



The Coordinator-General



Northern Pipeline Interconnector Stage 2 project

Coordinator-General's Change Report

July 2010



Coordinator-General's Change Report

Contents

Synopsis	3
1. Introduction	4
1.1 Purpose	4
1.2 The proponent	4
1.3 Project background	4
1.4 Project approvals	5
2. Overview of the requested change	5
2.1 Project change request—statutory process	5
2.2 Description of the proposed change	6
2.2.1 Condition 5: background	6
2.2.2 Waterway workshop group	7
2.2.3 Condition change request	8
2.3 Justification for the proposed change	8
2.3.1 Construction methods: microtunnelling	9
2.3.2 Piling	9
2.3.3 Trenching	10
2.3.4 Environmental offsets	10
2.4 Invitation to comment	13
3. Evaluation of change request	13
3.1 Further information considered: Ferntree environmental incident	13
3.2 Submissions received	14
3.2.1 Environmental impacts	15
3.2.2 Social impacts	15
3.3 Review of findings	16
3.3.1 Impacts: social	16
3.3.2 Cost	16
3.3.3 Time	16
3.3.4 Environment	17
3.3.5 Environmental offsets	18
4. Conclusion	20
Appendix 1—conditions and recommendation	23
Conditions	23
Recommendation	25



Synopsis

Construction of the Northern Pipeline Interconnector Stage 2 project (the project) is currently underway. The 48 kilometre water pipeline and associated facilities will extend from near the Landers Shute water treatment plant (WTP) at Eudlo to the Noosa WTP.

The proponent for the project is the Southern Regional Water Pipeline Company Pty Ltd trading as LinkWater Projects, a wholly Queensland Government-owned company, incorporated under the *Corporations Act 2001*.

On 21 September 2007, under section 26(1)(a) of the *State Development and Public Works Organisation Act 1971* (SDPWO Act) the project was declared a 'significant project' for which an environmental impact statement (EIS) was required. On 6 November 2009, following assessment of the EIS, I approved the project proceeding subject to compliance with conditions and recommendations made by me in the Coordinator-General's Report on the project's EIS.

On 29 April 2010, LinkWater Projects wrote to the Coordinator-General requesting consideration of a change to a condition made in the Coordinator-General's Report. The requested change relates to condition 5, a requirement imposed by me regarding the construction method at certain sensitive waterway crossings that the project will traverse for installation of the pipeline.

While the condition states that construction at eight named waterways should be either by piling the pipe over or microtunnelling under the waterway in order to minimise environmental impacts, LinkWater Projects has requested the ability to install the pipeline via the standard waterway construction method of trenching at four of the eight waterways.

This change report has been prepared pursuant to section 35I of the SDPWO Act and provides an evaluation of the environmental effects of the proposed change. Coordination of the change process has been undertaken by the Department of Infrastructure and Planning (DIP) on my behalf.

In considering this request, while acknowledging time and cost advantages that would result from the condition change proceeding, I have instead given primary consideration to LinkWater Projects' view that through trenching, a better environmental outcome will be able to be achieved at the four locations in comparison to other construction techniques.

In consideration of all information received that informed the change request, **I have determined that** the condition may be modified to allow the proponent to construct at the waterways by trenching, however subject to the demonstrated outcome of trenching at two trial waterway crossings. In addition, **I require** the proponent to provide an environmental offsets package to enhance the environmental benefits resulting from the change. Appendix 1 provides the conditions of my preliminary decision.

In the making of my decision, I have considered other matters including submissions on the issue as made by local and state government agencies and other stakeholders.

In accordance with section 35J of the SDPWO Act, a copy of this report will be provided to the project proponent. It can also be viewed online at www.dip.qld.gov.au.

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Colin Jensen
Coordinator-General

Date:



1. Introduction

1.1 Purpose

This report has been prepared in accordance with section 35I of the *State Development and Public Works Organisation Act 1971* (SDPWO Act).

The report's purpose is to provide the Coordinator-General's evaluation of a request for a proposed change to a condition of approval made on the project.

The approved details for the project are described in the Coordinator-General's Report on the EIS (November 2009). This document is available online at www.dip.qld.gov.au.

1.2 The proponent

The proponent for the project is the Southern Regional Water Pipeline Company Pty Ltd trading as LinkWater Projects, a wholly Queensland Government-owned company, incorporated under the *Corporations Act 2001*.

LinkWater Projects has been responsible for the successful delivery of a number of water pipeline initiatives such as the Southern Regional Water Pipeline, the Eastern Pipeline Interconnector and the Northern Pipeline Interconnector (NPI) stage 1. These projects and the NPI stage 2 form the backbone of the South East Queensland (SEQ) water grid.

LinkWater Projects formed an alliance for design and construction of the project called the Northern Network Alliance (NNA), which consists of McConnell Dowell, Abigroup, KBR and LinkWater Projects.

1.3 Project background

The project, located on the Sunshine Coast, Queensland, involves construction of approximately 44 kilometres of 1290 millimetre (mm) MSCL (mild steel cement lined) and 4 kilometres of DN 500 millimetre (mm) DICL (ductile iron cement lined) pipeline, plus associated infrastructure such as pumping stations, water quality boosting facilities and a balance tank.

The stage 2 pipeline will extend from near the Landers Shute water treatment plant (WTP) at Eudlo to the Noosa WTP, connecting with the existing NPI stage 1 at Eudlo. The project will allow the transfer south of up to 18 million litres (ML) per day or 6500 ML per annum and have the capability to provide water to the Sunshine Coast in a critical supply situation.

The project will connect otherwise segmented water zones of the Sunshine Coast, which will provide greater security and flexibility of water supply to support growth in the area. It will be bi-directional, allowing water to be transferred in either direction, thereby providing flexibility in light of future demand and climate change uncertainty. In the long-term, the pipeline will allow the transfer of additional water from proposed desalination supplies.

Construction of the project commenced on 15 February 2010, shortly after approval from the Commonwealth was obtained. As at June 2010, approximately 8 kilometres of pipeline had been installed.

In acknowledgement of the project's significance in contributing to the adequacy of water supply for the SEQ region, the project was one of a number of SEQ water grid projects declared to be an 'emergency measure' under the *Water Amendment Regulation (No.6) 2006*. This regulation mandated the project to be completed by 30 December 2011.



1.4 Project approvals

On 21 September 2007, under section 26(1)(a) of the SDPWO Act the project was declared a 'significant project' for which an environmental impact statement (EIS) was required.

On 24 October 2007, the Commonwealth Minister for the Environment, Heritage and the Arts determined that the project was a 'controlled action' under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The Commonwealth approved assessment of its matters via the bilateral agreement between the state and Commonwealth.

The EIS for the project, which addressed state and Commonwealth matters, was released for public comment from 17 January 2009 until 9 March 2009. Submissions on the EIS were invited from the public and local, state and Commonwealth agencies.

To address matters raised in the 56 submissions that were made on the EIS, the proponent prepared a supplementary report on the EIS (SEIS). The SEIS was provided to the 56 submitters and further comment was invited. In total, 19 submissions on the SEIS were received.

On 6 November 2009, as per section 35 of the SDPWO Act, in finalising the Coordinator-General's Report on the EIS for the project I determined that the project could proceed, subject to compliance with conditions and recommendations. This decision was made, and conditions formulated, after consideration of matters including the EIS, the SEIS, and submissions made on the documents by members of the public and advisory agencies.

On 12 February 2010 the Commonwealth Department of the Environment, Water, Heritage and the Arts (DEWHA) approved the action proceeding, subject to further conditions and recommendations which apply to matters of national environmental significance (listed threatened species and communities and listed migratory species).

On the matter of the condition change request that is the subject of this report, the request was made by the proponent in correspondence dated 29 April 2010. Following review of the request and further information provided by the proponent and consultation with relevant agencies and stakeholders, **I have determined** that the condition may be modified to allow the proponent to construct at the waterways by trenching, however subject to the demonstrated successful outcome of trenching at two trial waterway crossings and adherence by the proponent to a range of additional conditions imposed by me. These conditions seek to further offset the environmental impacts of construction at four waterway crossings that are the subject of the proponent's request and enhance the environmental benefit arising from the change.

Appendix 1 provides the conditions of my preliminary approval. In part, the conditions detail that results of an independent review on the trial crossings must be provided for consideration of whether the condition change can proceed.

2. Overview of the requested change

2.1 Project change request—statutory process

Division 3A of part 4 of the SDPWO Act describes the statutory process for the consideration of changes to a declared significant project for which a Coordinator-General's report has been prepared under section 35(5) of that Act.



On 29 April 2010, in accordance with section 35C of the SDPWO Act, the proponent requested in writing that the Coordinator-General consider changes to a condition imposed on the project.

This report has been prepared in accordance with section 35I of the SDPWO Act and provides an evaluation of a request for a proposed change to the terms of a condition made on the project.

2.2 Description of the proposed change

2.2.1 Condition 5: background

The condition that the change request relates to is part A of condition 5, from Appendix 1 of the Coordinator-General's Report on the EIS for the project (November 2009). The condition requires the proponent to undertake either piling or microtunnelling at eight named waterways that the project will need to traverse during construction. The condition is provided below.

Condition 5

Part A:

The following waterway crossings are to be either tunnel bored or piled:

- **Paynter Creek Northern**
- **Petrie Creek**
- **Tuckers Creek**
- **South Maroochy**
- **Mount Combe Creek**
- **North Maroochy River**
- **Six Mile Creek (left branch) 02**
- **Lake Macdonald Spillway.**

For each of the waterway crossings listed above, prior to construction LinkWater Projects is to seek the approval from the Department of Infrastructure and Planning (DIP) on the crossing method to be undertaken.

To inform DIP's consideration, a working group is to be convened involving independent experts on significant species and inviting participation from DEEDI (Queensland Primary Industry and Fisheries), DERM (Environment), SCRC and DIP. Minutes of the meeting are to be taken.

A waterway construction methodology selection process is to be undertaken involving the working group. Of criteria considered within the process, the criteria of environment is not to receive a lower weighted rating relative to other criteria.

Following the process, a sensitive area plan (SAP) for each of the crossings indicated in the first list above is to be produced that will detail how the recommended construction method will be undertaken to minimise environmental impacts.

For each of the crossings, the results of the process, a copy of minutes of all working group meetings on the crossing and a copy of the proposed SAP is to be provided to DIP at least one month prior to construction at the waterway crossing.



Condition 5 was included in the Coordinator-General's Report on the EIS in response to concerns raised in submissions that trenching introduces the risk for greater environmental impacts. Alternate construction methods such as piling the pipeline over the waterway on vertical support columns, or microtunnelling the pipe under the waterway by use of a tunnel boring machine were supported in submissions.

Condition 5 named eight waterways that were assessed during the EIS phase as having moderate to high environmental values. The waterways had environmental values such as the potential for significant vegetation or fauna species listed under the *Nature Conservation Act 1992* or the Commonwealth's *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) or significant species had been confirmed at some locations. The condition provided that, based on information assessed during the EIS phase, to reduce environmental impacts the construction method should be by either piling or microtunnelling.

With its change request report, LinkWater Projects has provided new information and detail to support the view that trenching at the four locations could achieve a better environmental outcome relative to other construction methods.

2.2.2 Waterway workshop group

Condition 5 details a process that was to occur to determine if piling or microtunnelling should be undertaken at the eight waterways named in the condition. The process was that an interagency working group was to be convened, inviting participation from Department of Employment, Economic Development and Innovation (DEEDI) (Queensland Fisheries), DERM (Environment), Sunshine Coast Regional Council (SCRC) and DIP. Independent environment experts were also required to be involved in the group.

The waterway working group (WWG) was to undertake a construction methodology selection process to determine if either piling or microtunnelling was to be the recommended crossing construction method. For criteria considered within the process as to which was the best method, the condition stated that the criteria of environment was not to receive a lower weighted rating relative to other criteria.

Results of the WWG, being recommendations on construction method at the crossings, were to be provided to the Coordinator-General for a decision.

NNA conducted the WWG process in December 2009 and January 2010. Four meetings of the group were held and a two day site tour of the crossings was undertaken.

In attendance were representatives from DERM, DEEDI (Queensland Fisheries), SCRC and DIP. NNA conducted the workshop and, along with LinkWater Projects, were a part of the group, providing advice primarily on constructability, time and cost considerations. Two independent environmental experts were also part of the group.

Fourteen waterway crossing locations were presented to the working group for consideration – being eight crossings as specifically named in condition 5, and six others that were included as having either moderate to high environmental values, including the potential for, or confirmed, MNES species.

In the first meeting of the WWG, NNA, while acknowledging as per the terms of the condition only piling or microtunnelling at the crossings could be undertaken, tabled the desire to include trenching as an assessed method of construction. DIP confirmed that while this could be included to provide a baseline, as the terms of condition 5 did not allow trenching, should the proponent wish to pursue this method after the WWG process concluded, it would be subject to a separate condition change request process. DIP further advised that there was no



guarantee that this process would proceed as it was subject to the Coordinator-General's approval for the process to be undertaken.

The 14 crossings were subjected to a multi-criteria assessment to determine the recommended construction method. The criteria used to inform the assessment were: environment, value (cost), program (time), constructability, and stakeholder considerations.

Section 3.2 and 3.3 of proponent's change request report (available online at www.dip.qld.gov.au) details the process and outcomes of the WWG. For the four crossings that are the subject of this report, the WWG found that the recommended construction method for the four crossings was:

- Paynter Creek Northern: piling
- Tuckers Creek: tunnel boring
- Petrie Creek: tunnel boring
- North Maroochy River: piling.

2.2.3 Condition change request

In a letter to the Coordinator-General dated 29 April 2010, LinkWater Projects requested, on the basis of improved environmental outcomes being achievable relative to other construction methods, the ability to undertake trenching as the construction method at the following four waterway crossings:

- Paynter Creek Northern
- Tuckers Creek
- Petrie Creek
- North Maroochy River.

A copy of the letter from the proponent is available at www.dip.qld.gov.au via DIP's website. An attachment to the letter, being a detailed report into the justification for the proposed change, is also available online at the above website address. Figure 2 of the proponent's change request report provides a map of the locations of the four waterway crossings.

For the other four crossings named in condition 5, the proponent has confirmed that either piling or microtunnelling the pipeline at the waterways will be undertaken.

Conditions similar to condition 5 were made in the Coordinator-General's Report on the construction method at waterway crossings where matters of national environmental significance (MNES) are confirmed – for condition 26, if listed flora is located at the waterway crossing, the construction method is to be by piling or microtunnelling. For condition 27, if the EPBC Act listed Giant Barred Frog (*Mixophyes iterates*) is located, piling or microtunnelling is to be undertaken at the crossing point.

Conditions 26 and 27 were annexured to DEWHA's conditions of approval for the project made in February 2010. This report does not consider amendment of these conditions and pertains only to four crossings named in condition 5. Part of the assessment that will be discussed in this report confirms that no MNES were found at the four locations, therefore the crossings do not enliven the requirements of conditions 26 and 27 or DEWHA's consideration of the change request.

2.3 Justification for the proposed change

In its correspondence to DIP, LinkWater Projects states that the key merits of trenching as opposed to either tunnel boring or piling are:



- a reduced vegetation clearing footprint, including reduced impact on important mapped riparian vegetation
- a smaller construction footprint and therefore less impact on the environment and affected landholders
- significantly lower cost compared to piling or tunnel boring
- reduced construction duration and reduced risk of exposure to significant rainfall/flood events during construction
- no long-term impacts on visual amenity as the pipeline would be underground.

The proponent's change request report provides an assessment of impacts of the three construction methods of trenching, piling and microtunnelling at the four waterway crossing locations, based on environment, time, cost, and stakeholder considerations. Table 1 of this report provides an overview of the impacts.

I note that LinkWater Projects had intended to construct the crossing of the North Maroochy River by strapping the structure to a traffic bridge that spans the crossing location. However engineering advice recently concluded that the bridge may not be able to support the pipe's additional weight.

Following is an explanation of key considerations in relation to the different construction methods at waterway crossings.

2.3.1 Construction methods: microtunnelling

Microtunnelling involves a tunnel boring machine (TBM) excavating a tunnel underneath the waterway bed and banks through which the pipeline is then installed. Microtunnelling requires excavation of an entry shaft and exit shaft through which the TBM is launched. Depending on the ground conditions of the crossing, the tunnel needs to be quite deep to ensure the waterway is not disturbed by the activity. For Petrie Creek, LinkWater Projects advises the depths of the shafts would be 16 m and 19 m.

While it is the least invasive construction technique for a waterway crossing, disturbance is required nearby to facilitate the works. LinkWater Projects advises that the shafts each require a work area of approximately 70 m² plus associated temporary hard stand areas for site operation and short term equipment and materials storage. Depending on the conditions and location of the entry and exit shaft areas, clearing of vegetation may be required for these sites.

Microtunnelling is the most expensive of the three construction activities. As an example considering the crossings that are the subject of this report, LinkWater Projects advises that microtunnelling Tuckers Creek would cost \$2.8 million.

In terms of time required for construction, LinkWater Projects advises that for Petrie Creek, microtunnelling would take 11 weeks for specialist items to be procured and an additional four months for construction (from site establishment to bulk reinstatement).

2.3.2 Piling

Piling is an above-ground crossing method. It involves suspension of the pipeline over the waterway crossing, at a height that takes into account factors such as allowing regular flood events to safely pass under the structure. The pipeline is supported on vertical pillars which may be sunk into the waterway bed and/or banks, depending on the width of the crossing and the maximum span able to be achieved between the pillars.

The construction footprint of piling would include approximately 100m² for a crane pad (based on average crane size of 12 m x 8 m) for installation of the headstocks plus associated



hardstand for site operation and short-term equipment and materials storage. The crane pad would not be required for the trenching method.

LinkWater Projects advises that a piled crossing at Paynter Creek Northern has been costed at \$746 668.

In terms of construction times, piling for Paynter Creek Northern would involve 11 weeks procurement of specialist items and 15 weeks construction time (from site establishment to bulk reinstatement).

2.3.3 Trenching

Trenching involves excavation of a trench through the bed and banks of a waterway. The pipe is laid in the trench, secured with a concrete encasement and backfilled. The surface is restored and bed and banks re-contoured and stabilised with rip rap and matting. Re-vegetation of the banks is undertaken.

LinkWater Projects estimates the cost of trenching at Paynter Creek Northern would be approximately \$52 252.

In terms of construction times, LinkWater Projects estimates that trenching at Tuckers Creek would take 3 weeks. At North Maroochy River, trenching would take 5.5 weeks. These times include site establishment and bulk reinstatement.

2.3.4 Environmental offsets

In the letter to the Coordinator-General dated 29 April 2010, LinkWater Projects offered to contribute up to \$300 000 as an offset to improve local waterways around the Sunshine Coast area. The contribution would be made in order to ensure an overall better environmental outcome is achieved should trenching at the four waterways in question be undertaken.

The proponent has partnered with Ecofund Queensland to identify a program of works to enhance catchments in the project area. The contribution would largely be used to support existing revegetation activities being undertaken by local landcare groups in watercourse areas. LinkWater Projects is already working with Ecofund on environmental offsets required as a part of the project's approvals.

I commend the proponent's suggestion of this proposal and have requested further information on additional offsets that may be provided to strengthen the environmental benefits. This is discussed further in section 3.3.5: Environmental offsets.

Table 1: Environmental, social, time, cost impacts: construction methods at four waterway crossings

Crossing	Vegetation impacts: piling/microtunnelling	Vegetation impacts: trenching	Environment: other issues	Time impacts	Stakeholder issues
Paynter Creek Northern	<p>Piling:</p> <p>Total disturbed: 5020 m²</p> <p>Regional Ecosystem (RE) vegetation disturbed: 1835 m²</p> <p>More vegetation clearing required due to need to create an access track down steep slope to construct pile and headstock</p>	<p>Total disturbed: 4547 m²</p> <p>RE vegetation disturbed: 1990 m²</p>	<p>Endangered vegetation (picabeen palms) extends along approximately 180 metres of pipeline corridor in the vicinity. Operational works approvals for clearing in the area secured.</p>	<p>Piling: 15 weeks (site set up–bulk reinstatement) plus 11 weeks procurement</p> <p>Trenching: 3 weeks (site set up–bulk reinstatement)</p>	<p>Proponent reports affected landholder has ‘no objections to trenching’ and would prefer the pipeline wholly underground</p>
	<p>Area of disturbance and vegetation clearing:</p> <p>473 m² less disturbance if trenched</p> <p>RE: 155 m² <u>more</u> if trenched</p>			<p>Time (construction only) difference: 12 weeks</p>	
Petrie Creek	<p>Microtunnelling:</p> <p>Total disturbed: 8585 m²</p> <p>RE vegetation disturbed: 1450 m²</p>	<p>Total disturbed: 5423 m²</p> <p>RE vegetation disturbed: 1280 m²</p>	<ul style="list-style-type: none"> – Weed impacted. – Trenching would impact on local catchment care group’s area improvements through vegetation removal 	<p>Microtunnelling: 16 weeks (site set up– bulk reinstatement) plus 13 weeks procurement</p> <p>Trenching: 3.5 weeks (site set up–bulk reinstatement)</p>	<p>All construction will disrupt farm access for agricultural school. Long term access restrictions will require compensation</p>
	<p>Area of disturbance and vegetation clearing:</p> <p>3,162 m² less disturbance if trenched</p> <p>RE: 170 m² less if trenched</p>			<p>Time (construction only) difference: 12 weeks</p>	

Crossing	Vegetation impacts: piling/microtunnelling	Vegetation impacts: trenching	Environment: other issues	Time impacts	Stakeholder issues
Tuckers Creek	Microtunnelling: Total disturbed: 5925 m ² RE vegetation disturbed: 955 m ²	Total disturbed: 4312 m ² RE vegetation disturbed: 950 m ²	<ul style="list-style-type: none"> - Northern bank already eroded, non-vegetated - opportunity to stabilise, revegetate 	Microtunnelling: 17 weeks (site set up–bulk reinstatement) plus 13 weeks procurement Trenching: 3 weeks (site set up–bulk reinstatement)	Tunnelling would require a laydown and machinery area adjacent to landholder
	Area of disturbance and vegetation clearing: 1,613 m ² less disturbance if trenched RE: 5 m ² less if trenched			Time (construction only) difference: 14 weeks	
North Maroochy River	Piling: Total disturbed: 5490 m ² RE vegetation disturbed: 1110 m ²	Total disturbed: 4910 m ² RE vegetation disturbed: 1020 m ²	<ul style="list-style-type: none"> - Riparian vegetation is already degraded - Opportunity to clear weeds, revegetate (subject to landholder approval) 	Piling: 18 weeks (site set up–bulk reinstatement) plus 9 weeks procurement Trenching: 5.5 weeks (site set up–bulk reinstatement)	Works are in road reserve. Traffic delays for either scenario
	Area of disturbance and vegetation clearing: 580 m ² less disturbance if trenched RE: 90 m ² less if trenched			Time (construction only) difference: 12 weeks	
Reduction if trenching:	Total area reduction of disturbance: 5828 m² RE vegetation: 265 m²				



2.4 Invitation to comment

On 30 April 2010 DIP provided copies of LinkWater Projects' condition change request and detailed report to the following stakeholders, with a request for feedback on the proposal:

- affected landholders at each of the four crossings
- all environmental and community groups that provided a submission on construction at waterway crossings during the EIS phase
- relevant state and local government agencies, being:
 - Sunshine Coast Regional Council (SCRC)
 - Department of Environment and Resource Management (DERM)
 - Department of Employment, Economic Development and Innovation (DEEDI) (Queensland Fisheries division)
 - Queensland Water Commission (QWC)
- as the project is a controlled action under the EPBC Act and required Commonwealth assessment and approval, the Commonwealth Department of the Environment, Water, Heritage and the Arts (DEWHA) was consulted to see if the requested change required assessment at the federal level.

In total, feedback was sought from 12 parties. As the change was regarding a technical matter, and there were no submissions made by individual members of the public during the EIS consultation phase regarding construction methods at waterway crossings, it was decided that there was not a requirement to publicly notify and seek public comments on the proposed change.

Rather, targeted feedback from stakeholders who had previously raised the matter in submissions, and agencies with relevant technical expertise and responsibility for environmental matters were consulted on the condition change request.

Eight responses were received on the proposed change. Discussion of feedback received in submissions will be addressed in section 3 of this report.

3. Evaluation of change request

3.1 Further information considered: Ferntree environmental incident

In early May 2010, DIP was contacted by DERM advising that on 22 April 2010 the proponent lodged an alert with DERM regarding an environmental incident that occurred at the project's construction site for the Ferntree balance tank at Kulangoor.

LinkWater Projects advised that following a storm event, stormwater from construction areas discharged from the site and into an adjacent waterway, causing elevated turbidity. The proponent further advised that numerous corrective measures were implemented and testing indicated that water quality was restored to normal levels in the waterway within several hours.

From a site visit at Ferntree on the day of the incident, SCRC made a report of findings of the project's erosion and sediment control (ESC) practices. The report documents instances of deficient ESC, including control measures either absent, incorrectly installed and/or maintained.



LinkWater Projects advised that as a direct outcome of this incident, NNA conducted an enhanced environmental strategy review. ESC environmental management practices and procedures at all levels of the project were reviewed and a number of reforms were developed and implemented.

The reforms are detailed in a transitional environmental program (TEP), designed to ensure short-term and long-term remediation and rectification plans to improve ESC. The TEP has been provided to DERM by the proponent as its environmental incident response. The document is currently under review by DERM as it assesses the event under provisions of the *Environmental Protection Act 1994*.

Key reforms detailed in the TEP that LinkWater Projects has committed to include:

- an immediate improvement of sediment control measures at Ferntree and other identified high risk sites
- risk assessment and environmental reviews for all open sites by senior NNA staff, with senior staff to be more 'on the ground' for the duration of the project
- two specialist ESC crews have been newly engaged and dedicated to controls maintenance along the project corridor
- monthly corridor environmental audits of open construction sites
- specific environmental and erosion control re-training for crews and a wider environmental training program for construction staff
- focus on ESC in training toolboxes and site pre-starts.

DIP was in close contact with the proponent following the event and as the TEP was developed. While not seeking to prejudice DERM's assessment of the issue, DIP found that NNA and LinkWater Projects treated the matter with the seriousness it deserved and worked quickly to ensure the problem was dealt with thoroughly and effectively. NNA concurred with SCRC's site visit findings and acknowledged that the incident was a wake-up call to improve practices.

I have considered this matter in the making of my decision on the change request and, given good management of ESC is one aspect of ensuring best outcomes of the change request, **I have conditioned** it accordingly. More discussion on this will follow in the subsequent section 3.3.4: Environment.

I have also advised the proponent that, while acknowledging the Ferntree incident has occurred early while the project was establishing its construction phase, the Coordinator-General does not want the event to be repeated.

3.2 Submissions received

As discussed in section 2.4, Invitation to Comment, from 12 requests for feedback, eight submissions were received on the change request proposal, from the following groups:

- one from a landholder (non-government organisation). No responses were received from private landholders
- two from environmental groups
- three from government organisations (SCRC¹, DEEDI and DERM)
- two submissions (QWC and DEWHA) confirmed that neither organisation saw the condition change as impacting on their respective jurisdictions.

¹ Note SCRC was a landholder at one of the crossing locations, however to avoid double-counting, their submission is listed in the category of government.



DEWHA confirmed that in considering the significance of potential impacts upon MNES, the change request did not require a variation of its conditions on the project.

For the six submissions that formed a view on the proposal, submissions were equally divided on whether or not trenching should be allowed at the locations.

3.2.1 Environmental impacts

For the three submissions that did not support trenching, key concerns raised regarding potential impacts were:

- the erosion and sediment risk from trenching
- the claims that environmental impacts will be reduced by trenching are currently unsubstantiated
- that a suitably qualified specialist should design remediation practices (e.g. rip rap use)
- concerns that the area of disturbance in the riparian zone will be up to 40 metres wide
- smaller diameter pipe should be used and constructed under the waterway using a horizontal directional drilling (HDD) construction method, rather than the more involved process of microtunnelling.

Further information was sought from the proponent on issues raised in submissions. In part, the information confirmed that given the large diameter of the pipe, HDD under a waterway was not a feasible construction method. Design and procurement of pipe had been based on the larger 1290mm pipe in order to accommodate for the pipeline's long-term water supply capacity requirements. Given the need for the pipeline to be constructed prior to the start of the November wet season, no time remains for smaller pipeline feasibility investigations and subsequent redesign/reprocurement.

In addition, the proponent clarified that the construction area will be constrained to a 15m corridor through each of the waterways. Construction will involve the use of rip rap only in the high flow portions of the watercourse to stabilise the bed of the waterway and will not be used as a rehabilitation technique on the banks. Rather, revegetation will seek to establish healthy riparian vegetation to provide shade and habitat. The project employs a river morphologist, hydrologist and hydraulics expert who will design and verify the correct placement of rip rap to ensure stream flows are returned to pre-existing conditions.

I have conditioned these matters accordingly in Appendix 1 of this report.

Issues regarding erosion and sediment management are discussed in further detail in section 3.3.4: Environment of this report.

Two of the three submissions that did not support trenching acknowledged support for the proponent's intention to provide offsets such as more extensive revegetation and restoration at the crossings and support of local landcare groups undertaking riparian revegetation.

Subsequent to the submission period, DIP met with representatives of Sunshine Coast Regional Council, Sunshine Coast Environmental Council, Maroochy Waterwatch and Petrie Creek Catchment Care Group. As an outcome of these discussions I have included conditions in Appendix 1 to further minimise potential impacts.

3.2.2 Social impacts

The one submission received from a landholder related to a creek that will require access to the property for construction works should a method other than trenching be undertaken.



LinkWater Projects has advised that if microtunnelling were to occur at the crossing, larger construction equipment required for the works would not be able to travel to the construction site via the pipeline's right of way. A temporary access easement over the landholder's property would therefore be required for the duration of the works.

The proponent has further advised in response to the landholder's concerns regarding possible damage to property that access activities would be kept to a minimum to avoid damaging the landholder's driveway. If this was to occur, the driveway would be rectified and fully remediated on completion of the works.

This submission and another which supported trenching acknowledged the cost savings to a publicly funded project that trenching would provide. It was further supported that environmental values at crossings were often less than optimal with weed species prevalent.

3.3 Review of findings

3.3.1 Impacts: Social

LinkWater Projects provides in its change request report that landholders at all locations were contacted prior to the report being finalised. The report provides that no landholders raised objections with trenching at the locations.

LinkWater Projects has stated that for Petrie Creek, construction works will cause temporary disruption to farm access for the nearby agricultural school, therefore trenching would reduce this impact. As discussed previously in section 3.2, should trenching proceed at Tuckers Creek, access for the works will be via council land and not the landholder's private access.

As previously provided, DIP sought comment from landholders at the four waterway crossing locations. Of the two responses received, the landholder at Tuckers Creek supported trenching. The other landholder, SCRC, did not support trenching. Council's submission is considered in section 3.3.4: Environment.

3.3.2 Cost

LinkWater Projects estimates that trenching at the four waterways rather than by the more expensive construction methods would result in a cost saving of \$8.1 million. The proponent has confirmed that for this publicly-funded project, the cost saving would result in less money drawn down from its debt arrangement with Queensland Treasury Corporation for the project's funding. Therefore any money saved would not be shared with the Alliance as part of any project savings.

3.3.3 Time

Table 1 provides an overview of time benefits that trenching would provide at the four locations, based on extended procurement times required for manufacturing of long lead items for piling or microtunnelling, as well as less time spent at site for trenching.

While I note the benefits this would provide to the proponent on a project that is mandated under a regulation to the *Water Act 2000* to be built by a set date, I have not considered this in my decision as construction times must be managed by a proponent within the project's construction program. The following section however does consider the proponent's statement that risks of causing environmental harm may be reduced if the time on site can be minimised.



3.3.4 Environment

As described in table 1, further information provided by LinkWater Projects on the construction impacts of piling or microtunnelling at the four waterway crossing locations indicates that trenching would result in a reduced construction footprint area of disturbance of about 5828 m². This takes into account less clearing required for construction measures such as temporary hardstand areas, crane pads and microtunnel entry and exit points. While the proponent would seek to locate these works in already cleared areas, removal of some vegetation would be involved.

The proponent further advises that approximately 265 m² less regional ecosystem² (RE) vegetation would be cleared across the four locations should trenching be undertaken. All crossings with the exception of Paynter Northern Creek would result in a reduction of RE vegetation clearing. At this location, an additional 150 m² of RE 12.3.1 (picabeen palm) would be impacted should trenching occur.

I note that subsequent to the release of the Coordinator-General's Report on the EIS, the proponent has secured its operational works permits under the *Vegetation Management Act 1999* with DERM for the clearing of significant vegetation at this location. This approval includes the requirement to provide an offset for the impacted vegetation.

In a condition made by me at Appendix 1 of this report, **I require that** should trenching occur, the ratio of offsets at this location be increased to provide the equivalent of a 5:1 ratio for the additional vegetation that would be impacted.

While less clearing will generally be required to gain access to a waterway for trenching, this method would result in a greater impact on the bed of the waterway, which is what piling and, to a greater extent, microtunnelling avoids.

The proponent has advised that impacts to the waterway bed will be minimised through constraining the construction corridor width to 15 metres. In addition, impacts will be reduced by using dam bags, a temporary barrier that is laid across the bed upstream and downstream to isolate the construction works from the waterway. The dam bags are inflated with water and a diversionary flow of water is pumped from the upstream to downstream section of the waterway. The construction execution procedure within the proponent's change request report provides more detail on this construction measure.

LinkWater Projects maintains that trenching will involve less risk of causing environmental harm than piling due to the reduced amount of time the sites will be open and therefore at risk of a rain event occurring (around three months less time would be spent at a site for trenching). Such events if significant enough may cause sediment to wash into the waterway causing elevated turbidity.

The proponent states in the change request report that mitigation strategies as described in the project's environmental management plans (EMPs) will be utilised to minimise environmental impacts. EMPs will manage matters such as surface water, groundwater, ESC, fauna, flora, restoration and revegetation.

While I note the environmental benefits as presented in LinkWater Project's report which demonstrate that the construction footprint and clearing of significant vegetation will be reduced should trenching proceed, I also acknowledge concerns as raised in submissions that the Ferntree environmental incident informs the argument that trenching should not occur at the four locations in case ESC is not properly managed.

I further note comments in submissions such as that made by DERM and SCRC that the proponent's claim that trenching will result in reduced environmental impacts is unsubstantiated.

² Vegetation communities listed with a conservation status under the *Vegetation Management Act 1999*



In acknowledging that DERM's management of the Ferntree matter is ongoing, without prejudicing DERM's consideration of the TEP and its close-out of the environmental incident, **I am of the view that** the TEP provides an extensive suite of actions indicating how ESC work practices can, and will, be improved in the short and long-term.

While I have confidence in the TEP measures that the proponent has committed to undertake, **I have decided** to base the final decision on trenching at the four locations on how the proponent undertakes construction works at other waterway crossings. Given the project's construction phase has only recently commenced, **I have required** the proponent to identify a number of its initial waterway crossings that will be examined as trial crossings to inform the decision on the change request.

I therefore provide that trenching at the four locations can proceed, however subject to a demonstrated successful outcome at the trial waterways. **I require** the proponent to engage an independent environmental auditor to assess the performance of construction at these trial waterways (Appendix 1, Conditions 1 and 2). The scope of the audit is to be determined in consultation with DIP and relevant agencies with environmental expertise being DERM, SCRC and DEEDI. On completion of the trial crossings, the audit results are to be provided to DIP for consideration.

The results of the independent audit will be provided to DERM, DEEDI and SCRC for comment and the agencies' input will be considered. In this way, **I require** a decision to be made based on the proponent substantiating that successful environmental management practices and outcomes can be demonstrated. Construction at the four waterways which are the subject of this report is not to occur until and unless the Coordinator-General or delegate approves the works proceeding.

I have provided the above preliminary advice to the proponent who has subsequently confirmed that two crossings will be used as the trial.

I have also conditioned that the proponent must abide by the measures contained in the final TEP that is approved by DERM (Appendix 1, Condition 5(a)). Further, **I require** the proponent to confirm with DEEDI whether the trenching works would require permits for waterway barrier works (Appendix 1, Condition 9).

While I note concerns raised in submissions by SCRC regarding ESC management, **I commend** Council's support in stating that it will continue to work with the proponent regardless of which construction method is employed. I note that Council and NNA meet monthly to confer on project activities, and I support these discussions continuing.

I have further conditioned that should the trenching proceed, the proponent must provide additional offsets to improve the environmental benefit from trenching at the four locations (Appendix 1, Conditions 3 and 4). The following section details these measures.

Consistent with the conclusions in my evaluation report for this project (dated November 2009) it shall be the ultimate responsibility of the proponent to ensure full compliance with all conditions including new conditions I have imposed in Appendix 1. In relation to the conditions imposed in Appendix 1, I have not allocated a responsible agency and Condition 33 of my evaluation report, requiring a third part audit, applies.

3.3.5 Environmental offsets

To enhance the environmental benefit resulting from the change, the proponent, in partnership with Ecofund Queensland, has provided a range of environmental offset actions for my consideration.

I have determined that the proponent will undertake environmental restoration works at the four waterways crossings. In addition, **I require** that the proponent provides \$300 000 (GST



inclusive) for the support of environmental restoration works across the broader catchment should trenching proceed. Appendix 1 conditions this requirement.

Table 2 provides a guide of the actions that may be undertaken to improve environmental values at the four crossing locations. Ecofund, or a similar environment offsets management provider chosen by the proponent, will work with local community groups in finalising the details of the proposal into an environmental restoration plan that the project must undertake. Along with the purchase of items such as tubestock and seeding, the works will involve in-kind support from the proponent such as the preparation of sites for restoration works, the transport of equipment and restoration materials or the supply of resources, equipment and tools.

The works may be undertaken by, or in partnership with local community organisations such as landcare and catchment care groups, to support the works of existing groups in their endeavours to improve environmental values. In finalising the environmental restoration plan, Ecofund, (or an environment offsets management provider chosen by the proponent), will consult with relevant community groups and stakeholders such as DERM and SCRC to gain feedback on the works required and which groups will carry out the works.

I require the restoration works to be undertaken for a minimum of 100 m upstream and downstream at each of the crossing sites. I note that at Petrie Creek, a section of revegetation works undertaken by the Petrie Creek Catchment Care Group will be impacted should trenching proceed. The proponent is to consult with affected landholders and work with any catchment care groups undertaking restoration activities at the crossing sites on the restoration proposal, to ensure agreement with these parties on the proposed works.

Table 2: Draft environmental restoration plan: four crossing areas

Waterway crossing	Restoration activities
Tuckers Creek	Enhancement of habitat for Giant Barred Frog, Tusked Frog and Elf Skink - revegetation, weeds, fencing. Enhancement of existing areas of regrowth RE 12.3.1- weed removal, fencing. Restoration of cleared areas of RE 12.3.1- revegetation, fencing.
Paynter Creek Northern crossing	Enhancement of existing areas of RE 12.3.1 on northern side: weeds, fencing. Restoration of cleared areas of RE 12.3.1: revegetation, fencing. Expansion of RE 12.3.1 riparian vegetation to link with pools and wet areas on northern side: revegetation, fencing.
Petrie Creek	Enhancement of habitat for Giant Barred Frog and Tusked Frog: revegetation, weeds, fencing. Enhancement of existing areas of RE 12.3.1/12.3.2 - weeds, fencing. Restoration of cleared areas of RE 12.3.2 /12.3.1- revegetation, fencing. Protection of Elf Skink populations: fencing, signage. Enhancement of Elf Skink habitat: revegetation, weed removal, fencing.
North Maroochy River	Enhancement of habitat for Giant Barred Frog, Tusked Frog, Elf Skink, Platypus and Echidna: revegetation, weeds, fencing. Enhancement of existing areas of RE 12.3.1: weed removal, fencing. Restoration of cleared areas of RE 12.3.1: revegetation, fencing.

In addition, further waterway restoration and associated actions in the broader catchment of each waterway will be undertaken. Ecofund has advised these actions could include:

- the restoration of riparian vegetation along those sections of the North Maroochy



River, Petrie Creek and Paynter Creek subject to high levels of vegetation clearance or fragmentation, in particular the Sunshine Coast cane lands

- restoration works that enhance riparian vegetation, including RE listed as 'endangered' and 'of concern' and linkages to other tracts of remnant vegetation improving fauna movement and contribute to key east-west and north-south corridors and linkages identified in the Sunshine Coast Regional Council Biodiversity Strategy.
- the development and implementation of programs to rehabilitate riparian vegetation and improve water quality throughout the Tuckers Creek system
- further support to existing programs to work with landholders to protect and enhance habitat for the threatened Giant Barred Frog on privately owned land
- the development and implementation of a monitoring program for the Tusked Frog to:
 - monitor known populations to identify key threats
 - monitor the progress of recovery, including the effectiveness of management actions
 - identify populations of high conservation priority
- the development and implementation of a monitoring program for the Elf Skink to:
 - monitor known populations to identify key threats
 - monitor the progress of recovery, including the effectiveness of management actions
 - identify populations of high conservation priority
- the development of a community education plan to raise awareness of threatened species in the Sunshine Coast hinterland area.

The catchment-wide activities would be included in the environmental restoration plan.

Ecofund (or an environment offsets management provider chosen by the proponent), will finalise details of the environmental restoration plan, including costings and type of actions the proponent could provide to support catchment groups and catchment-wide restoration activities, by October 2010. It is anticipated the plan's actions will be undertaken over an 18 month period starting in January 2011, with the proponent monitoring success of the plan's actions into 2015.

Ecofund has advised the success of the works should be measured using key performance indicators (KPI) such as:

- number of hectares of riparian vegetation restored
- number of hectares of endangered and of concern regional ecosystems restored
- number of hectares of habitat restored for threatened flora and fauna species
- number of community groups and landholders involved in the program
- additional biodiversity benefits arising from the program.

I commend the proponent's suggestion of an initiative which provides advice on environmental benefits at each of the four crossing locations and across the wider catchment area of the crossings. This offset will seek to support the good work of existing environmental management groups in restoring waterway values and reflects, in part, the costs savings to the project associated with the changed conditions. **I note that** actions undertaken in this program of works will be in addition to offsets the project is providing as part of existing approvals.

In addition to the funding and/or in-kind support LinkWater Projects will provide for the environmental restoration works, in light of the additional 150 m² of RE 12.3.1 that would be cleared at Paynter Creek Northern should trenching proceed, as previously discussed **I require** the ratio of offsets at this location be increased to provide the equivalent of a 5:1 ratio for the additional vegetation that would be impacted.

4. Conclusion



In consideration of all information provided by LinkWater Projects to support the request for an amendment to an existing condition, information provided in submissions and discussions with government agencies and stakeholders on the matter **I have determined** that the change to the condition can proceed, subject to a demonstrated outcome of successful management of trenching works at two trial crossings.

The works will be reviewed by an independent environmental auditor and results provided to the Coordinator-General or delegate for decision before construction works associated with trenching at the four waterways which are the subject of this report can proceed.

In this way, I have noted concerns raised in submissions and therefore require the proponent to demonstrate that environmental considerations can be managed in sensitive areas.

This report, and conditions and a recommendation provided at Appendix 1, detail the requirements of my preliminary decision on the matter.

My decision has been informed by matters such as the Ferntree incident where, in the early stages of the project, erosion and sediment control practices were shown to be lacking. However, I have considered the project's TEP which provides a robust suite of measures the proponent has developed and implemented in order to improve environmental management going forward. These measures will be required to be adhered to by DERM as environmental regulator and by me in conditions made on the matter in this report.

Further, **I have noted** information as provided by the proponent that the construction impacts of piling or microtunnelling at the four waterway crossing locations indicates that trenching would result in a reduced area of disturbance of about 5828 m².

In addition, approximately 265 m² less RE vegetation would be cleared across the four locations should trenching be undertaken.

For the additional 150 m² of endangered RE vegetation that would be impacted by trenching at Paynter Creek Northern, **I have conditioned** that an extra offset be provided in this location to increase the existing offsets requirement for this vegetation to be the equivalent of 5:1.

I have further conditioned that should trenching proceed at the locations, the proponent is to work with Ecofund, (or an environment offsets management provider chosen by the proponent), to develop an offsets package which would see improvement of environmental values at the waterway crossings and in the wider catchment area. \$300 000 is to be provided for the works in the wider catchment area which will enhance the environmental benefit arising from the condition change.

An environmental restoration plan will be developed by an environment offsets management provider chosen by the proponent (eg Ecofund) by October 2010 which will finalise details of the offset actions. The majority of the actions will involve the proponent working with and supporting existing landcare groups undertaking restoration works in the areas to build on these groups' excellent endeavours to improve environmental values. **I commend** the proponent's support for this suite of works.

For the four waterway crossings named in the existing condition 5 that are not the subject of this report, the original condition's requirements remain unaltered.

On conclusion of the Coordinator-General or delegate's consideration of the audit of the trial crossings, an addendum to this report will be issued and published, which will conclude the decision.

Pursuant to section 35(k) of the SDPWO Act, the terms of the conditions and recommendation within this Coordinator-General's change report prevail should there be any inconsistency with existing conditions placed on the project.



I would like to thank all government agencies, organisations and landholders who provided a submission on the condition change request for their consideration and valuable input.

A copy of this report will be given to the proponent, pursuant to section 35J(a) of the SDPWO Act. A copy will also be provided to relevant local, state and federal government agencies for information and pursuant to section 35J(b) will be made publicly available online at www.dip.qld.gov.au.



Appendix 1—conditions and recommendation

Conditions

Trial crossings

1. The proponent will organise an independent environmental audit to be undertaken at two or more waterway crossing locations, other than at the four areas that are the subject of this change report, which are to be constructed by trenching.
2.
 - a. Should the independent audit provide to the satisfaction of the Coordinator-General or delegate that positive management of environmental values has been demonstrated, the proponent may construct at the following waterway crossing locations by trenching:
 - Paynter Creek Northern
 - Tuckers Creek
 - Petrie Creek
 - North Maroochy River.
 - b. No construction works associated with trenching in the bed and banks of the four areas is to be undertaken until a decision on the audit has been made by the Coordinator-General or delegate.
 - c. Should trenching at any of the locations proceed, the following conditions apply for the crossings named in 2(a). For other crossings named in condition 5 of the Coordinator-General's Report on the EIS (Appendix 1, November 2009), the existing condition prevails.

Environmental offsets

3.
 - a. The proponent is required to provide funding and/or in-kind support for restoration works within the waterway in the vicinity of each of the four crossing locations for a minimum of 100 metres upstream and 100 metres downstream of the crossing areas.
 - b. Restoration works mentioned in condition 3(a) shall include, where appropriate, the removal of all rubbish and other non-natural material from the waterways bed and banks.
 - c. The proponent is to consult with affected landholders and work with any catchment care groups undertaking restoration activities at the crossing sites on the restoration proposal, to ensure agreement with these parties on the proposed works. For the Petrie Creek crossing, involvement by the Petrie Creek Catchment Care Group is to be invited.
 - d. The proponent is to seek advice from agencies such as Sunshine Coast Regional Council (SCRC) and the Department of Environment and Resource Management (DERM) to identify catchment care groups that may be supported by the restoration works.
 - e. Monitoring of the restoration works must continue until December 2015. At the conclusion of this period, a report on outcomes is to be provided to the Department of Infrastructure and Planning (DIP) for information.



- f. Data gathered from monitoring programs is to be provided to DIP for information and dissemination to relevant government departments.
4. The proponent is required to work with an environment offset management provider such as Ecofund to develop and finalise an environmental restoration plan (ERP) that will provide \$300 000 (GST inclusive) for the support of additional environmental restoration works in the wider catchment areas. This offset is to be in addition to the requirements of condition 3(a), above.
5. The proponent is to provide an offset for at least 150 m² of significant RE vegetation at Paynter Creek Northern that will be impacted by trenching. The offset is to be added to requirements as made by DERM in its existing operational works approvals for vegetation clearing and is to equate to the equivalent of offsetting to a ratio of 5:1. This offset is to be in addition to the requirements of condition 3(a), above.

Environmental management

6.
 - a. To minimise erosion and sediment risks at the four locations and at all project work areas, the proponent must abide by all measures contained in the final transitional environmental program (TEP) which is approved by DERM.
 - b. All requirements made by DERM in its determination on the April 2010 environmental incident at Ferntree must be adhered to by the proponent.
 - c. A site specific erosion and sediment management plan is to be developed for each of the four areas prior to works proceeding.
 - d. All land disturbance construction activities are to comply with the requirements set out in the Soil Erosion and Sediment Control – Engineering Guidelines for Queensland Construction Sites (The Institution of Engineers, Australia (Qld) 1996, or later version). In addition, LinkWater Projects must ensure that the project is constructed in accordance with the Maroochy Manual for Erosion and Sediment Control.
 - e. An area of no greater than 15 metres wide is to be cleared for the trenching activities in the bed and banks of the four areas. The temporary dam bag barriers may be placed on the outside edge of the area provided clearing across the majority of their length is not required for their placement.
7. A site specific rehabilitation plan is to be developed for each of the four areas prior to works proceeding, including the following:
 - a. The proponent is to ensure a suitably qualified river morphology expert is involved in the design of bed and banks restoration works at the four areas and undertakes progressive on-site review of the activities. This shall include the determination of when the bed and banks have been adequately stabilised to pre-existing conditions.
 - b. Photographic monitoring to be established prior to each trenching activity and continued until the bed and banks have been stabilised to pre-existing conditions. Images are to be captured on a three monthly basis, at minimum, and are to be published on the proponent's web page.
 - c. Fencing in the vicinity of waterway crossing works to minimise any grazing impacts on rehabilitation works shall be provided, except where this may affect existing legal access.
 - d. The proponent shall be responsible for the maintenance of the rehabilitation works until the bed and banks have been stabilised to pre-existing conditions. This is to include restoration of the works in the event of damage caused by an extreme event such as a major flood.
8. The requirements of each site specific rehabilitation plan mentioned in condition 7 must be agreed with Sunshine Coast Regional Council. In the event that agreement cannot



be reached on a plan within two (2) months of its submission to Council, the Coordinator-General or his delegate may approve the plan.

9. A sensitive area plan (SAP) for each of the crossings is to be produced that will detail how the recommended construction method will be undertaken to minimise environmental impacts. A copy of the SAP is to be provided to DIP prior to construction at the waterway crossing.
10. Conditions and the recommendation as provided in Appendix 1 of this report enliven the requirements provided at Appendix 2 of the Coordinator-General's Report on the EIS for the Northern Pipeline Interconnector Stage 2 project (November 2009) regarding auditing of actions. Reporting for both sets of conditions is to be provided at the same time.

Recommendation

1. The proponent is to consult with DEEDI prior to trenching works at the four areas commencing, to ascertain if waterway barrier works requirements exist.

END OF APPENDIX 1



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