

Northern Looping Project, Loops 1 to 9 Karratha to Bullsbrook

**Dampier to Bunbury Natural Gas Pipeline (WA) Nominees Pty
Limited**

**Report and recommendations
of the Environmental Protection Authority**

**Environmental Protection Authority
Perth, Western Australia
Bulletin 1208
November, 2005**

Environmental Impact Assessment Process Timelines

Date	Progress stages	Time (weeks)
9 Aug 05	Referral received	
30 Nov 05	ARI Level of Assessment set and EPA report to the Minister for the Environment; Science	16

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1. Introduction and background

This report provides the advice and recommendations of the Environmental Protection Authority (EPA) to the Minister for the Environment on the environmental factors relevant to a proposal by Dampier to Bunbury Natural Gas Pipeline (DBNGP) (WA) Nominees Pty Limited, the proponent, to construct and operate a 194-kilometre pipeline from Compressor Station (CS) 1, south of Karratha, to CS 9, north of Gingin. The proposal is known as the Northern Looping Project, and comprises loops 1 to 9.

The proponent also referred a proposal to construct and operate a 23-kilometre pipeline from Kwinana Junction, in Kwinana to Hopelands. This proposal is known as the Southern Looping Project and comprises loop 10, and was assessed by the EPA (EPA, 2005). Together, the Northern and Southern Looping Projects have been designed to increase the supply of natural gas into the south-west of Western Australia, where the demand for gas by the household and commercial sectors is increasing.

Dampier Bunbury Pipeline is the trading name of the DBNGP group of companies. DBNGP (WA) Nominees Pty Limited is the holder of the pipeline licence for the DBNGP, and is one of the companies forming the Dampier Bunbury Pipeline group. Alinta Network Services Pty Ltd is the Project Manager for the work.

The proponent has submitted a referral document (Ecos, 2005) setting out the details of the proposal, potential environmental impacts and measures to manage those impacts. The EPA considers that, based on the information provided in the referral document, the proposal can be managed in an acceptable manner, subject to the EPA's recommended conditions being made legally binding.

The EPA has therefore determined under Section 40(1) of the *Environmental Protection Act 1986* that the level of assessment for the proposal is Assessment on Referral Information, and this report provides the EPA advice and recommendations in accordance with Section 44(1).

2. The proposal

The proponent proposes to construct and operate a number of looping sections adjacent (and connected) to the existing underground gas transmission pipeline within the DBNGP corridor. There are nine separate looping sections proposed from CS 1 south of Karratha, to CS 9, north of Gingin (Figure 1).

Looping is a process of duplicating an existing pipeline between compressor stations for a certain distance. Once the specified distance is reached, it then ties back to the parallel pipeline. This design results in an increase in the gas flow rate and an increase in the volume of gas stored within the pipeline infrastructure.

The proposal is described in detail in section 2 of the proponent's *DBNGP Northern Looping Project Assessment of Referral Information (ARI) Summary* (Ecos, 2005).

The key characteristics of the proposal are summarised in Table 1.

The proposed construction schedule is:

- Loop 9 – late January to late May 2006
- Loop 8 – late February to early June 2006
- Loop 7 – early May to mid June 2006
- Loop 6 – mid May to early July 2006
- Loop 5 – early May to late June 2006
- Loop 4 – early June to early August 2006
- Loop 3 – early July to early September 2006
- Loop 2 – mid August to mid October 2006
- Loop 1 – mid June to early August 2006

Construction techniques will be in accordance with the requirements of *AS2885 Pipelines — Gas and Liquid Petroleum* and the Australian Pipeline Industry Association *Code of Environmental Practice*.

2.1 Alternative routes considered

The DBNGP corridor was selected in the late 1970's following various route selection studies. At the time, six alternative corridors were selected for more detailed review of topographic, geological and biological investigation for the regions between Dampier and Perth. The main factors influencing the locations of the alternative corridors were: avoidance of built up area; avoidance of existing and proposed national parks and conservation reserves; possible advantages of paralleling existing service corridors; and availability of existing access.

The six alternative corridors were assessed, and based on a large number of environmental and engineering considerations, the proposed corridor was selected.

In 2001, the EPA provided its Section 16(e) advice to the Minister for the Environment and Heritage on the strategic assessment to expand the land corridor for the Dampier to Bullsbrook section of the DBNGP (EPA, 2001). The expansion was proposed to enable additional future gas pipeline capacity for the gas suppliers of the North West Shelf to service customers in the Pilbara and south-west of the State.

3. Consultation

The proponent has advised that consultation has occurred with landowners, the Department of Conservation and Land Management, Department for Planning and Infrastructure, Department of Industry and Resources, and Department of Environment. The proponent also conducted an Environmental Risk Workshop for stakeholders.

The major issues raised during the consultation phase include construction timeline restrictions to avoid impact on fauna and minimise risk of dieback infestation, impacts on flora and fauna, management of acid sulfate soils and rehabilitation.

The proponent will continue to consult with relevant government agencies, non-government organisations and landowners during preparation of environmental management plans and implementation of the proposal.

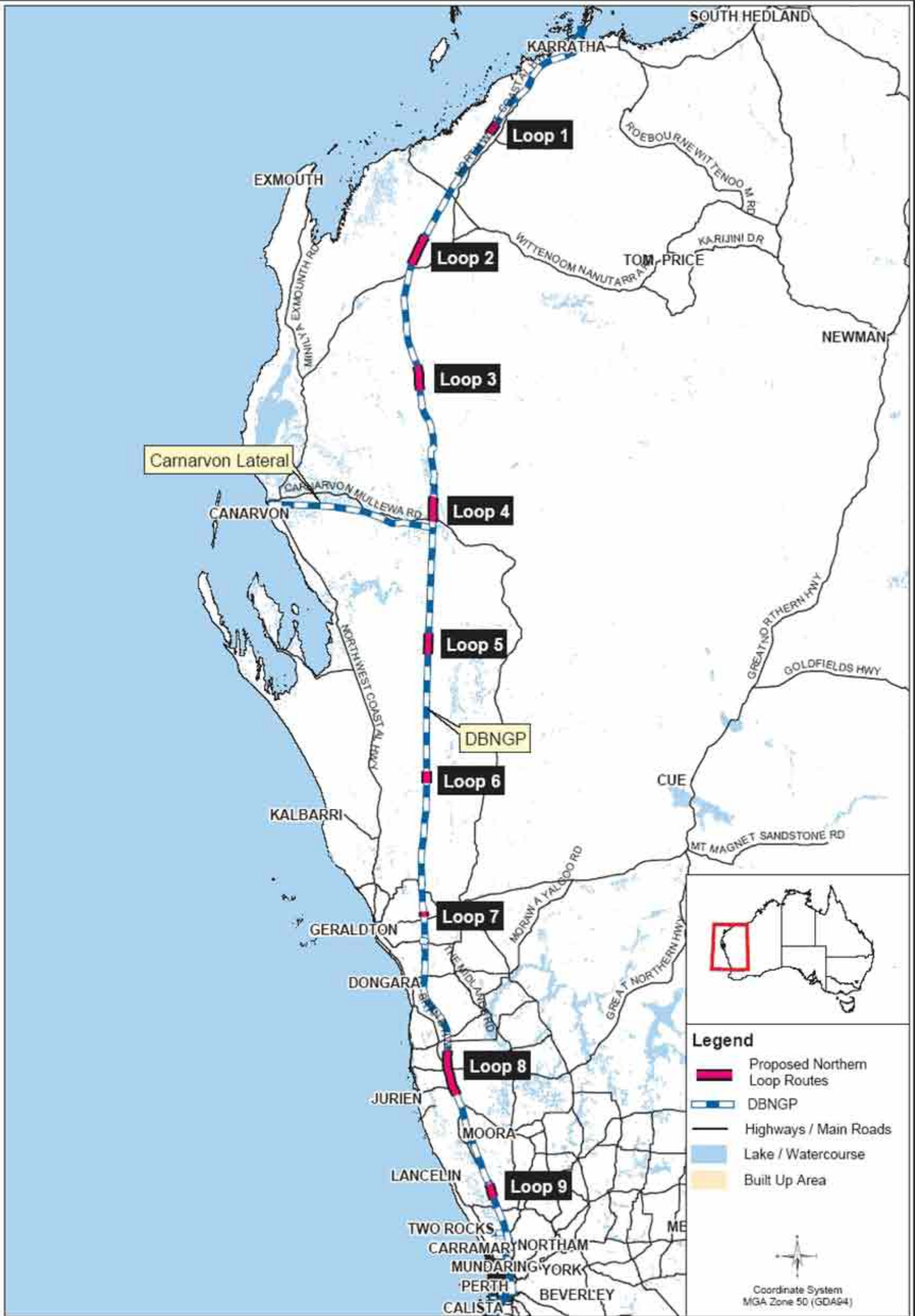


Table 1: Summary of key proposal characteristics

Element	Description			
Location	There will be nine loops. The first one at compressor station 1, which is about 125 kilometres south of Karratha, and the last one, south of compressor station 9, which is north of Gingin			
Proposed action	Construct nine pipeline looping lengths of 660 millimetres in diameter, buried adjacent to the existing DBNGP. These pipeline lengths will be looped to the existing DBNGP to increase flow of natural gas			
Total length of looping	Approximately 194 kilometres			
Characteristics of each loop	No	Approximate length	Region	Shire
	1	12 kilometres	Pilbara	Roebourne
	2	32 kilometres	Carnarvon	Ashburton
	3	25 kilometres	Gascoyne	Carnarvon
	4	25 kilometres	Carnarvon	Upper Gascoyne
	5	22 kilometres	Carnarvon	Shark Bay
	6	11 kilometres	Carnarvon	Northampton
	7	6 kilometres	Northern Sand Plains	Mullewa
	8	46 kilometres	Northern Sand Plains	Carnamah, Coorow and Dandaragan
9	15 kilometres	Swan Coastal Plain	Gingin	
Proposed tenure	The pipeline will be constructed wholly within the existing DBNGP easement, which is gazetted under the <i>Dampier to Bunbury Pipeline Act 1997</i> . The existing easement is 30 metres wide. The area to be cleared and graded will be approximately 25 metres wide, except in environmentally sensitive areas, where it will be 20 metres			
Activities outside the DBNGP easement	<ul style="list-style-type: none"> • Turnaround bays • Campsites 			
Temporary area of disturbance	Approximately 635 hectares			
Temporary area of vegetation clearance	Approximately 466 hectares			
Construction duration	Approximately 12 months			
Construction workforce	150 to 250 people			

Key

DBNGP – Dampier to Bunbury Natural Gas Pipeline

4. Relevant environmental factors

A description of all the environmental factors, potential impacts and their management is outlined in section 5 of the referral document (Ecos, 2005). It is the

EPA's opinion that the following environmental factors relevant to the proposal require evaluation in this report:

1. flora and vegetation;
2. fauna;
3. water resources; and
4. rehabilitation.

Description

The total area of native vegetation that is proposed to be cleared is approximately 466 hectares. Approximately half of the pipeline corridor traverses areas where native vegetation has been previously cleared, and has regenerated since the original pipeline was installed. The remaining corridor traverses cleared agricultural lands.

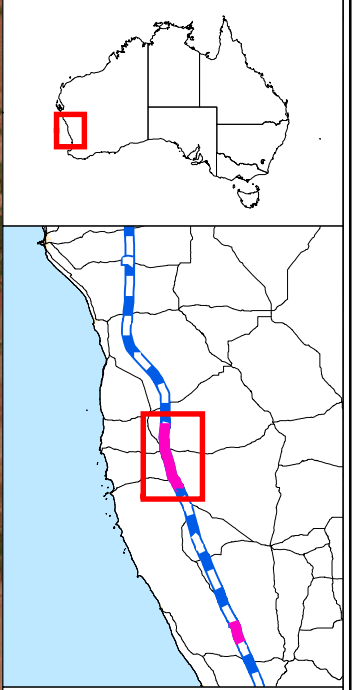
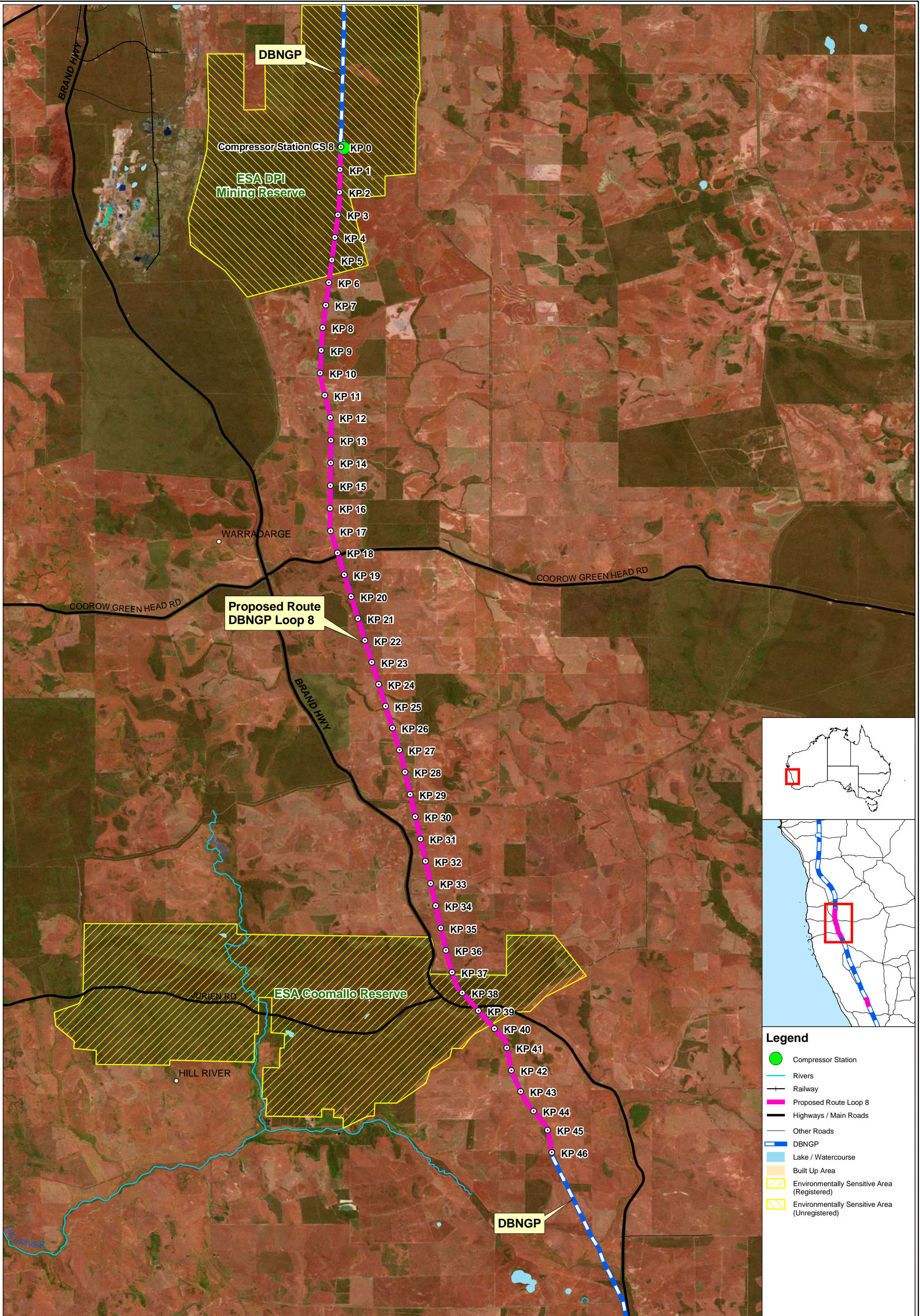
Sections of loop 8 traverse an unmanaged reserve (formerly known as the South-east Nature Reserve) south of CS 8, and the Coomallo Nature Reserve (Figure 2). Loop 9 traverses a Conservation Category Wetland (Figure 3). The pipeline route also traverses Peter Creek (loop 1), Ashburton River (loop 2), Minilya River (north) (loop 3), Gascoyne River (loop 4), David Creek (loop 4), and Coomallo Creek (loop 8).

The proponent has advised that a search on the CALM database identified the following Declared Rare Flora species as occurring within the vicinity of loops 8 and 9: *Acacia wilsonii*; *Acacia splendens*; *Calytrix eneabensis*; *Eucalyptus johnsoniana*; *Eucalyptus suberea*; *Eucalyptus lateritica*; *Eucalyptus leprophloia*; *Hakea megalosperma*; and *Pericalleana dixonii*.

A number of Priority Flora species have been identified in the vicinity of the proposed pipeline loops 3, 5, 7, 8 and 9. A search of the Commonwealth Department of Environment and Heritage database found 19 endangered or vulnerable flora species listed under the *Environmental Protection and Biodiversity Conservation Act 1999* as likely to occur along the pipeline route (Ecos, 2005).

The proponent will conduct a targeted flora and vegetation survey for loops 8 and 9 in spring 2005 to further identify the distribution of conservation significant flora and vegetation. Loops 1 to 6 will be surveyed in summer or autumn of 2006 prior to the commencement of construction. Loop 7 will not be surveyed as the six kilometre loop traverses cleared crop land (Ecos, 2005).

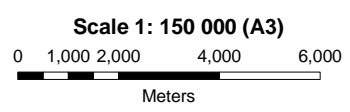
Bamford (2005) carried out a desktop fauna review of the proposed pipeline route, which is provided in Appendix 5 of the referral document (Ecos, 2005). The review identified 12 reptile, 32 bird and 15 mammal species of conservation significance. The proponent advised that a search of the Commonwealth Department of Environment and Heritage database found eight birds, one reptile and three mammal species listed under the *Environmental Protection and Biodiversity Conservation Act 1999* as likely to occur within the project area (Ecos, 2005).



Legend

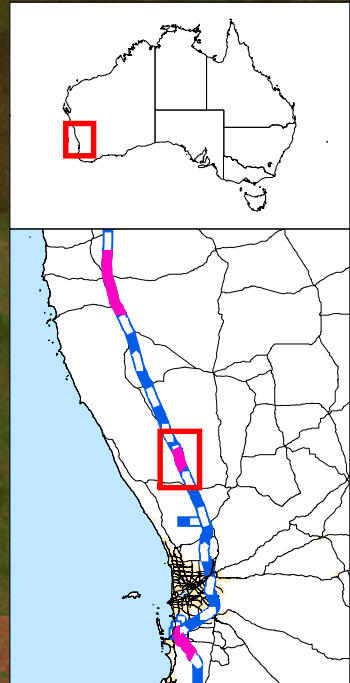
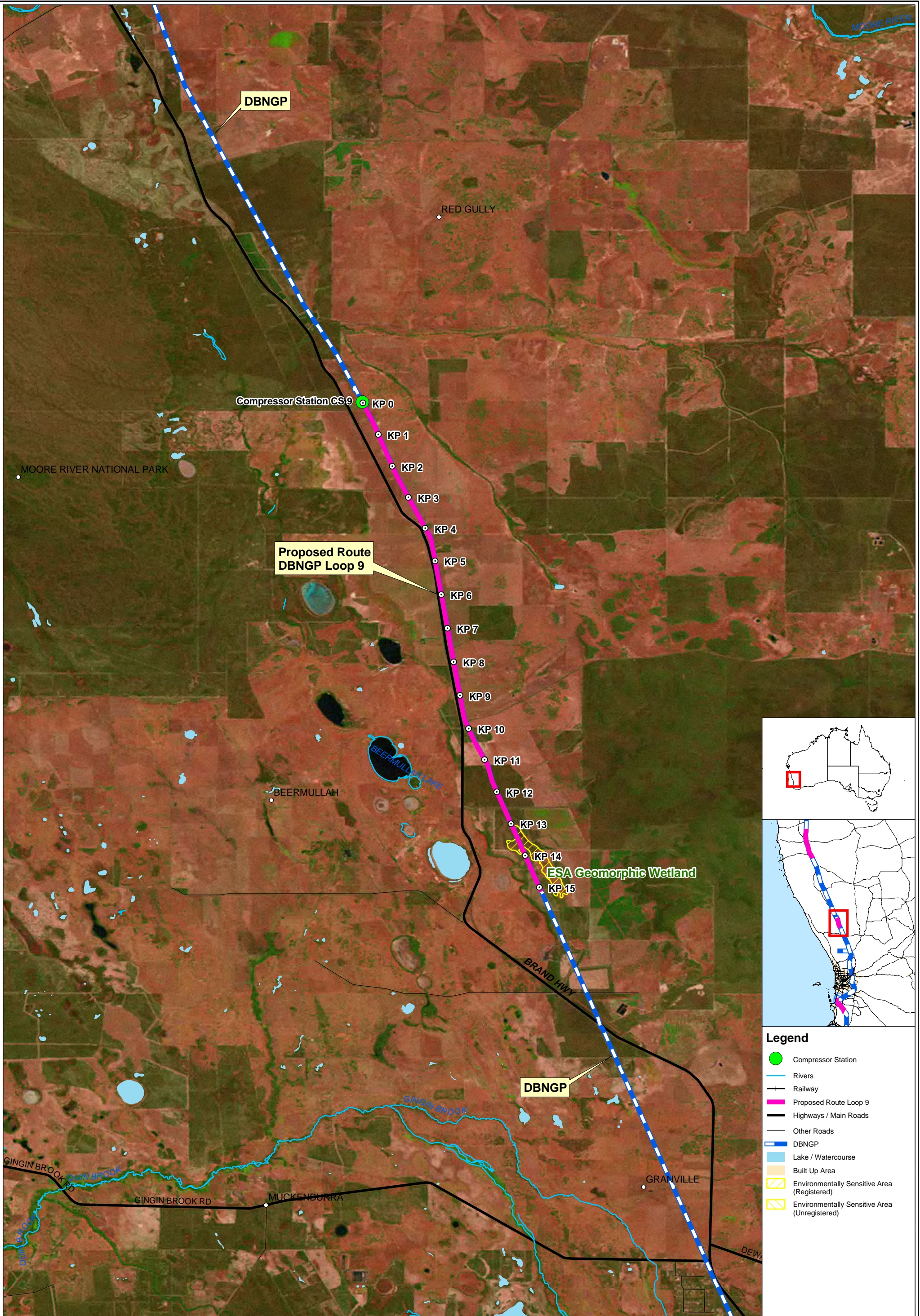
- Compressor Station
- Rivers
- Railway
- Proposed Route Loop 8
- Highways / Main Roads
- Other Roads
- DBNGP
- Lake / Watercourse
- Built Up Area
- ▨ Environmentally Sensitive Area (Registered)
- ▨ Environmentally Sensitive Area (Unregistered)

Note: While every effort was made to ensure the accuracy and currency of the information shown on this map, the project team does not accept any responsibility for errors or omissions that may have occurred.
 Produced by: Asset Services, Alinta Network Services, Level 8 IBM Tower, 60 City Road, Southbank VIC 3006



DBNGP Loop 8
Site Plan - Environmentally Sensitive Areas
Section 38(i) EPA Referral





Legend

- Compressor Station
- Rivers
- Railway
- Proposed Route Loop 9
- Highways / Main Roads
- Other Roads
- DBNGP
- Lake / Watercourse
- Built Up Area
- Environmentally Sensitive Area (Registered)
- Environmentally Sensitive Area (Unregistered)

Note: While every effort was made to ensure the accuracy and currency of the information shown on this map, the project team does not accept any responsibility for errors or omissions that may have occurred.
 Produced by: Asset Services, Alinta Network Services, Level 8 IBM Tower, 60 City Road, Southbank VIC 3006



Scale 1: 100 000 (A3)
 0 1,000 2,000 4,000
 Meters

**DBNGP Loop 9
 Site Plan - Environmentally Sensitive Areas
 Section 38(i) EPA Referral**

Coordinate System
 GDA94

Map No: DBPL09-C-102-01
 Map Revision: 0
 Project File: Northern Loop Site Plan - ESA.mxd
 Pipeline Route Rev B 12/10/2005

Date: 24 / 11 / 2005
 Sheet: 1 of 1



Assessment

The EPA's environmental objectives for the relevant environmental factors are to:

- maintain the abundance, diversity, geographic distribution and productivity of flora and fauna at species and ecosystem levels through the avoidance or management of adverse impacts and improvement in knowledge;
- protect Declared Rare and Priority Flora, consistent with the provisions of the *Wildlife Conservation Act 1950*;
- maintain the quantity of water so that existing and potential environmental values, including ecosystem maintenance, are protected;
- ensure that post-disturbance landforms are stable and comparable to those which existed pre-disturbance; and
- ensure that rehabilitation achieves an acceptable standard compatible with the intended landuse(s), and consistent with the appropriate criteria.

Potential impacts of the pipeline construction on the environmental factors include:

- impact on native vegetation within the unmanaged reserve south of CS 8 and Coomaloo Nature Reserve;
- clearing of previously rehabilitated and remnant native vegetation;
- fauna entrapment in open trenches;
- impact on the integrity of several water courses from the creek crossings; and
- introduction and/or spread of weeds and dieback.

The first 5.5 kilometres of loop 8 traverses an unmanaged reserve south of CS 8 (Figure 2). This area was considered in the EPA's Section 16(e) report (EPA, 2001). In its report the EPA recommended a deviation of the easement in the southern third of the South-east Nature Reserve (below CS 8). The EPA notes comments made by the proponent that it is not practical to use the deviated easement for the proposed looping project. The EPA also notes advice from the easement manager, the Department for Planning and Infrastructure, that the original easement should be used to ensure efficient use of the deviated easement to provide for future pipelines.

In its Section 16(e) report (EPA, 2001), the EPA also recommended a deviation to the existing easement to bypass the Coomaloo Nature Reserve. The EPA notes comments made by the proponent that it is not practical to use the deviated easement for the proposed looping project because the section of the looping proposed (loop 8) will finish about 10 kilometres south of the Coomaloo Nature Reserve, and the deviated easement continues away from the existing DBNGP corridor for an extended distance to bypass this and a number of other Nature Reserves.

The EPA notes that all trench excavation and pipeline construction work would be contained within the existing DBNGP corridor (except for the turnaround bays and campsites). Campsites will be located on previously disturbed areas wherever practicable and will be selected to avoid impacts on conservation significant vegetation and fauna habitats (Ecos, 2005). The EPA recommends that the proponent not disturb vegetation outside the existing easement, except for the turnaround bays and campsites (condition 8-2).

The EPA recommends that the proponent conduct trench excavation and pipeline construction work within a restricted working width of 20 metres through environmentally sensitive areas, including the unmanaged reserve south of CS 8, Coomallo Nature Reserves, the Conservation Category Wetland on loop 9, and other environmentally sensitive areas to be identified from the additional flora and vegetation surveys to be conducted (condition 8-3).

The EPA notes that although approximately 466 hectares of vegetation would initially be cleared for the pipeline route, the proponent proposes to retain fauna habitat trees and rehabilitate the area of disturbance.

The EPA notes that the proponent will undertake additional targeted flora and vegetation surveys in spring 2005 and summer or autumn 2006, for conservation significant flora and vegetation. Conservation significant species are those that are not described, poorly sampled, listed as rare, threatened or endangered under the *Wildlife Conservation Act 1950* or listed as Priority by CALM. The EPA considers that if subsequent surveys identify any conservation significant flora and vegetation, the proponent should liaise with CALM to determine appropriate management of the identified species and/or communities (condition 7). Furthermore, in the event that additional environmentally sensitive areas are identified from the results of flora and vegetation surveys to be carried out along the pipeline route, the EPA considers the proponent should minimise and manage potential impacts on these areas in consultation with CALM (condition 7).

The EPA notes that the proponent has prepared a Fauna Interaction Protocol to mitigate fauna injury and mortality. The EPA considers, on advice from CALM, that pipeline construction in the Pilbara (loops 1 and 2) be avoided from November to April, as these are times of high reptile movement and risk of cyclones flooding the trenches (condition 6-2). In order to minimise potential fauna mortality from entrapment in open trenches, the EPA recommends that the length of open trench be restricted, particularly in sensitive areas, and fauna clearing people be employed to manage and monitor impacts on fauna, in accordance with condition 9.

The EPA notes that the Bamford (2005) report identified several conservation significant fauna species as potentially occurring within the vicinity of the proposed construction works. Therefore the EPA recommends that prior to ground-disturbing activities, the proponent should prepare a Fauna Management Plan, which includes a Fauna Interaction Protocol, in consultation with CALM (condition 9-8). This Plan should set out procedures to minimise and manage impacts on conservation significant fauna species identified in the Bamford (2005) report, and minimise construction works around the nesting and feeding grounds of the Carnaby's Black Cockatoo in the Coomallo Nature Reserve.

The EPA notes that the proponent has developed a Rehabilitation Management Plan, which is provided in Appendix 4 of the referral document (Ecos, 2005). The EPA recommends that the proponent be required to revise the Rehabilitation Management Plan (condition 10) to address the management of topsoil and to confirm the completion criteria to the satisfaction of CALM. The EPA also recommends that the proponent appropriately rehabilitate all disturbed areas in accordance with this Plan.

The EPA notes that the proponent has committed to providing funds to CALM to conduct rehabilitation monitoring of various sites (commitment 3).

The EPA is aware of the potential for weeds to spread along the pipeline route and dieback (*Phytophthora cinnamomi*) to spread along loops 8 and 9. CALM has advised the EPA that because the other loops occur in a zone of less than 400 millimetres rainfall, dieback is unlikely to be an issue as it will not survive in these areas. The EPA recommends the proponent avoid construction of loops 8 and 9 in the winter months to minimise the risk of dieback (condition 6-1). The EPA notes that the proponent has committed to survey and map the presence of dieback and declared and environmental weeds within the project area, and manage weeds and dieback along the pipeline route in accordance with a Hygiene Protocol (commitment 1).

The EPA notes that loop 9 traverses at least one Conservation Category Wetland along the Swan Coastal Plain. The EPA considers that there is a potential risk associated with the occurrence of acid sulphate soils and their potential to impact on wetland systems along the proposed pipeline route. Therefore the EPA recommends that the proponent should prepare and implement an Acid Sulphate Soils and Dewatering Management Plan (condition 11).

The proponent proposes to use horizontal directional drilling to construct the pipeline under the Ashburton, Gascoyne and Minilya Rivers. Construction of all the river crossings will be carried out when the water courses are dry to minimise disturbance on the river bed and banks. The EPA recommends that the proponent avoid disturbance to riparian vegetation and the creek bed and banks during construction works of the river crossings, unless authorised by the Water and Rivers Commission under the provisions of the *Rights in Water and Irrigation Act 1914* (condition 12).

Summary

Having particular regard to the:

- pipeline construction being restricted to the existing corridor;
- restricted length of trench left open at any time;
- the retention of significant fauna habitat trees along the easement;
- comprehensive fauna interaction protocol;
- Rehabilitation Management Plan with completion criteria; and
- proponent's management measures, and the EPA's recommended conditions;

it is the EPA's opinion that the proposal can be managed to meet the EPA's environmental objectives for this factor.

5. Conditions and commitments

Section 44 of the *Environmental Protection Act 1986* requires the EPA to report to the Minister for the Environment on the environmental factors relevant to the proposal and on the conditions and procedures to which the proposal should be subject, if implemented. In addition, the EPA may make recommendations as it sees fit.

The EPA has set out recommended environmental conditions and proponent commitments in Appendix 2 of this report.

6. Other advice

The EPA notes that while advising that this proposal can be managed so as not to compromise the EPA's objectives, it should not be seen as a precedent that future gas pipelines within this, and other environmentally sensitive areas of the existing DBNGP corridor, would be considered acceptable. The EPA reiterates its earlier advice set out in its Section 16(e) report *Dampier to Bunbury Natural Gas Pipeline Land Corridor Expansion Project* (EPA, 2001), that its preference is that future pipelines are located in an alternative easement which avoids environmentally sensitive areas.

7. Conclusions

The EPA has considered the proposal by Dampier to Bunbury Natural Gas Pipeline (WA) Nominees Pty Limited to construct and operate a 194-kilometre pipeline from compressor station 1 south of Karratha, to compressor station 9, north of Gingin.

The EPA considers that the impacts on flora and vegetation as a result of the proposed clearing and trench construction, are able to be managed by restricting clearance and undertaking rehabilitation. The EPA considers it unlikely that this proposal would result in a high level of fauna mortality provided that the open trench length is restricted, and a Fauna Interaction Protocol is implemented. The EPA considers that all disturbed areas should be rehabilitated in accordance with the Rehabilitation Management Plan.

The EPA has concluded that the proposal is capable of being managed in an environmentally acceptable manner such that it is unlikely that the EPA's objectives would be compromised, provided there is satisfactory implementation of the recommended conditions and commitments set out in Appendix 2.

8. Recommendations

The EPA submits the following recommendations to the Minister for the Environment:

1. that the Minister notes that the proposal being assessed is for the Northern Looping Project, Loops 1 to 9 from Karratha to Bullsbrook;
2. that the Minister considers the report on the relevant environmental factors as set out in Section 4;
3. that the Minister notes that the EPA has concluded that it is unlikely that the EPA's objectives would be compromised, provided there is satisfactory implementation by the proponent of the recommended conditions, procedures and commitments set out in Appendix 2; and
4. that the Minister imposes the conditions and procedures recommended in Appendix 2 of this report.

Appendix 1

References

Bamford (2005) *Fauna values of the Northern Looping Project (Loops 1 to 9) of the Dampier to Bunbury Natural Gas Pipeline (DBNGP)*. (Unpubl) Bamford Consulting Ecologists, Kingsley, Western Australia, November 2005.

Ecos (2005) *DBNGP Northern Looping Project Assessment on Referral Information (ARI) Summary*. (Unpubl) Ecos Consulting (Aust) Pty Ltd, West Perth, Western Australia, November 2005.

EPA (2005) *Southern Looping Project, Loop 10, South of Kwinana*. Report and Recommendations Bulletin 1206. Environmental Protection Authority, Perth, Western Australia.

EPA (2001) *Dampier to Bunbury Natural Gas Pipeline Land Corridor Expansion Project*. Advice to the Minister for the Environment and Heritage under Section 16(e). Environmental Protection Authority, Perth, Western Australia.

Appendix 2

**Recommended environmental conditions
and proponent's commitments**

RECOMMENDED CONDITIONS AND PROCEDURES

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

NORTHERN LOOPING PROJECT, LOOPS 1 TO 9 KARRATHA TO BULLSBROOK

Proposal: To construct and operate nine looping sections adjacent (and connected) to the existing underground gas transmission pipeline within the Dampier to Bunbury Natural Gas Pipeline corridor

Proponent: Dampier to Bunbury Natural Gas Pipeline (WA) Nominees Pty Limited

Proponent Address: Level 7 GHD House 239 Adelaide Terrace PERTH WA 6000

Assessment Number: 1611

Report of the Environmental Protection Authority: Bulletin 1208

The proposal referred to above may be implemented by the proponent subject to the following conditions and procedures:

1 Implementation

1-1 The proponent shall implement the proposal as documented in schedule 1 of this statement subject to the conditions and procedures of this statement.

2 Proponent Commitments

2-1 The proponent shall implement the environmental management commitments documented in schedule 2 of this statement.

3 Proponent Nomination and Contact Details

3-1 The proponent for the time being nominated by the Minister for the Environment under section 38(6) or (7) of the *Environmental Protection Act 1986* is responsible for the implementation of the proposal until such time as the Minister for the Environment has exercised the Minister's power under section

38(7) of the Act to revoke the nomination of that proponent and nominate another person as the proponent for the proposal.

- 3-2 If the proponent wishes to relinquish the nomination, the proponent shall apply for the transfer of proponent and provide a letter with a copy of this statement endorsed by the proposed replacement proponent that the proposal will be carried out in accordance with this statement. Contact details and appropriate documentation on the capability of the proposed replacement proponent to carry out the proposal shall also be provided.
- 3-3 The nominated proponent shall notify the Department of Environment of any change of contact name and address within 60 days of such change.

4 Commencement and Time Limit of Approval

- 4-1 The proponent shall substantially commence the proposal within five years of the date of this statement or the approval granted in this statement shall lapse and be void.

Note: The Minister for the Environment will determine any dispute as to whether the proposal has been substantially commenced.

- 4-2 The proponent shall make application for any extension of approval for the substantial commencement of the proposal beyond five years from the date of this statement to the Minister for the Environment, prior to the expiration of the five-year period referred to in condition 4-1.

The application shall demonstrate that:

1. the environmental factors of the proposal have not changed significantly;
2. new, significant, environmental issues have not arisen; and
3. all relevant government authorities have been consulted.

Note: The Minister for the Environment may consider the grant of an extension of the time limit of approval not exceeding five years for the substantial commencement of the proposal.

5 Compliance Audit and Performance Review

- 5-1 The proponent shall prepare an audit program and submit compliance reports to the Department of Environment which addresses:
1. the status of implementation of the proposal as defined in schedule 1 of this statement;
 2. evidence of compliance with the conditions and commitments; and
 3. the performance of the environmental management plans and programmes.

Note: Under sections 48(1) and 47(2) of the *Environmental Protection Act 1986*, the Chief Executive Officer of the Department of Environment is empowered to monitor the compliance of the proponent with the statement and should directly receive the compliance documentation, including environmental management plans, related to the conditions, procedures and commitments contained in this statement.

5-2 The proponent shall submit a performance review report every five years following the formal authority issued to the decision-making authorities under section 45(7) of the *Environmental Protection Act 1986*, to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority, which addresses:

1. the major environmental issues associated with implementing the project; the environmental objectives for those issues; the methodologies used to achieve these; and the key indicators of environmental performance measured against those objectives;
2. the level of progress in the achievement of sound environmental performance, including industry benchmarking, and the use of best practicable measures available;
3. significant improvements gained in environmental management, including the use of external peer reviews;
4. stakeholder and community consultation about environmental performance and the outcomes of that consultation, including a report of any on-going concerns being expressed; and
5. the proposed environmental objectives over the next five years, including improvements in technology and management processes.

5-3 The proponent may submit a report prepared by an independent auditor to the Chief Executive Officer of the Department of Environment on each condition and commitment of this statement which requires the preparation of a management plan, programme, strategy or system, stating whether the requirements of each condition and commitment has been fulfilled within the timeframe stated within each condition and commitment.

6 Timing of Works

6-1 The proponent shall ensure that construction works for loops 8 and 9 cease by 15 June 2006, unless otherwise authorised by the Minister for the Environment.

6-2 The proponent shall ensure that construction works for loops 1 and 2 cease by 31 October 2006, unless otherwise authorised by the Minister for the Environment.

7 Flora

- 7-1 Prior to vegetation clearing commencing for loops 8 and 9, the proponent shall submit a report which details the results of the spring flora surveys undertaken in 2005, to the requirements of the Minister for the Environment, on advice of the Department of Conservation and Land Management.

This report shall:

1. record the location of any Declared Rare Flora, Priority Flora and other species of conservation significance;
2. identify any environmentally sensitive areas;
3. describe the habitat in which specially protected or conservation significant flora species were found, and the extent of the contiguous area of the same habitat in the local area;
4. specify the degree of impact of the proposed works on specially protected or conservation significant flora species, its identified contiguous habitat or environmentally sensitive areas;
5. identify the proposed management strategy for the protection of Declared Rare Flora, Priority Flora, other conservation significant species and environmentally sensitive areas identified; and
6. identify the post activity monitoring plan of specially protected or conservation significant flora species.

- 7-2 Prior to vegetation clearing commencing for loops 1 to 6, the proponent shall undertake flora and vegetation surveys, and submit a report which details the results of the surveys, to the requirements of the Minister for the Environment, on advice of the Department of Conservation and Land Management.

This report shall:

1. record the location of any Declared Rare Flora, Priority Flora and other species of conservation significance;
2. identify any environmentally sensitive areas;
3. describe the habitat in which specially protected or conservation significant flora species were found, and the extent of the contiguous area of the same habitat in the local area;
4. specify the degree of impact of the proposed works on specially protected or conservation significant flora species, its identified contiguous habitat or environmentally sensitive areas;
5. identify the proposed management strategy for the protection of Declared Rare Flora, Priority Flora, other conservation significant species and environmentally sensitive areas identified; and
6. identify the post activity monitoring plan of specially protected or conservation significant flora species.

- 7-3 The proponent shall not disturb any Declared Rare Flora, without prior approval by the Minister for the Environment, pursuant to the provisions of *Wildlife Conservation Act 1950*.

8 Vegetation Disturbance

- 8-1 Prior to ground-disturbing activities, the proponent shall clearly delineate on the ground the boundaries of the pipeline easement and the area of disturbance outside the easement.
- 8-2 The proponent shall not cause or allow disturbance of vegetation outside the delineated pipeline easement, or the area of disturbance outside the easement, as referred to in condition 8-1.
- 8-3 The proponent shall not cause or allow disturbance outside the 20-metre wide easement for the environmentally sensitive areas of Coomallo Nature Reserve, the unmanaged reserve south of compressor station 8, and the Conservation Category Wetland on loop 9 and the environmentally sensitive areas identified in conditions 7-1 and 7-2, unless authorised by the Minister for the Environment.

9 Fauna

- 9-1 The proponent shall limit the length of open trench in Coomallo Nature Reserve to a maximum length of two and a half kilometres at any time.
- 9-2 The proponent shall limit the length of open trench, in the unmanaged reserve south of compressor station 8, the Conservation Category Wetland on loop 9, and other environmentally sensitive areas identified in conditions 7-1 and 7-2, to a maximum length of five kilometres at any time.
- 9-3 The proponent shall limit the length of open trench in other sections of the pipeline construction to a maximum length of twenty kilometres at any time, except when excavating in “rocky terrain”, where an additional ten kilometres is permitted.
- 9-4 No part of the trench shall remain open for more than 14 days.
- 9-5 Prior to vegetation clearing, the proponent shall mark significant habitat trees of sufficient age to form nesting hollows for hollow-nesting birds and mammals, in consultation with the Department of Conservation and Land Management and the Department of Environment.

The proponent shall not fell marked trees, except in the case where habitat trees occur in the direct line of the proposed pipeline.
- 9-6 The proponent shall employ at least two “fauna clearing people” to remove fauna from the trench. The “fauna clearing people” shall be able to demonstrate suitable experience to obtain a fauna handling licence by the Department of Conservation and Land Management.
- 9-7 In the event of significant rainfall, the proponent shall, following the clearing of fauna from the trench, pump out any pooled water in the open trench (with the

exception of groundwater) and discharge it via a mesh (to dissipate energy) to adjacent vegetated areas.

- 9-8 Prior to ground-disturbing activities, the proponent shall prepare a Fauna Management Plan, which includes a Fauna Interaction Protocol, in consultation with the Department of Conservation and Land Management, to the requirements of the Minister for the Environment, on advice of the Environmental Protection Authority.

This Plan shall set out procedures:

- for clearing of the area of the open trench by the “fauna clearing people” each day at appropriate times determined by location then half an hour prior to the backfilling of the pipeline trench; and
- to minimise and manage impacts on conservation significant fauna species identified in the Bamford (2005) report provided in Appendix 5 of the proponent’s *Assessment on Referral Information* document dated November 2005.

Definition:

“Fauna clearing people” means employees whose responsibility is to daily walk the open trench to recover and record fauna found within the trench.

- 9-9 The proponent shall implement the Fauna Management Plan required by condition 9-8.
- 9-10 The proponent shall review and revise, as required, the Fauna Management Plan required by condition 9-8.
- 9-11 The proponent shall implement subsequent revisions of the Fauna Management Plan required by condition 9-10.
- 9-12 The proponent shall make the Fauna Management Plan required by condition 9-8 and subsequent revisions required by condition 9-10 publicly available.

10 Rehabilitation

- 10-1 The proponent shall revise the draft Rehabilitation Management Plan provided in Appendix 4 of the proponent’s *Assessment on Referral Information* document dated November 2005, and set out completion criteria, within six months following the formal authority to the decision-making authorities under section 45(7) of the *Environmental Protection Act 1986*. This Plan shall be revised in consultation with the Department of Conservation and Land Management, and be to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.
- 10-2 The proponent shall continue to manage rehabilitation of the pipeline route until the completion criteria, outlined in condition 10-1, have been achieved to the requirements of the Minister for the Environment on advice of the Environment

Protection Authority and the Department of Conservation and Land Management.

Note: The proponent has obligations under the Department of Industry and Resources legislation to maintain the vehicle access track. Certain completion criteria may not be achievable within the access track.

- 10-3 The proponent shall implement the Rehabilitation Management Plan required by condition 10-1.
- 10-4 The proponent shall, in consultation with the Department for Conservation and Land Management, review and revise, as required, the Rehabilitation Management Plan required by condition 10-1, to the requirements of the Department of Environment.
- 10-5 The proponent shall implement subsequent revisions of the Rehabilitation Management Plan required by condition 10-4.
- 10-6 The proponent shall make the Rehabilitation Management Plan required by condition 10-1, and subsequent revisions required by condition 10-4 publicly available.

11 Acid Sulphate Soils and Dewatering

- 11-1 The proponent shall, prior to trenching and excavation activities, prepare an Acid Sulphate Soils and Dewatering Management Plan to demonstrate that all practical measures have been included to manage the potential impacts from acid sulphate soils and dewatering activities, to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.
- 11-2 The proponent shall implement and comply with the Acid Sulphate Soils and Dewatering Management Plan, required by condition 11-1.
- 11-3 The proponent shall review and revise, as required, the Acid Sulphate Soils and Dewatering Management Plan required by condition 11-1, to the requirements of the Department of Environment.
- 11-4 The proponent shall implement subsequent revisions of the Acid Sulphate Soils and Dewatering Management Plan required by condition 11-3.
- 11-5 The proponent shall make the Acid Sulphate Soils and Dewatering Management Plan, required by condition 11-1 and subsequent revisions required by condition 11-3 publicly available.

12 River Crossings

- 12-1 The proponent shall delineate the riparian vegetation along Peter Creek, Ashburton River, Minilya River (north), Gascoyne River, Davis Creek and Coomallo Creek to the requirements of the Minister for the Environment on advice of the Department of Conservation and Land Management.

12-2 The proponent shall not cause or allow disturbance of riparian vegetation or the creek bed and banks during construction works of the river crossings at Peter Creek, Ashburton River, Minilya River (north), Gascoyne River, Davis Creek and Coomallo Creek, unless authorised by the Water and Rivers Commission under the provisions of the *Rights in Water and Irrigation Act 1914*.

Procedures

1. Where a condition states “to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority”, the Environmental Protection Authority will provide that advice to the Department of Environment for the preparation of written notice to the proponent.
2. Where a condition states “to the requirements of the Minister for the Environment on advice of the Department of Conservation and Land Management”, the proponent shall provide the advice of the Department of Conservation and Land Management to the Department of Environment for the preparation of written notice to the proponent.
3. The Environmental Protection Authority may seek advice from other agencies or organisations, as required, in order to provide its advice to the Department of Environment.
4. Where a condition lists advisory bodies, it is expected that the proponent will obtain the advice of those listed as part of its compliance reporting to the Department of Environment.

Notes

1. The Minister for the Environment will determine any dispute between the proponent and the Environmental Protection Authority or the Department of Environment over the fulfilment of the requirements of the conditions.
2. The proponent is required to apply for a Ground Water Abstraction Licence for this project in order to conduct dewatering activities in accordance with the *Rights in Water and Irrigation Act 1914*.

Schedule 1

The Proposal (Assessment No. 1611)

The proponent proposes to construct and operate a number of looping sections adjacent (and connected) to the existing underground gas transmission pipeline within the Dampier to Bunbury Natural Gas Pipeline corridor. There are nine separate looping sections proposed from compressor station 1 south of Karratha, to compressor station 9, north of Gingin. Construction techniques will be in accordance with the requirements of *AS2885 Pipelines — Gas and Liquid Petroleum* and the Australian Pipeline Industry Association *Code of Environmental Practice*.

Table 1: Summary of key proposal characteristics

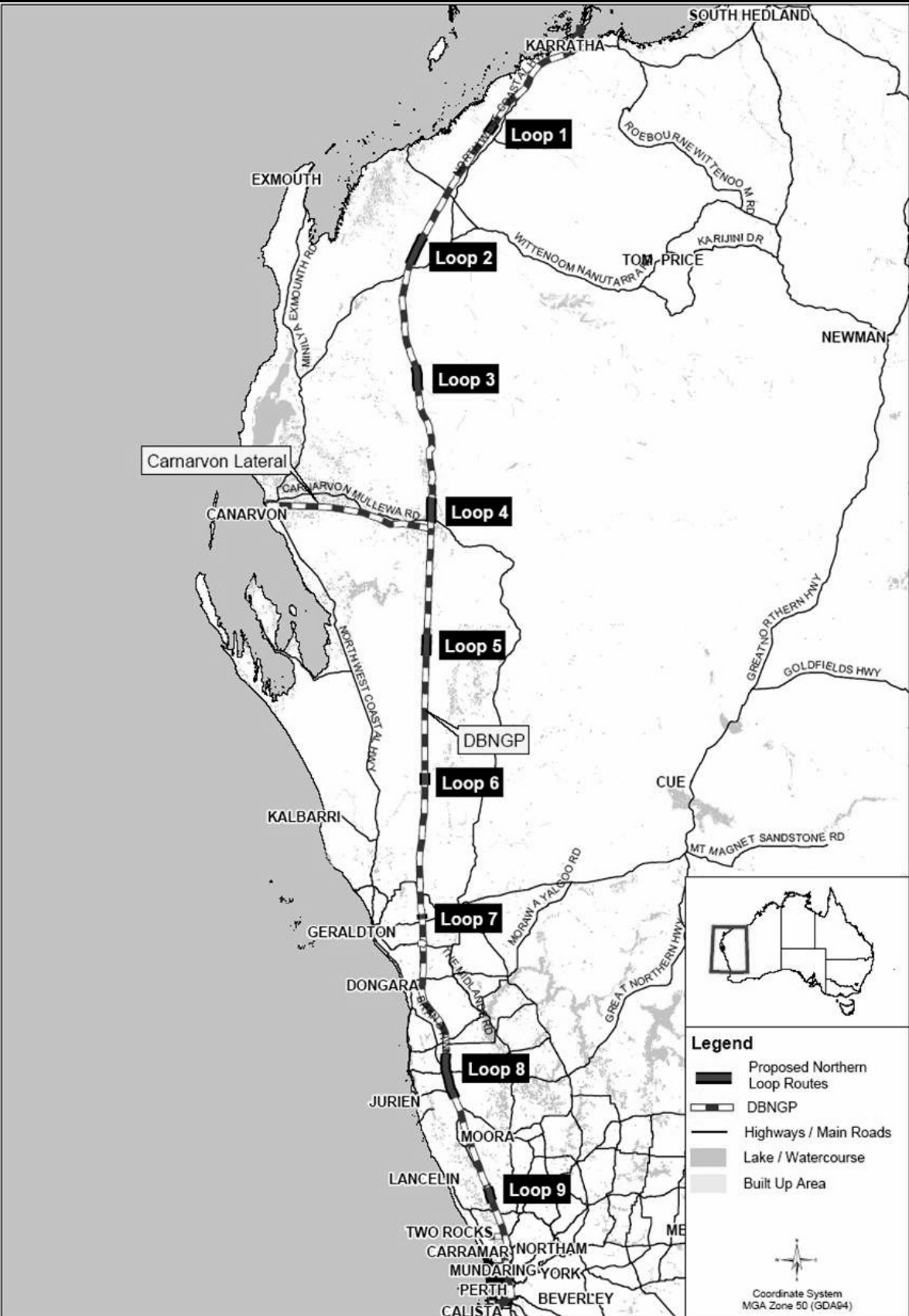
Element	Description			
Location	There will be nine loops. The first one at compressor station 1, which is about 125 kilometres south of Karratha, and the last one, south of compressor station 9, which is north of Gingin			
Proposed action	Construct nine pipeline looping lengths of 660 millimetres in diameter, buried adjacent to the existing DBNGP. These pipeline lengths will be looped to the existing DBNGP to increase flow of natural gas			
Total length of looping	Approximately 194 kilometres			
Characteristics of each loop	No	Approximate length	Region	Shire
	1	12 kilometres	Pilbara	Roebourne
	2	32 kilometres	Carnarvon	Ashburton
	3	25 kilometres	Gascoyne	Carnarvon
	4	25 kilometres	Carnarvon	Upper Gascoyne
	5	22 kilometres	Carnarvon	Shark Bay
	6	11 kilometres	Carnarvon	Northampton
	7	6 kilometres	Northern Sand Plains	Mullewa
	8	46 kilometres	Northern Sand Plains	Carnamah, Coorow and Dandaragan
	9	15 kilometres	Swan Coastal Plain	Gingin
Proposed tenure	The pipeline will be constructed wholly within the existing DBNGP easement, which is gazetted under the <i>Dampier to Bunbury Pipeline Act 1997</i> . The existing easement is 30 metres wide. The area to be cleared and graded will be approximately 25 metres wide, except in environmentally sensitive areas, where it will be 20 metres			
Activities outside the DBNGP easement	<ul style="list-style-type: none"> • Turnaround bays • Campsites 			
Temporary areas of disturbance	Approximately 635 hectares			
Temporary area of vegetation clearance	Approximately 466 hectares			
Construction duration	Approximately 12 months			
Construction workforce	150 to 250 people			

Key

DBNGP – Dampier to Bunbury Natural Gas Pipeline

Data sourced from: Alinta Ltd
MapInfo

Note: While every effort was made to ensure the accuracy and currency of the information shown on this map, the project team does not accept any responsibility for errors or omissions that may have occurred.
Produced by Asset Services, Alinta Network Services, Level 8 IBM Tower, 60 City Road, Southbank VIC 3006



Scale 1: 5 000 000 (A4)
0 50 100
Kilometers

**DBNGP Expansion
Northern Loops Locality Map
Section 38(i) EPA Referral**

Map No: _____ Date: 02 / 08 / 2005
Map Revision: 0 Sheet: 1 of 1
Project File: Northern Loops A4 Locality Plan.mxd
Pipeline Route Rev A 10/06/2005



Figure 1: Pipeline location

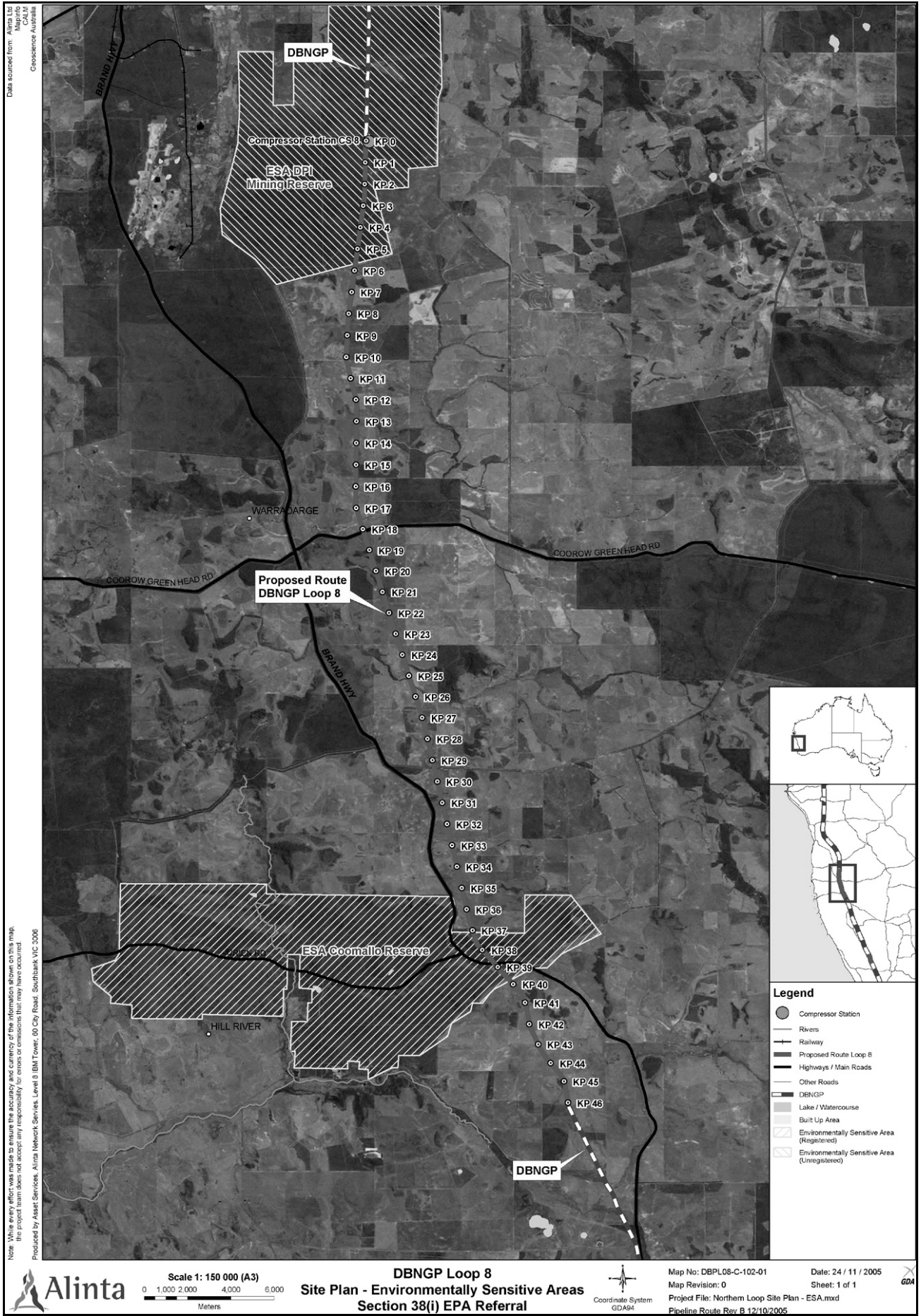


Figure 2: Environmentally sensitive areas within loop 8

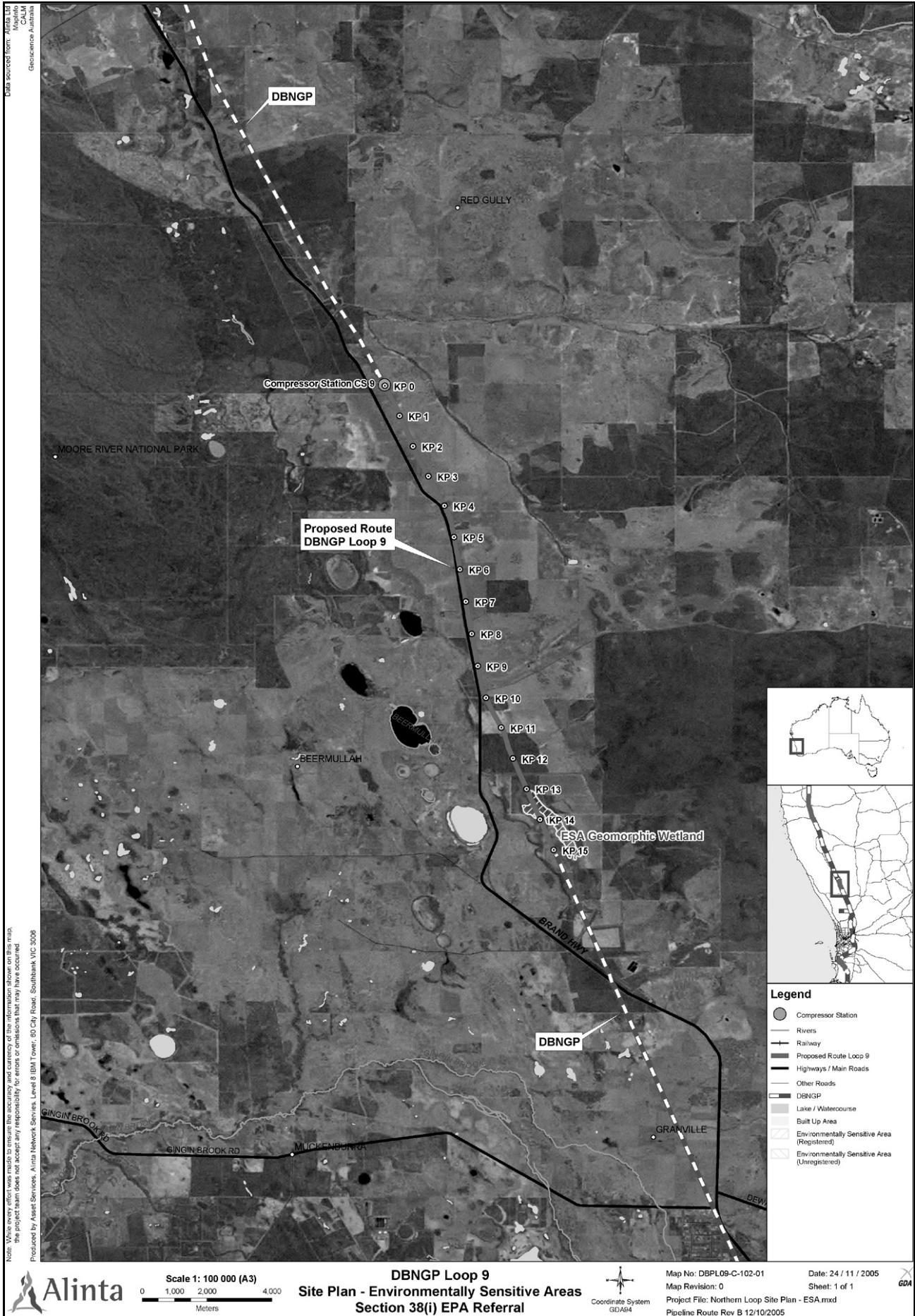


Figure 3: Environmentally sensitive areas within loop 9

Schedule 1

Proponent's Environmental Management Commitments – November 2005 NORTHERN LOOPING PROJECT, LOOPS 1 TO 9, KARRATHA TO BULLSBROOK (Assessment No. 1611)

Note: The term “commitment” as used in this schedule includes the entire row of the table and its six separate parts as follows:

- a commitment number;
- a commitment topic;
- the objective of the commitment;
- the ‘action’ to be undertaken by the proponent;
- the timing requirements of the commitment; and
- the agency to provide technical advice to the Department of Environment.

No.	Topic	Objective	Action	Timing	Advice
1	Weeds and dieback	Minimise the spread and introduction of weeds and dieback within the project area	1. Revise the draft Hygiene Protocol provided in Appendix 6 of the proponent's <i>Assessment on Referral Information</i> document, dated November 2005, to include: <ul style="list-style-type: none"> (a) results of weed and dieback surveys; (b) measures to manage potential impacts; (c) identification of potential risks; and (d) timing requirements to undertake the management measures. 2. Implement the Hygiene Protocol	Prior to construction Construction	CALM
2	Construction Environmental Management Plan	Minimise and manage environmental impacts during the construction phase	1. Prepare a comprehensive Construction Environmental Management Plan that covers the management and monitoring requirements for the environmental aspects of the project, including bushfire management, discharge of hydrotest water, erosion control and management of dust on vegetation. This plan shall also include the specific requirements that pertain to any environmental impacts in the individual loops. 2. Implement the Construction Environmental Management Plan	Prior to construction Construction	CALM
3	Rehabilitation	Ensure rehabilitation is being monitored	During rehabilitation there may be opportunity within the overall rehabilitation budget for the proponent to cover some of the operational costs for CALM representatives to conduct occasional monitoring visits to these sites. This will be discussed between CALM and the proponent prior to this monitoring occurring	Post construction	CALM

CALM - Department of Conservation and Land Management