

Appendix I

NRA – Gap Analysis and Planning Assessment



Environmental Approval & Compliance Solutions

Haughton Pipeline Duplication Project: Gap Analysis and Planning Assessment

GHD on behalf of Townsville City
Council


Document Control Summary

NRA Environmental Consultants

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Report Summary	
Key Words	Haughton Pipeline Duplication Project, Townsville City Council, GHD, TCC, Flora and Fauna Survey, Environmental Approvals, gap analysis, planning assessment.
Abstract	Townsville City Council proposes to construct a pipeline from the Haughton Upper Irrigation Canal to the Ross Dam near an existing pipeline. NRA was commissioned by GHD on behalf of Townsville City Council in 2015/2016 to prepare environmental management documentation for the Project. This report identifies changes in alignment and environmental mapping, potentially relevant environmental approvals and any work needed to progress project planning and approval applications.

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1. Introduction

Townsville City Council (TCC) is progressing plans for the Haughton Pipeline Duplication Project (the Project) to accommodate regional growth and improve security for the municipal water supply.

NRA Environmental Consultants (NRA) was commissioned by TCC during 2015 and 2016 to commence environmental and cultural heritage assessment and planning work to assist Project design and construction. The following assessment and planning work was completed.

- Environmental Analysis Report (EAR) based on desk-based review and field surveys.
- Desk-based cultural heritage assessment report.
- Preparation and submission of a Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Referral (reference number: EPBC 2015/7606). On 5 January 2016, the Project was deemed to be 'Not a Controlled Action' by the Commonwealth Department of the Environment and Energy (DoEE).
- Preparation of a Project Environmental Management Plan (PEMP) and Construction Environmental Management Plan (CEMP).
- Review of State permitting and approval requirements, including a pre-lodgement meeting that was co-ordinated by the Queensland Department of Infrastructure, Local Government and Planning. State permits and approvals were not obtained.
- Review of Project design plans.

Construction for the Project is planned to start in 2018. Minor changes and refinements to the proposed design have occurred since the 2015/16 assessments (*ie* since NRA 2016). Due to changes in Project plans and State legislation, the earlier assessments require review. NRA has been engaged by GHD to undertake this review (this report) and assist in finalising Project environmental approval and management documentation (*ie* EAR, PEMP and CEMP).

Reported herein is a gap analysis and planning report based on a desk-based review and site visit. The purpose of the review is to identify potentially relevant environmental approvals and any work needed to progress project planning and approval applications. The following tasks were undertaken to identify and clarify the information required for this report.

- Start-up meeting with NRA, GHD and TCC staff (22 March 2018).
- Review of current project description and development plans to identify variations/differences to the previous plans assessed in NRA (2016).
- Identification of environmental legislation and policy potentially relevant to the planning and approvals process.
- Review of State and Commonwealth government mapping and databases to identify any changes (*cf* the NRA 2016 assessment) in the documented values of the receiving environment.
- Assessment of the adequacy of existing information to support the planning and approvals process, and identification of additional information or work necessary to address information gaps.
- Consultation with Commonwealth, State and Local government regulators to clarify approvals and permitting requirements.

- Preparation of a report on the outcomes of the review. The report:
 - summarises the changes/differences (*cf* NRA 2016) for planning/approvals
 - updates the approvals register, where possible, including information on legislative trigger thresholds or exemptions
 - describes additional information requirements and work needed to acquire the additional information
 - describes the anticipated timeframes for planning and approvals process.

The above tasks were supported by a field study on 26 April 2018. The field study included the following.

- Field verification of mapping for:
 - waterways, watercourses and wetlands
 - Regional Ecosystems (REs).
- Search for the presence of:
 - EVNT flora and fauna species (under NC Act and EPBC Act)¹ or their habitat
 - Migratory fauna species (under EPBC Act) or their habitat
 - Introduced flora and fauna species, specifically those listed at national, state and local levels (legislation or plans).
 - Threatened ecological communities (TECs) (under EPBC Act).

Cultural heritage items will be addressed separately and are not reported here.

¹ 'EVNT' is used to describe species listed as Critically Endangered, Endangered, Vulnerable or Near Threatened under the EPBC Act and Queensland *Nature Conservation Act 1992*.

2. Changes to Alignment

The proposed alignment changed subsequent to the previous studies (*ie* NRA 2016). These alignment differences are shown on **Figure 1** and are summarised in **Table 1**.

Table 1: Alignment variations of the Haughton Pipeline Duplication Project

Alignment variation	Comments	Relevant drawing/s ¹
Variation 1 (northern)	<p>The previously studied alignment intersected the following properties.</p> <ul style="list-style-type: none"> - Lot 4 RP730669 - Lot 1 RP735803 - Lot 2 RP735803 - Lot 3 RP735803 <p>From where the pipeline will cross the Flinders Highway, the revised alignment runs west-east parallel with Hocking Road and then north-south parallel with Mountview Drive. The revised alignment is within the road reserve and does not intersect the above-mentioned properties.</p> <p>The revised alignment covers approximately 2.8 km and occurs up to 750 m away from the previously studied alignment at its farthest point.</p>	42-20452-G530 42-20452-G531
Variation 2: (southern)	<p>The previously studied alignment intersected the following properties.</p> <ul style="list-style-type: none"> - Lot 1 RP808101 - Lot 1 SP212318 - Lot 2 SP212318 - Lot 3 SP212318 - Lot 3 RP808101 - Lot 4 RP808133 - Lot 10 SP246062 <p>The revised alignment runs along Woodstock Giru Road, within the road reserve. The following properties are intersected by the revised alignment.</p> <ul style="list-style-type: none"> - Lot 1 RP737422 - Lot 10 SP246062 <p>The revised alignment covers approximately 2.7 km and occurs up to 800 m away from the previously studied alignment at its farthest point.</p>	42-20452-G523 42-20452-G524

¹ Preliminary drawings by GHD titled *Access and haulage compilation plan* (Rev A).

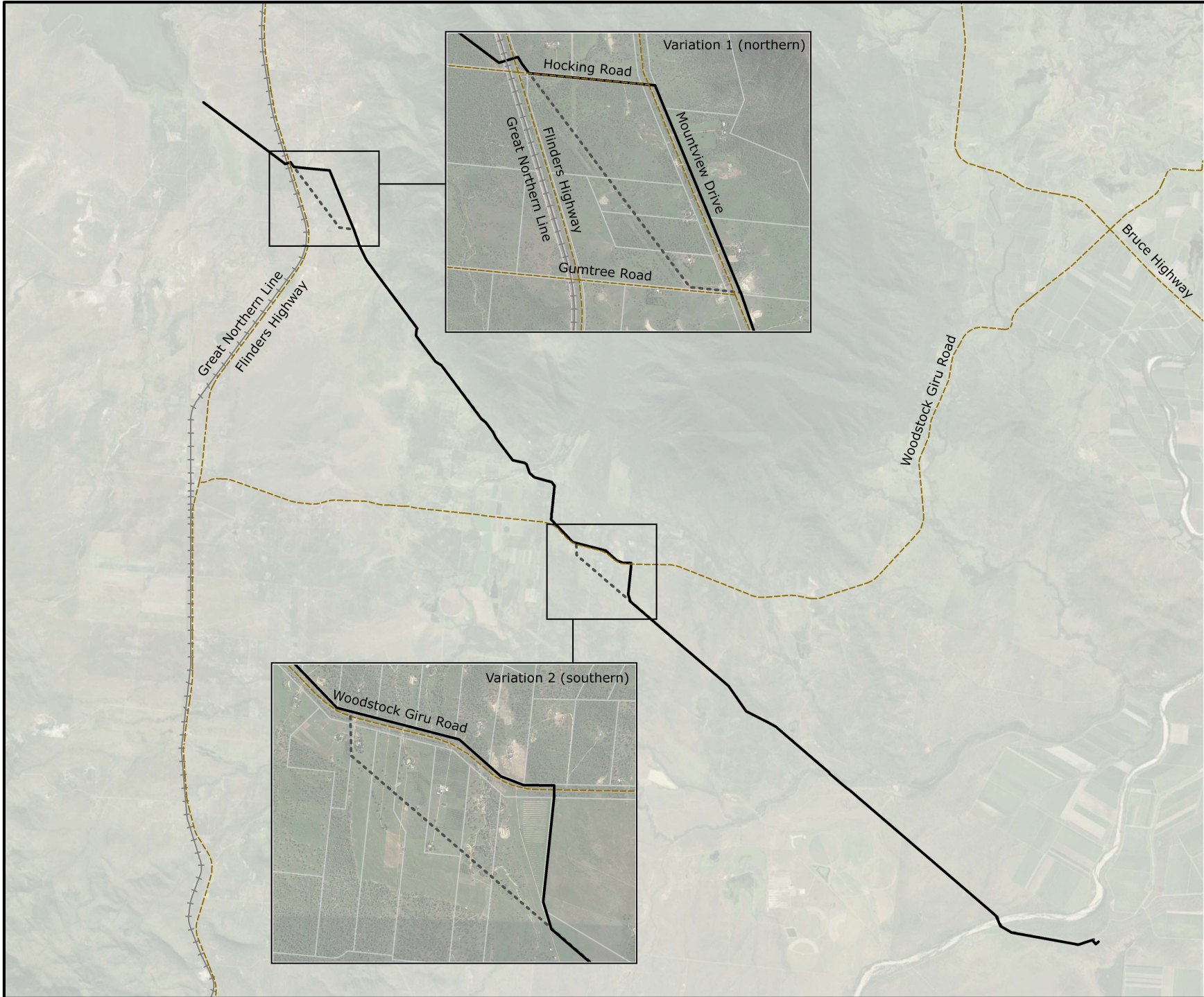
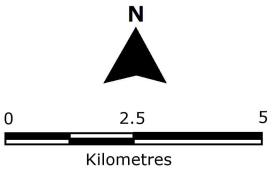


Figure 1: Alignment variations of the Houghton Pipeline Duplication Project

Project: Houghton Pipeline Duplication Project Gap Analysis and Planning Assessment

- Revised alignment
- Previously studied alignment
- Lot and plan boundaries
- Railway lines
- Roads



NRA Ref: 135035
Date: May 2018

Source: Townsville City Council, © State of Queensland (Department of Natural Resources, Mines and Energy) 2018, Google Earth



3. Changes to Regulatory Mapping and Databases

Since the NRA (2016) report was prepared, there have been updates to regulatory mapping and database records. The updates relevant to the Project are described here.

3.1 Watercourses and waterways

No changes to mapped watercourses and waterways have occurred along the proposed alignment² since the NRA (2016) study; however, pre-lodgement advice provided to TCC on 18 April 2018 identified un-mapped waterways along the proposed alignment that should be treated the same as those listed on the Queensland Waterways for Waterway Barrier Works (under the Queensland *Fisheries Act* 1994) spatial data layer (Table 2).

Table 2: Additional waterways to be considered as Waterways for Waterway Barrier Works

Waterway location ¹	Waterway impact category
-19.67803, 147.01777	Low impact (green)
-19.67417, 147.01253	Moderate impact (amber)
-19.57259, 146.90691	Low impact (green)
-19.53753, 146.88130	Moderate impact (amber)
-19.53467, 146.88013	Low impact (green)

¹ Coordinates presented in GDA94.

Source: Written pre-lodgement advice from the State provided 18 April 2018.

3.2 Wetlands

No changes to mapped wetlands have occurred along the proposed alignment³.

3.3 Flora

Critically Endangered, Endangered, Vulnerable and Near Threatened (EVNT) Flora

Wildlife database searches consistent with the methods of the previous assessment (*ie* NRA 2016) were conducted to identify if new species had been recorded along the proposed alignment⁴. One species, Ant Plant (*Myrmecodia beccarii*; EPBC Act and NC Act Vulnerable), was identified during the current assessment though not in NRA (2016). This species is unlikely to occur along the proposed alignment.

No areas along the proposed alignment are identified on the high risk flora survey trigger areas on the Protected Plants Flora Survey Trigger Mapping (DES 2018b), and the closest mapped high risk flora survey trigger area is more than 8 km from the proposed alignment.

² Based on review of the Watercourse Identification Map (DNRME 2018d), Vegetation Management Supporting Map (DNRME 2018b) and Queensland Waterways for Waterway Barrier Works spatial data layer (DAF 2018).

³ Based on review of the EPBC Act Protected Matters Search Tool report (DoEE 2018) and the Map of Referrable Wetlands – Wetland Protection Areas (DES 2018a).

⁴ Based on review of the Protected Plants Flora Survey Trigger Mapping (DES 2018b), EPBC Act Protected Matters Search Tool (DoEE 2018) and Wildlife Online database (DES 2018c).

Regional Ecosystems

The RE types and extents along the proposed alignment as assessed by NRA (2016) are unchanged⁵. RE mapping over the revised sections of the alignment are accurate for the intended purpose based on field verification by NRA on 26 April 2018. The revised sections of alignment intersect RE 11.3.25b and 11.3.35, which are Least Concern vegetation as defined under the Queensland *Vegetation Management Act 1999* (VM Act) and are non-remnant vegetation.

Regulated Vegetation

Minor changes have occurred to the regulated vegetation mapped along the proposed alignment⁶. A small area east of the Flinders Highway has been added to essential habitat mapping since NRA (2016). This area covers an approximately 650 m section of the proposed alignment and is an extension of an area previously identified as essential habitat (reported in NRA 2016). The change in essential habitat mapping relates to a new record for the Endangered (EPBC Act and NC Act) Black-throated Finch (*Poephila cincta cincta*). This essential habitat area was identified by NRA (2016) as potential core habitat for the Black-throated Finch, and the potential Project-related impacts on this habitat were assessed (NRA 2016).

Amendments to the VM Act were passed by the Queensland Parliament on 3 May 2018. The laws 'increase protection for high-value regrowth and remnant vegetation and boost protection for important habitats, including waterways leading to the Great Barrier Reef' (DNRME 2018e). These changes are unlikely to affect Project approvals, as no areas mapped as proposed Category R (reef regrowth vegetation), proposed Category C (high-value regrowth vegetation) or proposed essential habitat (relating to NC Act Near Threatened species) exist along the proposed alignment.

An area of proposed essential habitat occurs approximately 70 m west of the proposed alignment at alignment variation 1 within Lot 2 RP735803, Lot 3 RP735803, within parts of Lot 1 RP735803, and within parts of the road reserve immediately adjacent to these properties. Provided the project avoids the remnant vegetation, this area of essential habitat will be avoided.

Threatened ecological communities (EPBC Act)

Database searches conducted during the current assessment indicate that TEC mapping is as described in NRA (2016)⁷. TECs are unlikely to occur along the proposed alignment.

3.4 Fauna

Critically Endangered, Endangered, Vulnerable, Near Threatened and Migratory (EVNT&M) Fauna

Wildlife database searches consistent with the methods of the previous assessment (*ie* NRA 2016) were conducted as part of the current study⁸. Five EVNT&M species were identified during the current assessment though not the previous assessment:

- Freshwater Crayfish (*Euastacus bindal*, EPBC Act Critically Endangered and NC Act Vulnerable)

⁵ Based on review of Regional Ecosystem Mapping (version 10.1) (DNRME 2018c) and Vegetation Management Supporting Maps (DNRME 2018b).

⁶ Based on review of Regulated Vegetation Management Maps (DNRME 2018a) and Vegetation Management Supporting Maps (DNRME 2018b).

⁷ Based on review of the EPBC Act Protected Matters Search Tool (DoEE 2018).

⁸ Based on review of the EPBC Act Protected Matters Search Tool (DoEE 2018) and Wildlife Online database (DES 2018c).

- Ghost Bat (*Macroderma gigas*, EPBC Act Vulnerable and NC Act Endangered)
- Greater Glider (*Petauroides volans*, EPBC Act and NC Act Vulnerable)
- Yellow Wagtail (*Motacilla flava*, EPBC Act Migratory)
- Common Death Adder (*Acanthophis antarcticus*, NC Act Vulnerable).

All five species have a low likelihood of occurrence along the proposed alignment.

4. Other Notable Changes

Weed and pest species

Changes to listed weed and pest species have occurred. The Queensland *Biosecurity Act 2014* replaced the Queensland *Land Protection (Pest and Stock Route Management) Act 2002* as the Queensland Government's legislative tool regulating invasive species. The new legislation resulted in changes to listed species and their classification. Local and regional management plans have also been updated. These include the *Regional Pest Management Strategy for the Burdekin Dry Tropics NRM Region 2014 – 2019* (NQ Dry Tropics 2017), the *Townsville Local Government Area Biosecurity Plan 2017 – 2021* (draft) (TCC 2017) and the *Burdekin Shire Council Biosecurity Plan 2016-2019* (BSC undated). Future weed surveys and management plans should refer to these updated documents.

5. Changes to Approval Requirements

NRA (2016) assessed the proposed development against the Queensland *Sustainable Planning Act* 2009. This Act has been repealed, and the Queensland *Planning Act* 2016 (Planning Act) is now the key planning legislation in Queensland. This change has resulted in changes to some approvals pathways and requirements.

Commonwealth and Queensland legislation potentially relevant to Project environmental permitting and approvals is summarised in **Appendix A**. Also provided in **Appendix A** is advice on the following.

- Conditions that are required to be met to avoid approval triggers (*ie* where and how proposed development works can be undertaken without environmental approval applications; this may include not triggering legislative requirements, or where actions meet accepted development requirements).
- Potential additional actions or information required to support approvals.
- Likely approval timeframes.
- Fees potentially associated with approval applications.

6. References

BSC undated, *Burdekin Shire Council Biosecurity Plan 2016-2019*, v2.1, Burdekin Shire Council.

DAF 2018, *Queensland Waterways for Waterway Barrier Works spatial data layer*, Queensland Department of Agriculture and Fisheries, accessed 18 April 2018.

DES 2018a, *Map of Referrable Wetlands – Wetland Protection Areas*, Queensland Department of Environment and Science, accessed 18 April 2018.

DES 2018b, *Protected Plants Flora Survey Trigger Mapping*, Queensland Department of Environment and Science, accessed 17 April 2018.

DES 2018c, *Wildlife Online database*, Queensland Department of Environment and Science, accessed 18 April 2018.

DNRME 2018a, *Regulated Vegetation Management Maps*, Queensland Department of Natural Resources, Mines and Energy, accessed 24 April 2018.

DNRME 2018b, *Vegetation Management Supporting Map*, Queensland Department of Natural Resources, Mines and Energy, accessed 24 April 2018.

DNRME 2018c, *Regional Ecosystem Mapping*, version 10.1 (March 2018), Queensland Department of Natural Resources, Mines and Energy, accessed 24 April 2018.

DNRME 2018d, *Watercourse Identification Map*, Queensland Globe, accessed 18 April 2018.

DNRME 2018e, *Department of Natural Resources, Mines and Energy*, viewed 8 May 2018, <<https://dnrme.qld.gov.au/land-water/initiatives/vegetation-management-laws>>.

DoEE 2018, *EPBC Act Protected Matters Search Tool*, Commonwealth Department of the Environment and Energy, accessed 17 April 2018.

NQ Dry Tropics 2014, *Regional Pest Management Strategy for the Burdekin Dry Tropics NRM Region 2014 – 2019*, NQ Dry Tropics, Townsville.

NRA 2016, *Environmental Analysis Report, Haughton Pipeline Duplication Project*, R04 (Final), prepared by NRA Environmental Consultants for Townsville City Council, 26 June 2016.

TCC 2017, *Townsville Local Government Area Biosecurity Plan 2017 – 2021* (draft), Townsville City Council, Townsville.

Appendix A:
Potentially Relevant
Commonwealth and State
Legislation and Approvals

Haughton Pipeline Duplication Project – potentially relevant Commonwealth and State legislation and approvals

Legislation	Type of Approval	Potential triggers for approval	Comments	Conditions required to be met to avoid approval triggers	Actions or information required to support approvals	Approval timeframe	Fees
Commonwealth							
<i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act)	EPBC Act referral	<p>A project requires Referral under the EPBC Act if it is likely to have a significant impact on a Matter of National Environmental Significance (MNES). For the Project area, the following MNES occur in the broader receiving environment:</p> <ul style="list-style-type: none"> Listed threatened ecological communities listed threatened species listed migratory species world heritage property national heritage place wetlands of international importance Great Barrier Reef Marine Park. 	<p>EPBC Act-listed threatened species, or their habitat, have the potential to occur in the Project area. An EPBC Act Referral was prepared and submitted to the Commonwealth Department of the Environment and Energy (DoEE) on 12 November 2015 for the preliminary designs of the Project (reference number: EPBC 2015/7606). The Notification of Referral Decision was issued on 5 January 2016; the proposed action was deemed 'Not a Controlled Action'.</p> <p>The revised alignment varies from that assessed during the Referral application. The likelihood of this variation constituting a material change in impacts, and the significance of the impacts with respect to the EPBC Act, should be assessed and documented in a self-assessment report. The self-assessment report should inform decisions about the need for a separate EPBC Act approval.</p>	<input type="checkbox"/> No significant impact on MNES	<p>Confirmation of all Project-related clearing and disturbance for the construction and operation of the Project (including construction areas, laydown/stockpile areas, access tracks, maintenance tracks) [Design Team].</p> <p>Prepare an EPBC Act self-assessment report to determine if the revised Project design is likely to result in a significant impact on MNES [Environment Approvals Team].</p> <p><i>Note: If there is any uncertainty about the likelihood of significant residual impacts to MNES following the EPBC self-assessment report, a pre-referral meeting with DoEE should be undertaken.</i></p>	<p>A decision on the assessment must be made, within 20 business days from the date the referral is received by the Minister.</p> <p><i>Note: If the Minister believes that insufficient information has been provided to make an informed controlled action or assessment approach decision, further information may be requested. This 'pauses' the 20 business day timeframe until sufficient information is received.</i></p>	\$6,577
Queensland							
<i>Biosecurity Act 2014</i>	NA	NA	<p>The field surveys identified the following weeds listed as Category 3 weeds under the <i>Biosecurity Act 2014</i> in the Project area:</p> <ul style="list-style-type: none"> Siam weed (<i>Chromolaena odorata</i>) Rubber Vine (<i>Cryptostegia grandiflora</i>) Bellyache Bush (<i>Jatropha gossypifolia</i>) Lantana (<i>Lantana camara</i>) Chinee Apple (<i>Ziziphus mauritania</i>) <p>Category 3 weeds are invasive plants and must not be released into the environment. During the construction of the pipeline¹, weeds may be cleared. The abundance and location of weed species has the potential to change annually; therefore, at the time of construction weeds may differ to what was observed during the field surveys. It is recommended that a detailed weed survey be undertaken directly prior to construction to confirm the extents of weeds and to inform management. The survey needs to be undertaken on areas proposed to be disturbed during construction and areas proposed to remain as maintenance access points during operation.</p>	NA	<p>Confirmation of all Project-related clearing and disturbance for the construction and operation of the Project (including construction areas, laydown/stockpile areas, access tracks, maintenance tracks) [Design Team].</p> <p>Complete a weed survey immediately prior to construction to determine the location of weeds and inform management. The survey needs to consider all Project-related disturbances and target areas of known weed infestations [Environment Approvals Team].</p>	NA	NA

Legislation	Type of Approval	Potential triggers for approval	Comments	Conditions required to be met to avoid approval triggers	Actions or information required to support approvals	Approval timeframe	Fees
<i>Planning Act 2016 (Planning Act) and Planning Regulation 2009</i>	Development Application - General	Activities associated with the development of the Project are defined as 'Operational Works' under the Planning Act and will trigger approvals if accepted development requirements (ADRs) cannot be met. The activities potentially requiring approval are detailed below.	Some elements of development cannot meet exemptions or accepted development requirements (as detailed below); therefore, a development application will be required.	NA	Prepare approval documents, including responses to state codes where applicable [Environment Approvals Team].	50 business days provided application is properly made/referred and no information requests are made.	\$45,380 (TBC, see details below) <i>Note: development that is proposed by a local government and is in the public interest is eligible for a 50% refund on development application fees.</i>
		Clearing native vegetation (<i>Vegetation Management Act 1999 (VM Act)</i>)	<p>Vegetation clearing within the road reserve will be exempt from environmental approvals where the clearing occurs for Category R (reef regrowth) or Category X (non-remnant) vegetation, and pending approval by Queensland Department of Transport and Main Roads (TMR). Clearing of Category X vegetation on freehold land is also exempt.</p> <p>Clearing for ancillary works (<i>eg</i> access tracks, laydown area) in Category R vegetation may comply with accepted development requirements (ADR). This will be confirmed once the location of ancillary works has been identified.</p> <p>For clearing that is not exempt and that does not meet ADR, a development approval is needed. This is a two-stage process. The first stage requires that the clearing be determined a <i>relevant purpose</i> for infrastructure activities under section 22A of the VM Act. The second stage is the clearing application, which cannot be applied for until the first stage is completed.</p> <p>Areas that need a development approval for vegetation clearing are:</p> <ul style="list-style-type: none"> • Vegetation on all State land (other than land that does not meet the exemption identified above). • Category B (remnant) and Category R vegetation on freehold land. 	<input type="checkbox"/> For vegetation in the road reserve, clearing of Category R or Category X vegetation and approval from TMR. <input type="checkbox"/> For vegetation on freehold land, clearing of Category X vegetation. <input type="checkbox"/> For vegetation on freehold land, clearing of Category R vegetation in a manner which complies with the ADR.	<p>Confirmation of all Project-related clearing and disturbance for the construction and operation of the Project (including construction areas, laydown/stockpile areas, access tracks, maintenance tracks) [Design Team].</p> <p>Confirm which disturbance areas are exempt, which meet the ADR, and which require a development approval [Environment Approvals Team].</p> <p>Request a determination on whether the proposal meets the relevant purpose requirements of section 22A of the VM Act (for areas where development approval is required) [Environment Approvals Team].</p> <p>Obtain written approval from TMR to clear Category R or Category X vegetation within the road reserve [Environment Approvals Team].</p>	As above	\$12,518
		Removing quarry material from a watercourse (<i>Water Act 2000</i>)(Water Act)	Preliminary design plans identify the Haughton River as a 'potential sand source'. If sand is removed from the watercourse for use in the Project, a development approval is required.	<input type="checkbox"/> No quarry material extracted from a watercourse for use in the Project.	Confirm the location and expected volume of quarry materials to be extracted [Design Team].	As above	\$3,130
		Constructing or raising waterway barrier works (<i>Fisheries Act 1994</i>).	The proposed alignment crosses several waterways that trigger consideration of waterway barrier works.	<input type="checkbox"/> Works within waterways do not classify as waterway barrier works (as defined by DAF	Provide bridge structure designs for Majors Creek [Design Team].	As above	\$12,518

Legislation	Type of Approval	Potential triggers for approval	Comments	Conditions required to be met to avoid approval triggers	Actions or information required to support approvals	Approval timeframe	Fees
			<p>During construction, waterway barriers will be installed on all of the identified waterways. Waterway barriers include vehicle crossings (eg bed level crossings, causeways, culvert crossings and some bridges), partial bunds, silt curtains, abutment works and temporary structures.</p> <p>The replacement of the Majors Creek bridge may not be considered a waterway barrier work if the permanent structure can meet the guidelines provided on the DAF factsheet 'What is not a waterway barrier work?'. <i>Note: this step should happen in consultation with the bridge designs to encourage fish-friendly structures to be designed.</i></p> <p>The majority of works associated with the Project may be considered temporary structures if the construction or raising of temporary waterway barriers is within the period specified in Section 6 of DAF's 'Accepted development requirements for operational work that is construction or raising waterway barrier works' (refer to the next column for further information on time periods).</p>	<p>factsheets 'What is a waterway barrier work?' and 'What is not a waterway barrier work?'. <input type="checkbox"/> For the Majors Creek bridge upgrade, the bridge is not considered a waterway barrier (based on the guidelines in 'What is not a waterway barrier work?'). <input type="checkbox"/> All works within waterways considered waterway barrier works meet the accepted development requirements for temporary waterway barrier works. One of the key requirements is the time period of the works ie:</p> <ul style="list-style-type: none"> • Works in purple and red waterways must not last longer than 180 calendar days. • Works in amber and green waterways must not last longer than 360 calendar days. <p><i>Note: refer to the 'Accepted development requirements for operational work that is construction or raising waterway barrier works' for a complete list of accepted development requirements.</i></p>	<p>Determine if the Majors Creek bridge upgrade works are waterway barrier works [Environment Approvals Team]. <i>Note: this step should happen in consultation with the bridge designs to encourage fish-friendly structures to be designed.</i></p> <p>Confirm construction schedules [Design Team].</p> <p>Determine if all waterway barrier works can meet the temporary waterway barrier works accepted development requirements [Design Team and Environment Approvals Team].</p>		
	Undertaking high impact earthworks within a Wetland Protection Area (Planning Act)		<p>A section of the proposed alignment is in a Wetland Protection Area (WPA) Trigger Area (from the Map of Referrable Wetlands). The pipeline will be a buried structure, and the excavated land will be restored to the original contours after the infrastructure is established. Therefore, works are not considered to comprise 'high impact earthworks', and an application for undertaking high impact earthworks within a Wetland Protection Area will not be required, provided that the original contours will be restored.</p> <p>Pre-lodgement advice suggested 'the applicant should undertake a survey of the existing environments surface hydrology to inform rehabilitation of the project area to its original contours after the infrastructure is established, as required by the exemption to the wetland trigger'.</p>	<input type="checkbox"/> The land within the WPA Trigger Area is restored, as far as practicable, to its original contours after the infrastructure is established.	<p>Confirm practicality of restoring disturbed land within WPA Trigger Area to original contours [Design Team].</p> <p><i>Note: detailed contour mapping for the area of the proposed works within the WPA Trigger Area should be obtained prior to any land disturbance in this area. Following the construction works, detailed contour mapping should be prepared for the same area, and inconsistencies with the original contours identified (if any) and remediated.</i></p>	As above	\$3,130
	Impacting on state transport infrastructure (Planning Act)		<p>Operational works that include filling or excavating more than 10,000 t within a state transport corridor are assessable development.</p>	<input type="checkbox"/> Excavate less than 10,000 t within the state transport corridors (ie Flinders Highway and Woodstock Giru Road).	<p>Confirm excavation estimates for areas within state transport corridors [Design Team].</p>	As above	\$6,260

Legislation	Type of Approval	Potential triggers for approval	Comments	Conditions required to be met to avoid approval triggers	Actions or information required to support approvals	Approval timeframe	Fees
			The proposed alignment intersects two state transport corridors (<i>ie</i> Flinders Highway and Woodstock Giru Road) and excavation is likely to exceed 10,000 t.		Assess excavation requirements against thresholds. [Environment Approvals Team]		
		Operational work on a premise near a state transport corridor (Planning Act)	Operational works that include filling or excavating more than 50 m ³ within 25 m of a state transport corridor are assessable development.	<input type="checkbox"/> Excavate less than 50 m ³ within 25 m of a state transport corridors (<i>ie</i> Flinders Highway and Woodstock Giru Road).	Confirm excavation requirements within 25 m of a state controlled road corridors [Design Team].	As above	\$4,694
			The proposed alignment intersects two state transport corridors (<i>ie</i> Flinders Highway and Woodstock Giru Road) and excavation will likely exceed 50 m ³ .		Assess excavation requirements against thresholds [Environment Approvals Team].		
	Townsville City Council planning scheme	Zone codes, overlay codes and development codes	The Project triggers various assessment triggers within the Townsville City Plan. These include the Rural zone code and various overlay codes (<i>eg</i> bushfire hazard, flood hazard, natural assets, water resource catchment) and development codes (<i>ie</i> Healthy waters, and Works).	These triggers are unavoidable.	Confirmation of all Project-related clearing and disturbance for the construction and operation of the Project (including construction areas, laydown/stockpile areas, access tracks, maintenance tracks) [Design Team].	As above	TBC (dependent on value of project)
<i>Nature Conservation Act 1992</i> (NC Act) and subordinate legislation	Clearing Permit	Clearing of Least Concern (NC Act) plants outside a high risk area is exempt from requiring a clearing permit. Clearing EVNT ² plant species requires a clearing permit.	<p>The proposed alignment does not intersect a high risk area as mapped on the Protected Plants Flora Survey Trigger Map (DES, accessed 17 April 2018), and NRA (2016)³ did not identify EVNT flora species along the proposed alignment.</p> <p>NRA (2016) identified habitat for Black Ironbox (<i>Eucalyptus raveretiana</i>, Vulnerable EPBC Act) along the Haughton River. Black Ironbox was not found along the proposed alignment during the field studies conducted in 2015. The area should be re-surveyed prior to construction to determine if Black Ironbox has since established in the area.</p> <p>Once clearing extents for ancillary areas are known (<i>eg</i> access tracks and laydown areas), the areas should be checked to determine if they intersect high risk areas as mapped on the Protected Plants Flora Survey Trigger Map and if they intersect potential habitat for Black Ironbox.</p>	<input type="checkbox"/> No EVNT plants are cleared. <input type="checkbox"/> High risk areas mapped on the Protected Plants Flora Survey Trigger Map are avoided.	<p>Confirmation of all Project-related clearing and disturbance for the construction and operation of the Project (including construction areas, laydown/stockpile areas, access tracks, maintenance tracks) [Design Team].</p> <p>Survey for Black Ironbox within proposed clearing areas along Haughton River [Environment Approvals Team].</p> <p>Confirm potential impacts of total clearing area on EVNT plants. Consider all field survey results, Protected Plants Flora Survey Trigger Map and results of the Environmental Analysis Report [Environment Approvals Team].</p> <p><i>Note: If EVNT plants are found in the proposed disturbance area, the need for further approvals/permits should be reviewed.</i></p>	DES endeavours to process clearing permit applications within 40 business days. DES can request more information within 20 days of receiving an application. An additional 40-day period commences once DES receives the extra information.	\$2,866
	Species Management Program (SMP) (generic and species-specific)	An SMP is required for activities that tamper with breeding places of all native species.	Hollow-bearing trees occur in mature Eucalypt and large Melaleuca species in the Project area. Tree hollows vary in size and may provide a breeding or roosting place for a variety of fauna, including listed EVNT species such as: <ul style="list-style-type: none"> • Bare-rumped Sheathtail Bat 	<input type="checkbox"/> No breeding places will be tampered with during construction. This condition is unlikely to be met; therefore, an SMP will likely be required.	<p>Prepare an SMP to manage threats associated with the clearing of hollow-bearing trees [Environment Approvals Team].</p> <p>Conduct a pre-clearance survey to confirm the need for a species-</p>	SMPs do not have a statutory timeframe to process applications. DES endeavours to process these applications within 40 business days.	No fees currently apply.

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			<p><i>(Saccolaimus saccolaimus nudicluniatus)</i></p> <ul style="list-style-type: none"> Greater Large-eared Horseshoe Bat (<i>Rhinolophus philippinensis</i>) Black-throated Finch. <p>A general SMP may be completed for Least Concern species; however, a species-specific SMP is required for EVNT and Special Least Concern species.</p>		specific SMP [Environment Approvals Team].		
<i>Environmental Offsets Act 2014</i>	Environmental offset	<p>Environmental offsets are applicable if the project has a <i>significant residual impact (SRI)</i> on a <i>prescribed environmental matter</i> (eg MNES, Matters of Local Environmental Significance (MLES) and Matters of State Environmental Significance (MSES)). Potentially applicable <i>prescribed environmental matters</i> for the Project include:</p> <ul style="list-style-type: none"> Clearing of regulated vegetation that is remnant vegetation within the defined distance of a watercourse identified on the vegetation management watercourses map and essential habitat as identified on the essential habitat map; Impacting on connectivity of remnant vegetation and Regional Ecosystems through clearing activities; Impacts on habitat for Endangered, Vulnerable or Special Least Concern species (NC Act); and Limiting the passage of fish within a waterway. 	<p>Environmental offsets may be required as a condition of approval where proposed activities are likely to result in an SRI.</p> <p>Clearing footprints are required to assess if development will have an SRI on <i>prescribed environmental matters</i>.</p>	<p><input type="checkbox"/> Demonstrate that an SRI on a <i>prescribed environmental matter</i> shall not occur.</p>	<p>Confirm all Project-related clearing requirements, including construction areas, laydown/stockpile areas, and access tracks [Design Team].</p> <p>Determine the likelihood for an SRI on <i>prescribed environmental matters</i> in the Environmental Analysis Report.</p>	<p>The proponent can elect to deliver offsets by way of:</p> <ul style="list-style-type: none"> Financial settlement offset, Proponent driven offset (including land-based or direct benefit management plan) or, A combination of financial settlement and proponent driven offsets. <p>The administering authority should provide a response within 40 business days of receiving the notice of election of offset delivery approach. This notice of election may be provided to the administering authority before or after the relevant authority is issued.</p> <p>Once the administering authority agrees to the proposed offset delivery approach, the proponent must enter into an agreed delivery arrangement with the administering authority to establish timeframes and process for the agreed offset.</p>	<p>Where a financial settlement offset is elected and agreed, the following formula is applied.</p> <p>Financial payment = (total offset area x on-ground cost per ha) + landholder incentive payment + administrative cost</p> <p>The landholder incentive payment is an amount intended to provide sufficient incentive to the landholder to participate in the market.</p> <p>The administrative cost is calculated at 25% of the offset cost, capped at \$1,000,000 with a floor price of \$50,000.</p>
<i>Water Act 2000 (Water Act)</i>	Riverine Protection Permit (RPP)	Excavate and replace material within a watercourse (as defined by the Water Act).	<p>Local government is considered an Approved Entity (as defined in the <i>Acquisition of Land Act 1967</i>) and is therefore exempt from requiring an RPP. For this exemption to apply, conditions outlined in the '<i>Riverine Protection Permit Exemption Requirements</i>' (WSS/2013/726)⁴ must be adhered to.</p> <p>Should the minimum requirements not be achieved, an RPP will be applicable.</p>	<p><input type="checkbox"/> Sediment and erosion controls must be used; and</p> <p><input type="checkbox"/> All fill placed must be free from contamination (eg weeds seeds, oils, chemicals and other contaminants); and</p> <p><input type="checkbox"/> Disturbed banks must be returned to a profile similar to the pre-disturbance condition; and</p> <p><input type="checkbox"/> Natural stream bed controls or features that create natural waterholes (eg riffles, logs, sediment or rock bars) must not be lowered or removed; and</p>	<p>Confirm if exemption requirements are able to be met. Areas of non-conformance should be described and quantified (where relevant) [Design Team].</p>	<p>If the exemption requirements are not met, there are no statutory timeframes under the Water Act for an RPP, except to the extent that within 30 business days after deciding the application, an information notice must be given to the applicant. If the application for an RPP is granted, with or without conditions, an RPP must be given to the applicant within 30 business days.</p>	No fees currently apply.

Legislation	Type of Approval	Potential triggers for approval	Comments	Conditions required to be met to avoid approval triggers	Actions or information required to support approvals	Approval timeframe	Fees
				<input type="checkbox"/> Any excavated material that is not removed as waste must be spread evenly within the bed and banks of the watercourse so that it does not interfere with the flow of water; and <input type="checkbox"/> All fill placed in the bed of the stream must not redirect flow into an adjacent bank; and <input type="checkbox"/> Access tracks or crossings must not interfere with the low flow of water; and <input type="checkbox"/> The invert of culverts or the deck height of a splash through crossing must be placed at or below bed level; and <input type="checkbox"/> All culverts placed within the watercourse must be aligned with the stream channel and placed as close to the centre of the watercourse channel as practical; and <input type="checkbox"/> All culverts placed within the watercourse must be of a sufficient size to ensure uninterrupted low flows and minimise the occurrence of blockage of culverts caused by flood-borne debris; and <input type="checkbox"/> Constructed access tracks (eg culverts or splash through crossings) must be provided with a scour apron and cut off wall on the downstream side sufficient to prevent bed erosion; and <input type="checkbox"/> All disturbed areas must be revegetated with trees, shrubs and grasses endemic to the area, sufficient to re-establish a riparian environment and protect bed and banks from erosion.			
	Water entitlement (water licence)	Temporarily 'taking' (impounding or diverting) water whilst trenching within watercourses.	Local government is considered a Constructing Authority and is therefore exempt from requiring a water licence for the 'taking' of water. 'Taking' water includes extracting water for construction purposes (from surface water or sub-artesian groundwater) and diverting water to conduct trenching activities. For this exemption to apply, conditions outlined in the 'Exemption requirements for the taking of water without a water entitlement under the Water Regulation 2002' (WSS/2013/666) ⁵ must be complied with.	<input type="checkbox"/> Water must not be taken from underground water, unless taken through an existing lawfully constructed bore; and <input type="checkbox"/> The constructing authority must provide notification to the chief executive; and <input type="checkbox"/> The constructing authority must record details of the take of water; and <input type="checkbox"/> If water is taken within a water supply scheme area managed under an interim resource operations licence (IROL),	Confirm if exemption requirements are able to be met. Areas of non-conformance should be described and quantified (where relevant) [Design Team].	If the exemption requirements are not met, a draft water entitlement notice must be made available by the chief executive and a notice issued to any affected person. Affected persons can inspect and make submissions on the draft within 30 business days of the notice being issued. After the last day of this period, any properly made submissions will be reviewed within 40 business days and	\$125.90 (if exemption not met)

Legislation	Type of Approval	Potential triggers for approval	Comments	Conditions required to be met to avoid approval triggers	Actions or information required to support approvals	Approval timeframe	Fees
			<p>Should the exemption requirements not be achievable, a water licence will be required.</p> <p>If there is a shortage of water available, the Department of Natural Resources, Mines and Energy (DNRME) may impose, by notice, conditions or restrictions relating to the 'take' of water, including limitations on the times when water may be taken, purposes water is taken for, and the volume of water to be taken.</p> <p>Should it be determined by DNRME that the proposed watercourse is not able to sustainably provide water to the project (eg constructing authority will not be able to meet the exemption requirements), the take of water may not proceed under the Exemption.</p> <p>It is recommended that an alternative source of water for construction purposes be identified in the event that the 'take' of water does not meet the exemption requirements.</p>	<p>resource operations licence (ROL) or distribution operations licence (DOL) holder, prior written approval to take the water is required from the licensee; and.</p> <p><input type="checkbox"/> If there is a flow in the watercourse, take of water from the watercourse must stop if the take causes the flow immediately downstream of the point of take to cease; and</p> <p><input type="checkbox"/> If there is no flow in the watercourse, the take of water from a waterhole or a lake during periods of 'no flow' must not reduce the depth of the waterhole or lake to (whichever is the greater):</p> <ol style="list-style-type: none"> Less than 0.5 m Less than 75% of its full supply level. 		<p>recommendations made to the chief executive. The chief executive will then submit the water entitlement notice to the Governor in Council for approval. Once the water entitlement notice is approved, the chief executive will publish the notice and notify each affected person within 30 business days.</p>	
	Quarry Material Allocation Notice (QMAN)	A QMAN is required to excavate material from the bed of a watercourse for the purpose of constructing the pipeline (eg to use as bedding material).	Preliminary design plans identify the Haughton River as a 'potential sand source'. If sand is removed from the watercourse for use in the Project, a QMAN is required.	<input type="checkbox"/> Material is not extracted and removed from the watercourse and used during the construction of the pipeline, or for another purpose.	Confirm intended use and quantities of material extracted from the watercourse, and timeframes for the activity [Design Team].	There are no statutory timeframes under the Water Act for a QMAN, except to the extent that within 30 business days after deciding the application, a decision notice and allocation notice must be given to the applicant.	<p>\$172.60 (for each 6 month period or part thereof)</p> <p>Royalty payments also apply for the removal of State quarry material. Removal by a local government for its own use is \$0.72 per cubic metre.</p>
<i>Forestry Act 1959</i>	Notification	Interfering with or taking forest products or quarry materials on State land.	<p>The proposed alignment intersects State land (Lot 12 on GS815). Native timber production from State-owned lands is managed by the Department of Agriculture and Fisheries (DAF) and owned by the State. The State may wish to harvest the native forest product on State land.</p> <p>Prior to clearing, notification to DAF is required for works that involve the interference with or disposal of forest product on State land.</p>	This trigger is unavoidable. Clearing native vegetation on State land is a necessary project requirement.	Notify DAF of intention to clear native vegetation on State land [Proponent].	NA	NA
<i>Environmental Protection Act 1994 (EP Act)</i>	Notification	General Environmental Duty (due diligence) Duty to Notify Environmentally Relevant Activity (ERA)	The EP Act outlines that a person must not carry out any activity that causes, or is likely to cause, environmental harm unless the person takes all reasonable and practicable measures to prevent or minimise the harm (the General	<input type="checkbox"/> Undertake activities that are not ERAs.	NA	NA	NA

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			<p>Environmental Duty). Further, individuals have a 'Duty to Notify' their employers if they become aware of environmental harm or if there is a threat of creating environmental harm by their or someone else's activities.</p> <p>To manage the risk for environmental harm, an Environmental Management Plan (Construction) has been drafted and will be updated and implemented.</p> <p>Carrying out an ERA will require an environmental authority (EA) under the EP Act. An ERA is an activity that will or may release contaminants with the potential to cause environmental harm. Whilst the construction and operation of the pipeline is not an ERA, ancillary activities associated with the construction may be an ERA.</p>				
	Environmental authority (site-specific) for undertaking prescribed ERA 8 – Chemical storage	If the minimum thresholds (identified in Schedule 2 of the <i>Environmental Protection Regulation 2008</i> (EP Regulation) are exceeded, an environmental authority (EA) is required.	Chemicals stored for the proposed works are not likely to trigger the ERA threshold; however, this needs to be confirmed.	<input type="checkbox"/> No more than 50 t or 200 m ³ of chemicals are stored on-site (see EP Regulation for types of chemicals and additional storage thresholds).	<p>Confirm on-site chemical storage requirements [Design Team].</p> <p>Assess potential on-site chemical storage requirements against ERA minimum thresholds. If thresholds are likely to be exceeded, investigate the requirements for an EA [Environment Approvals Team].</p>	Approximately 55 business days. <i>Note: If DES issues a Request for Information, this timeframe may be extended.</i>	\$630 plus 30% of the annual fee. <i>Note: The annual fee is dependent on the storage volume.</i>
	Environmental authority (site-specific) for undertaking prescribed ERA 16 – Extractive and Screening Activities	If the minimum thresholds (identified in Schedule 2 of the EP Regulation) are exceeded, an EA is required.	Extraction of material for construction purposes will be an ERA if thresholds are exceeded.	<input type="checkbox"/> Dredging does not exceed 1000 t of material from the bed of surface waters. <input type="checkbox"/> Extraction (other than by dredging) does not exceed 5000 t of material from an area.	<p>Confirm excavation volumes in watercourses [Design Team].</p> <p>Assess potential excavation requirements against ERA minimum thresholds. If thresholds must be exceeded, investigate the requirements for an EA [Environment Approvals Team].</p>	Approximately 55 business days. <i>Note: If DES issues a Request for Information, this timeframe may be extended.</i>	\$630 plus 30% of the annual fee. <i>Note: The annual fee is dependent on the extraction threshold.</i>

¹ The Project = Haughton Pipeline Duplication Project.

² EVNT = Critically Endangered, Endangered, Vulnerable and Near Threatened.

³ NRA 2016, *Environmental Analysis Report, Haughton Pipeline Duplication Project*, R04 (Final), prepared by NRA Environmental Consultants for Townsville City Council, 26 June 2016.

⁴ DNRM 2017, *Riverine protection permit exemption requirements*, WSSS/2013/726 Version 1.04, Department of Natural Resources and Mines, 24 October 2017.

⁵ DNRM 2017, *Exemption requirements for constructing authorities for the take of water without a water entitlement*, WSSS/2013/666 Version 3.03, Department of Natural Resources and Mines, 19 December 2017.



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