a minimum the Stormwater Management Plan must include, but not be limited to, information on:</p> <ul style="list-style-type: none">(a) all potential sources of contamination to stormwaters;(b) measures to reduce potential sources (e.g. ore clean-up schedule);(c) detailed information of all stormwater containment infrastructure including retention basins, drainage lines and overflows (with discharge methods to reduce flow and scouring);(d) measures to treat contaminated or potentially contaminated stormwaters;(e) monitoring regime of stormwater quality to ensure management of environmental risk (e.g. concentration of hydrocarbons), including physical inspection schedules;(f) contingency actions and timeframes in the event of stormwaters being contaminated by activities on the Premises; and(g) the environmental risk of discharging stormwater from the Premises to the "Natural Depression" and what impact, if any, this may have on groundwater quality and the surrounding terrestrial and coastal ecosystem.	3 months prior to commencing commissioning of Stage 1
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3 Information

3.1 Reporting

- 3.1.1 The Works Approval Holder shall submit a compliance document to the CEO, following the construction of the BC Iron Cape Preston East Bulk Loading Facility (Stage 1) and prior to commissioning of the same.
- 3.1.2 The compliance document shall:
- (a) certify that the works were constructed in accordance with the conditions of the Works Approval; and
 - (b) be signed by a person authorised to represent the Works Approval Holder and contain the printed name and position of that person within the company.
- 3.1.3 The Works Approval Holder shall submit a commissioning report for the BC Iron Cape Preston East Bulk Loading Facility (Stage 1), to the CEO within one month of the completion of commissioning.
- 3.1.4 The Works Approval Holder shall ensure the report includes:
- (a) a list of any original monitoring reports submitted to the Works Approval Holder from third parties for the commissioning period;
 - (b) a summary of the environmental performance of the BC Iron Cape Preston East Bulk Loading Facility (Stage 1) as installed, against the design specification set out in the Works Approval application;
 - (c) a review of the environmental performance of the BC Iron Cape Preston East Bulk Loading Facility (Stage 1) in relation to dust, including a statement outlining the adequacy of dust mitigation measures;
 - (d) a review of performance against the Works Approval conditions; and



- (e) where performance has not been met, measures implemented and those proposed to meet the design specification and/or Works Approval conditions, together with set timeframes for implementing the proposed measures.

3.2 Notification

- 3.2.1 The Works Approval Holder shall ensure that the parameters listed in Table 3.2.1 are notified to the CEO and are in accordance with the notification requirements of the table.

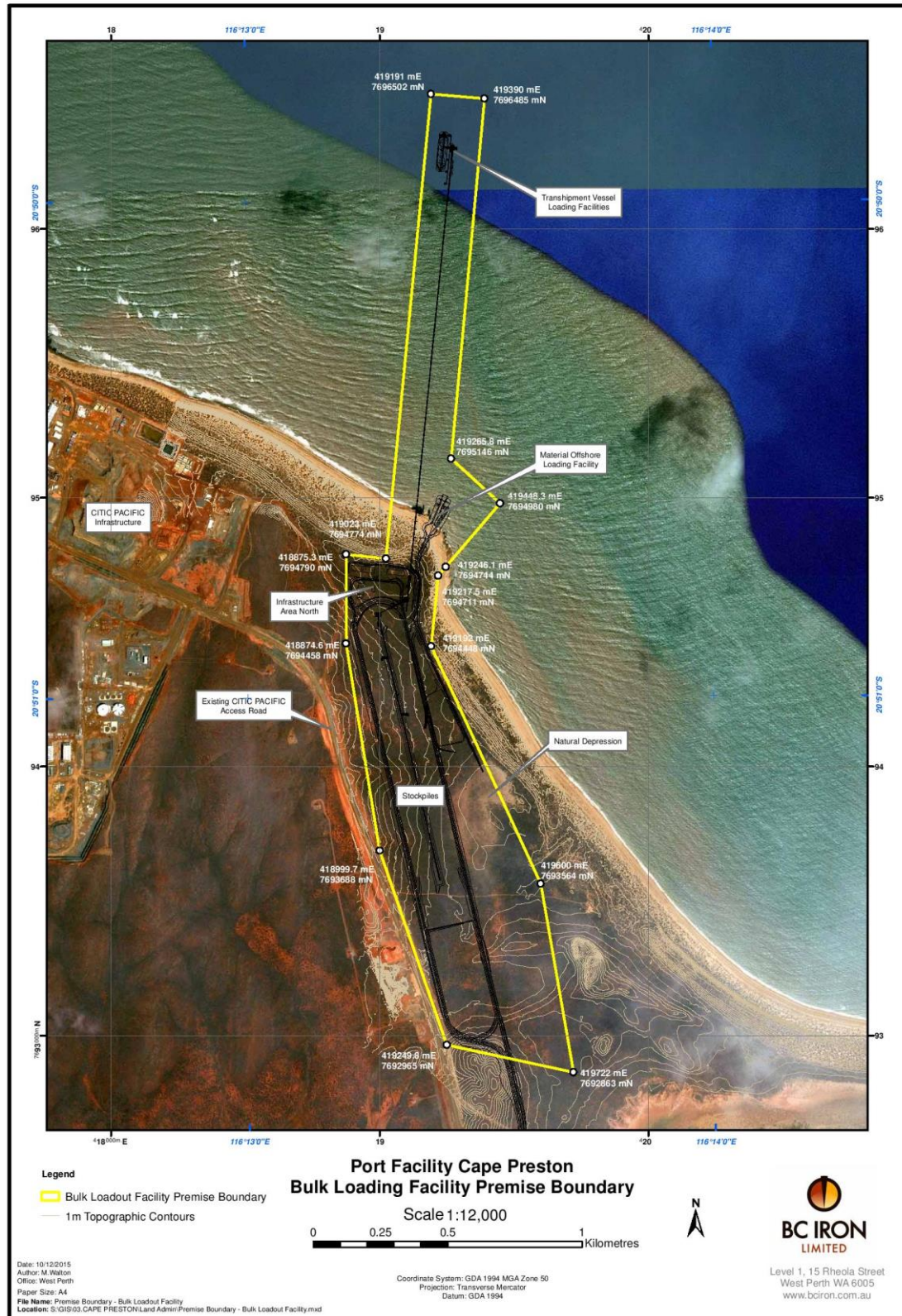
Table 3.2.1: Notification requirements			
Condition or table	Parameter	Notification requirement	Format or form
1.2.2	Commencement of commissioning	7 days prior to start	None specified
	Completion of commissioning	7 days after completion	



Schedule 1: Maps

Premises map

The Premises is shown in the map below. The yellow line depicts the Premises boundary.





Decision Document

Environmental Protection Act 1986, Part V

Proponent: BC Pilbara Iron Ore Pty Ltd

Works Approval: W5657/2014/1

Registered office: Level 1
15 Rheola Street
WEST PERTH WA 6005

ACN: 107 492 517

Premises address: BC Iron Cape Preston East Bulk Loading Facility (Stage 1)

Within the following coordinates (Datum GDA94);

Point	Easting	Northing
1	418999.7	7693688
2	418874.6	7694458
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MARDIE WA 6714

Issue date: Thursday, 3 March 2016

Commencement date: Monday, 7 March 2016

Expiry date: Saturday, 6 March 2021



Decision

Based on the assessment detailed in this document the Department of Environment Regulation (DER), has decided to issue a works approval. DER considers that in reaching this decision, it has taken into account all relevant considerations.

Decision Document prepared by:

Ty Hibberd/Lindy Twycross
Licensing Officer

Decision Document authorised by:

Alana Kidd
Manager Licensing - Resource Industries



Contents

Contents	3
1 Purpose of this Document	3
2 Administrative summary	4
3 Executive summary of proposal	5
4 Decision table	10
5 Advertisement and consultation table	10
6 Risk Assessment	11

1 Purpose of this Document

This decision document explains how DER has assessed and determined the application for a works approval or licence, and provides a record of DER's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DER's assessment and decision making under Part V of the *Environmental Protection Act 1986*. Other approvals may be required for the proposal, and it is the proponent's responsibility to ensure they have all relevant approvals for their Premises.



2 Administrative summary

Administrative details		
Application type	Works Approval <input type="checkbox"/> New Licence <input type="checkbox"/> Licence amendment <input type="checkbox"/> Works Approval amendment <input checked="" type="checkbox"/>	
Activities that cause the premises to become prescribed premises	Category number(s) 58	Assessed design capacity 10,000,000 tonnes per annum
Application verified	Date: 9/05/2016	
Application fee paid	Date: N/A	
Works Approval has been complied with	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	
Compliance Certificate received	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	
Commercial-in-confidence claim	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Commercial-in-confidence claim outcome	N/A	
Is the proposal a Major Resource Project?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Was the proposal referred to the Office of the Environmental Protection Authority (OEPA) under Part IV of the <i>Environmental Protection Act 1986</i> ?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input checked="" type="checkbox"/>
Is the proposal subject to Ministerial Conditions?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Ministerial statement No: 949 OEPA Report No: 1476
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the <i>Environmental Protection Act 1986</i>)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Department of Water consulted Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is the Premises within an Environmental Protection Policy (EPP) Area Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If Yes include details of which EPP(s) here.		
Is the Premises subject to any EPP requirements? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If Yes, include details here, eg Site is subject to SO ₂ requirements of Kwinana EPP.		



3 Executive summary of proposal

BC Pilbara Iron Ore Pty Ltd (BC Iron) submitted a works approval application for a category 58 bulk material loading or unloading project at Cape Preston East (CPE), approximately 67 kilometres (km) southwest of Karratha in the Pilbara Region of Western Australia (WA). The Bulk Loading Facility (BLF) is required to facilitate the export of iron ore (ore) from BC Iron's Buckland Project mines (assessed via a separate works approval). CPE has been selected as the preferred location for the BLF and has been approved under Part IV of the *Environmental Protection Act 1986* (Ministerial Statement 949). Statement 949 authorises clearing of the BLF development envelope (Figure 1 and 2), infrastructure requirements (terrestrial and marine), operation of a 3 giga litre per annum (GL/a) desalination plant and export operations (10 million tonnes per annum (Mtpa)).

The BLF will be constructed in two stages. Stage 1 will manage a throughput of up to 10 Mtpa of ore with an estimated final throughput of 20 Mtpa on completion of Stage 2. This Works Approval assesses Stage 1 of the proposal only.

Stage 1 infrastructure the subject of this works approval application includes:

- a stockyard comprising 3 x 90,000 tonne stockpiles (Figures 2 and 3);
- the Northern Infrastructure Area (NIA) comprising various ancillary infrastructure (Figure 3);
- load-out conveyors capable of processing 6,500 tonnes per hour (tph) of ore; and
- a port facility comprising:
 - a 1.4 km long trestle jetty (Figure 2);
 - the *Transshipment Vessel Loading Facility* (TVLF) at the end of the trestle jetty consisting of a slewing and luffing type shiploader, supported on a piled platform, capable of processing 6,500 tph of ore (Figure 2); and
 - the *Marine Offloading Facility* (MOF) next to the trestle jetty for offloading of heavy / modularised / bulk materials (Figure 3).

During Stage 1, ore will be delivered to the BLF via side tipper trailer trucks which will discharge the ore either over the side of a concrete wall or directly to ground in an un-covered intermediate dump area. From the intermediate dump area, front end loaders (FELs) will be used to transfer the ore directly onto one of the three storage stockpiles. Ore will then be reclaimed from these stockpiles using FELs and fed by feed hoppers onto the load-out conveyor system. Once on the load-out conveyor system, ore will travel via a sampling station, jetty conveyor and shiploader (at the TVLF) into a transshipment vessel.

The transshipment vessel will transport the ore 20 km offshore where ore will be transferred from the transshipment vessel to an ocean going vessel (OGV) for final export and sale. The transfer of iron ore at-sea from the transshipment vessel to the OGV does not form a part of this Works Approval. A separate Category 58 Licence will be required to transfer ore from the transshipment vessel given the separation distance (20km off shore in State waters) and has not been assessed under this Works Approval. BC Iron will need to seek separate approvals from DER for the activity of bulk material loading or unloading from a vessel via an open materials loading system.

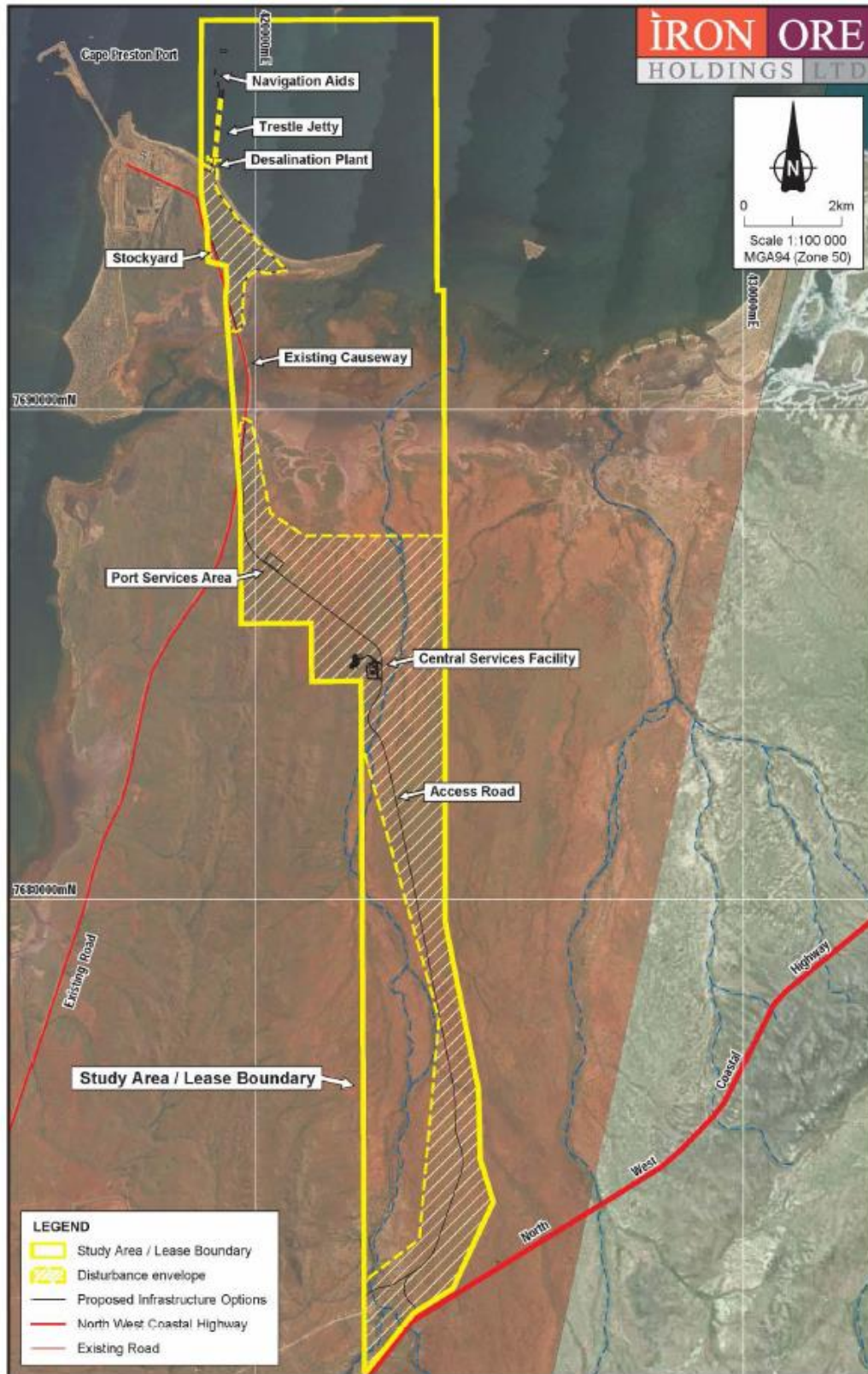


Figure 1: Location of proposal and development envelop.



Figure 2: Disturbance area for the BLF including the stockyard, NIA, jetty and TVLF.

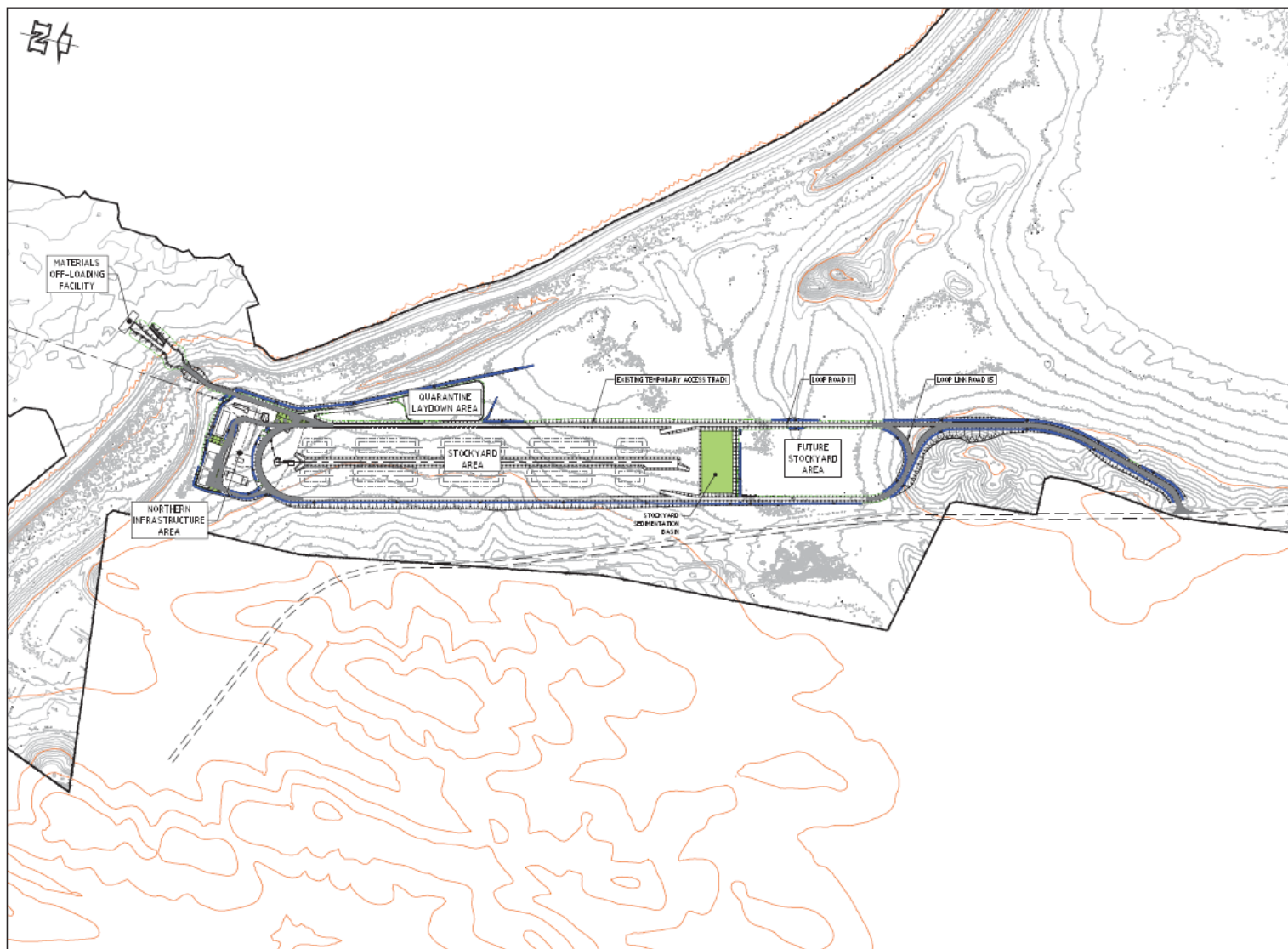


Figure 3: Stage 1 stockyard layout.



Ancillary infrastructure to be constructed at the BLF during Stage 1 includes:

- a 5 Megawatt (MW) diesel power generation system expandable to 7 MW but under 10MW;
- six 110 kilolitre (kL) self-bunded diesel storage tanks (no refuelling over water). These are proprietary self bunded units with auto-shutoff as per Australian Standards. Refuelling pads are bunded and drained to sump;
- a 3 GL/a desalination plant;
- a vehicle washdown facility consisting of a wheel wash, washdown slab and drive-in concrete sump fitted with an oil/water separator; and
- a mechanical workshop.

Stage 2 of the BLF includes an expansion of the inloading system to increase throughput to 20 Mtpa. The expansion, which is planned for Quarter 3 2019, will incorporate low profile dump truck hoppers, mechanical stackers and a bucket wheel reclaimer. The bucket wheel reclaimer will feed ore from the stockyard directly onto the load-out conveyor system, replacing the FELs used in Stage 1. The timing of the Stage 2 expansion is reliant on market factors and is subject to change. As such Stage 2 has not been assessed under this Works Approval.

Potential emissions from construction and operation of Stage 1 have been identified as fugitive dust and discharges to surface water. The nearest population to the BLF is the CITIC Pacific Mining camp located 23 km west of the BLF; hence risks to human health are unlikely. The nearest sensitive environmental receptor is the marine environment of Cape Preston which may be impacted by increased turbidity, nutrient loading or pollution owing to emissions of dust, desalination plant brine, site runoff and spillages of ore. Due to facility design and management commitments, the environmental risk of emissions and discharges from this construction and operation of the premises, as seen in the Decision Table below (section 4), is moderate.

The works approval ~~will be~~ is issued to BC Iron for a period of 5 years. Commissioning for Stage 1 will occur under the Works Approval in accordance with an updated Commissioning Management Plan (CMP) to be submitted to the CEO 3 months prior to commissioning commencing. BC Iron shall also prepare and submit a Dust Management Plan and Stormwater Management Plan prior to commissioning to ensure adequate monitoring and management of fugitive dust or potentially contaminated stormwaters. After construction of Stage 1 of the BLF, BC Iron will need to submit a compliance document to DER and notification of intention to commence commissioning. BC Iron will need to apply for a category 58 *Environmental Protection Act 1986* licence to allow operations to commence.

BC Iron has applied to amend the works approval to correct the coordinates listed in the premises address. No other changes to the works approval have been made in this amendment. The premises boundary map remains unchanged.



4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987* and DER's Operational Procedure on Assessing Emissions and Discharges from Prescribed Premises. Where other references have been used in making the decision they are detailed in the decision document.

DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Cover Page	N/A	The coordinates listed in the Premises address have been corrected to correspond with the Premises boundary map. The Premises boundary map remains unchanged.	Works approval amendment application dated 3/09/2016. Application supporting documentation.

5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
16/05/2016	Proponent sent a copy of draft amendment	Waiver received 18 May 2016 - no issues with the proposed amendment.	Not applicable

6 Risk Assessment

Note: This matrix is taken from the DER Corporate Policy Statement No. 07 - Operational Risk Management

Table 1: Emissions Risk Matrix

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Severe
Almost Certain	Moderate	High	High	Extreme	Extreme
Likely	Moderate	Moderate	High	High	Extreme
Possible	Low	Moderate	Moderate	High	Extreme
Unlikely	Low	Moderate	Moderate	Moderate	High
Rare	Low	Low	Moderate	Moderate	High