1. INTRODUCTION

1.1. Purpose of the Supplementary Report

This Supplementary Report to the Emu Swamp Dam Environmental Impact Statement EIS) has been prepared in response to submissions received by the Coordinator-General following the public notification period of the EIS. The EIS was prepared in accordance with the Terms of Reference (ToR) prepared by the Coordinator-General under the *State Development and Public Works Organisation Act 1971* (SDPWO Act) and in accordance with the Bilateral Agreement between the State of Queensland and the Australian Government made under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act).

On 22 March 2013 the Coordinator-General requested Southern Downs Regional Council (SDRC) to prepare a Supplementary Report to address the issues raised in submissions received.

The purpose of the Supplementary Report is not to duplicate the original EIS, but to provide further clarification of specific issues raised in submissions.

The Supplementary Report will be provided to the Coordinator-General for consideration in preparing the Coordinator-General's report.

Since release of the EIS, the Project has further developed and the Supplementary Report provides an opportunity to make these developments known to the Coordinator-General. The key changes are the Proponent, confirmation of project option, dam performance and operation, change to fish transfer mechanism and development of a Biodiversity Offset Strategy. These are described further in Section 1.4.

1.2. Consultation process since the release of the EIS

The consultation process for the EIS was described in the EIS. The EIS was publicly released for comment on 12 January 2008. The comment period closed on 25 February 2008. Immediately prior to release a public notice was placed in newspapers circulated in the local area, the State and nationally. The notice stated:

- where copies of the EIS were available for inspection;
- how it could be purchased (or obtained free of charge);
- that submissions may be made to the Coordinator-General about the EIS;
- the date by which submissions must be made; and
- the address for submissions.

During the display period the Proponent undertook a range of consultation activities as summarised below:

- placed hardcopies of the EIS at 2 locations for viewing (Stanthorpe Shire Council Stanthorpe office and Stanthorpe Library);
- placed advertisements in local, State and national newspapers describing the EIS and submission process;
- held public information sessions at Stanthorpe Agricultural Show on 1st and 2nd February 2008;
- held agency briefings in Brisbane and Toowoomba; and
- maintained the Project web site and project phone number.

A consultation report for the period following the public release of the EIS is included as Appendix A.

1.3. Overview of Submissions Received

1.3.1. Number and source of submissions

Thirty-three submissions on the EIS were received by the Coordinator-General. These comprised 18 submissions from individuals, one from an organisation, and fourteen from State and Federal government departments. The source of submissions is summarised in Table 1-1. It is noted that for privacy, the identity of private submitters is not provided.

Table 1-1 Source of Submissions

Submission Number	Submitter	Submission Number	Submitter
1	Private Submitter 1	18	Environmental Protection Agency
2	Private Submitter 2	19	Queensland Health
3	Department of Emergency Services	20	Private Submitter 12
4	Private Submitter 3	21	Private Submitter 13
5	Private Submitter 4	22	Private Submitter 14
6	Private Submitter 5	23	Private Submitter 15
7	Department of Communities	24	Private Submitter 16
8	Private Submitter 6	25	Private Submitter 17
9	Private Submitter 7	26	Department of Environment, Water, Heritage and the Arts
10	Private Submitter 8	27	Department of Natural Resources and Water
11	Department of Primary Industries & Fisheries	28	Department of Housing
12	Department of Main Roads	29	Department of Environment and Heritage Protection
13	Private Submitter 9	30	Department of Energy and Water Supply
14	Private Submitter 10	31	Department of Agriculture, Fisheries and Forestry
15	Private Submitter 11	32	Department of Sustainability, Environment, Water, Populations and Communities
16	Private Submitter 2	33	Murray Darling Basin Authority
17	Queensland Conservation Council		

The names of State and Commonwealth departments have changes since submission were made on the EIS:

- the Department of Emergency Services is now referred to as the Department of Community Safety (DCS);
- the Department of Communities is now referred to as the Department of Communities, Child Safety and Disability (DCCSD);
- the Department of Communities is now referred to as the Department of Communities, Child Safety and Disability (DCCSD);
- the Department of Primary Industries and Fisheries is now referred to as the Department of Agriculture, Fisheries and Forestry (DAFF);
- the Department of Main Roads is now referred to as the Department of Transport and Main Roads (TMR);

- the Environmental Protection Agency is now referred to as the Department of Environment and Heritage Protection (DEHP);
- the Department of Natural Resources and Water is now referred to as Department of Natural Resources and Mines (DNRM)
- the Department of Housing is now referred to as the Department of Housing and Public Works (DHPW); and
- the Department of Environment, Water, Heritage and the Department of Sustainability, Environment, Water, Populations and Communities Arts are now referred to as the Department of the Environment (DotE).

1.3.2. Methodology for response to submissions

Each submission was reviewed to identify the issues raised. Each issue was allocated an individual identification number comprised of the submission number and the issue number within that submission. For example, 11.10 is the tenth issue identified in Submission 11. A comprehensive list of the issues raised in each submission is provided in Appendix B.

Section 2 to Section 20 of the Supplementary Report respond to the issues raised and is structured to align with EIS chapter headings. Within each chapter the specific issues raised are pooled into broader issues so that related issues can be addressed in a coordinated manner. The table in Appendix B cross references each specific issue to the section of the Supplementary Report in which it can be found.

The Supplementary Report provides technical responses to the issues raised in submissions and provides conclusions with regards to the key issues raised in the submissions. As previously discussed, the purpose of the Supplementary Report is not to duplicate the original EIS, having already prepared an EIS in accordance with the ToR, but to provide further clarification of specific issues raised in submissions. Furthermore, the EIS as released is a public document and cannot be altered. Where submissions noted typographical errors, incorrect cross references or suggested changes to wording these amendments are addressed in Section 21 as the EIS cannot be reissued with these changes.

Some points raised in submissions represented information provided for the Proponent's benefit but were not issues that required a response.

Some submissions represent the respondents view on broad issues, such as disagreeing with dams per se, or contained general statements that the EIS was inadequate. If the submitter did not specifically identify in what way the EIS was inadequate, such as by offering an alternative assessment methodology, identifying an overlooked relevant report or finding a technical error in a calculation, then a response is not possible other than restating what is already in the EIS.

There were also a number of points which suggested various plans or outputs should be completed within the EIS phase. In most cases those plans represent the outcome of standard mandatory processes that will occur at the appropriate time with respect to project approvals and the design process. Bringing them forward makes no material difference to the ability of agencies or the public to assess the prudence or feasibility of the project and as they are a requirement of standard planning processes, their development is assured.

1.4. Overview of Project Changes

1.4.1. Proponent

The Proponent of the Emu Swamp Dam when the EIS was released for public consultation was Stanthorpe Shire Council. Stanthorpe Shire Council and Warwick Shire Council were amalgamated on 15 March 2008 to form Southern Downs Regional Council (SDRC). Following the amalgamation, the SDRC is the Proponent for the proposed Emu Swamp Dam.

SDRC would be responsible for:

- the operation and maintenance of the dam;
- the operation and maintenance of the urban pipeline and irrigation pipeline; and
- environmental management.

1.4.2. Project Option

The EIS presented two options for Emu Swamp Dam:

- Urban Water Supply Dam; and
- Combined Urban and Irrigation Dam.

SDRC resolved to prepare a Supplementary Report for the Combined Urban and Irrigation Dam option.

1.4.3. Dam Performance and Operations

For the EIS, the hydrology model (IQQM) for the Granite Belt was supplied by the Department of Natural Resources and Water (DNRW) to SKM, under licence agreement number 2005/50729. Department of Science, Information Technology, Innovation and the Arts (DSITIA) have undertaken an upgrade of the Granite Belt IQQM model ("Extended IQQM"), this upgrade includes:

- Extension of the model simulation period to 31st of December 2011;
- Recalibration of the model inputs with additional gauge information of rainfall, streamflow and evaporation; and
- Improved representation of farm dams in the system.

The simulation period for the Extended IQQM is from the 1st January 1889 to the 31st December 2011. The performance of the proposed Emu Swamp in the EIS and the Extended IQQM is presented in Table 1-2.

Table 1-2 Dam Performance

	Dam Reliability in the EIS		Dam Reliability with Extended IQQM	
	Urban Water Supply	Irrigation Water Supply	Urban Water Supply	Irrigation Water Supply
Allocation Volume (ML/year)	1,500	1,740	1,500	1,740
Annual Extraction Volume (ML/year)	750	1,740	750	1,740
Mean Annual Diversion (ML)	696	1,302	742	1,676
Monthly Reliability (%)	92.8	74.8	99.9	96.6
Annual Reliability (%)	89.5	66.7	99.2	93.5

The results in Table 1-2 show that the proposed Emu Swamp Dam will have high reliability, greater than 99% monthly and annual reliability, for the town water supply. For urban water supply it is preferred if the reliability is more than 99%. The irrigation supply reliability is also significantly above other comparable water supply schemes.

1.4.4. Fish Transfer

The concept design for the proposed Emu Swamp Dam has been amended to include a lock-style fishway to provide fish movement both up- and downstream. The detailed design of the fishway will reflect the ecology and swimming ability of the river's fish community. The fishway will be designed to operate over the full range of river flow conditions, where practical, up to drown-out of the dam. The concept design for the proposed fishway has been developed in consultation with biologists experienced in fishway design and monitoring.

The key aspects of a fish-lock that have been considered include:

- attraction flows;
- holding chamber and lock chamber dimensions;
- fish-lock upstream exit points in the dam wall;
- spillway design and plunge pool location; and
- sufficient operating cycles to meet upstream migration patterns.

Attraction flows will be achieved by:

- a cut-in and notch in the dam wall crest to provide more vigorous flows than background flows, attracting fish towards the fishway; and / or
- a bypass / outlet pipe that releases water adjacent to the fishway structure.

Once attraction towards the entrance of the fishway is achieved, a controlled, continuous secondary attraction flow will be released through the lock and holding chambers. A velocity of approximately 0.8 m/s will be achieved through the lock and holding chambers to promote fish aggregation in the base of the lock. Holding and lock chamber dimensions will be in the order of 2–3 m in width and 3–5 m in length, consistent with similar, successfully operated structures elsewhere in southern and central Queensland. The holding chamber will then be sealed and filled with water to reach a level appropriate to the dam water level.

Fish will exit the fishway via two upstream exit channels, which will range from 0.5–1.0 m wide and up to 2 m in height, to cover the range of water levels the dam will likely contain. Modelling has shown there to be a range of up to 12 m in proposed dam water levels. Exit channels will be placed at full capacity (736–738 m AHD) and at approximately (734–736 m AHD). Based on the predicted dam storage behaviour in IQQM the proposed upstream fish channels will allow for upstream fish passage for approximately 90% of days in the modelling period. Flow velocities of approximately 0.6 m/s will be achieved through the exit channels. Anti-predation screening may be included in the design to deter predatory fish species from aggregating at the exit channels in the dam wall.

Typically, smaller fish species are weaker swimmers than larger fish and are less able to negotiate faster flow velocities through a fishway. The hydraulic conditions within the fishway will provide an appropriate water depth for large fish whilst ensuring the velocities are suitable for smaller fish, without compromising the velocity required for fish attraction. Intermittent or fluctuating attraction flows for the upstream passage of fish have previously been identified as inadequate for fish attraction. The success of the fishlock will depend on careful consideration of attraction flows and release water during detailed design to ensure:

- water released from the dam does not provide a competing attraction source; and
- water released from the dam does not influence the attraction flow.

Safe downstream passage over the spillway will be provided through a cut-in, in the dam crest, up to 100 mm deep and up to 10 m wide. The cut-in may include a vertical slot, approximately 0.3–0.5 m wide and 0.2–-0.4 m deep. The spillway below the cut-in and slot will be smoothed and will terminate in a plunge pool to minimise injury and mortality to fish passing over the spillway during increased flows. The dimensions of the plunge pool would ideally be as wide as the cut-in and extend approximately 3–4 m out from the toe of the dam wall.

The fishway will operate on a variable cycle with the potential to increase the number of cycles required during periods when upstream fish migration is more common, i.e. induced by seasonal rainfall events and associated flows.

The basis for the concept design is consistent with existing successful operational fishways in Queensland. Adherence to these design features and requirements will provide best-practice opportunity for fish passage, both upstream and downstream of the proposed dam wall.

Characteristics of the proposed fishway for Emu Swamp Dam are presented in Table 1-3.

Table 1-3 Characteristics of the proposed fishway for Emu Swamp Dam

Feature	Details
Fishway Type	Fishlock
Headwater operating range	Upper exit: 736–738 m AHD Lower exit: 734–736 m AHD
Minimum Tailwater operating level	721 m AHD
Holding chamber entrance velocity	0.8 m/s
Exit channel velocity	0.6 m/s

In addition to the fishway, SDRC propose improve fish passage through the construction of a fishway at an existing weir on the Severn River.

It is proposed a survey will be undertaken of the existing privately owned weirs upstream and downstream of the proposed dam. The team of specialist ecologists in consultation with Queensland Fisheries will develop concept designs to improve fish passage at existing weirs. The team will engage with the weir owners and make the concept designs available. A demonstration fishway will be constructed at one of the existing weirs, with the owner's permission, as part of the Project.

1.4.5. Turtle Friendly Design

The concept design for the proposed Emu Swamp Dam will be amended to include design features to enable the passage of each species of turtle likely to be found in the area, including Bell's turtle. It is anticipated the design is likely to be a bypass system (Berghuis A. pers communication 6/3/2014). The design features will be produced in collaboration with DEHP and DEEDI, and will take into consideration the behaviour of each species. SDRC will undertake a turtle monitoring program for a two year period after construction to assess the effectiveness the turtle passage at the dam.

1.4.6. Disturbance Footprint for Pipeline Construction

The final alignment of urban and irrigation pipelines will be confirmed during detailed design. The process of constructing the pipelines can be separated into the following tasks:

- surveying (engineering, property and ecological);
- vegetation clearing and top soil recovery;
- trench excavation (with a 30 tonne excavator for urban pipeline or a small trenching machine/backhoe for the irrigation pipeline;
- pipelaying and backfilling;
- testing;
- rehabilitation (topsoil emplacement, seeding and watering to establish native ground cover; and
- maintenance.

SDRC are committed to minimising the potential environmental impacts associated with the construction of the urban and irrigation pipelines. SDRC propose to undertake the following step during detailed design and construction to achieve this:

- review of vegetation mapping;
- field survey mapping of vegetation communities and threatened flora;
- determine appropriate design and construction solution to minimise potential impacts;
- closely supervise construction;
- rehabilitation; and
- maintenance.

For the purpose of the assessing potential impacts of the pipeline components of the Project the size of the working corridors for the construction of the pipeline are:

- 12.5 m for the urban pipeline, with a clearing width of 12.5 m;
- 7.5 m for the irrigation pipeline along the New England Highway, with a clearing width of 7.5 m; and
- 7.5 m for the irrigation pipeline along local roads, with a clearing width of 5 m.

The working corridors have been adopted considering both the constrained working environment within the road corridor and environmental constraints identified during the EIS surveys. APIA (2013) report the normal working width for a major pipeline projects in Australia is approximately 20 to 40 m. The proposed working corridors for the Project represent a significant commitment by the Proponent to avoid potential impacts during construction of the Project. Activities within the construction corridor for the urban pipeline and for the irrigation pipeline are presented in Figure 1-1, Figure 1-3 and Figure 1-4.

Figure 1-1 Cross section of activities within the construction corridor for the Urban Pipeline

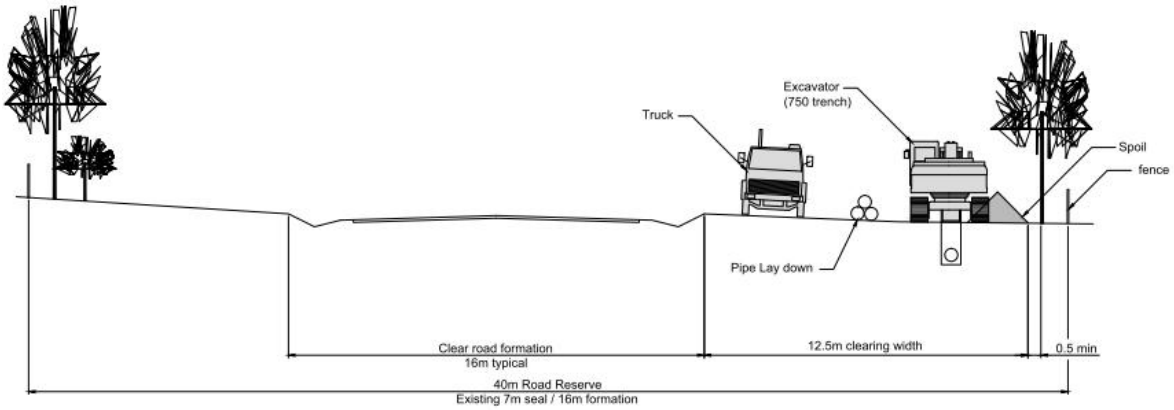


Figure 1-2 Cross section of activities within the construction corridor for the Irrigation Pipeline along the New England Highway

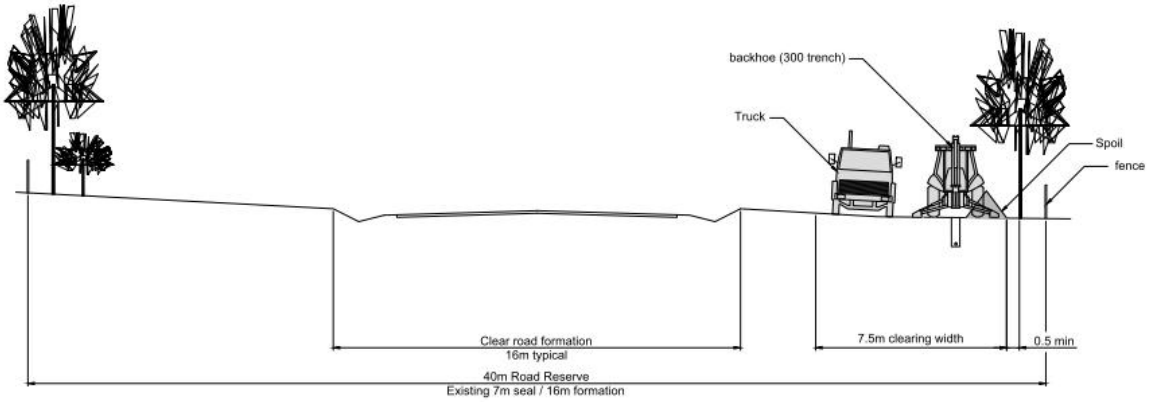


Figure 1-3 Cross section of activities within the construction corridor for the Irrigation Pipeline along local roads

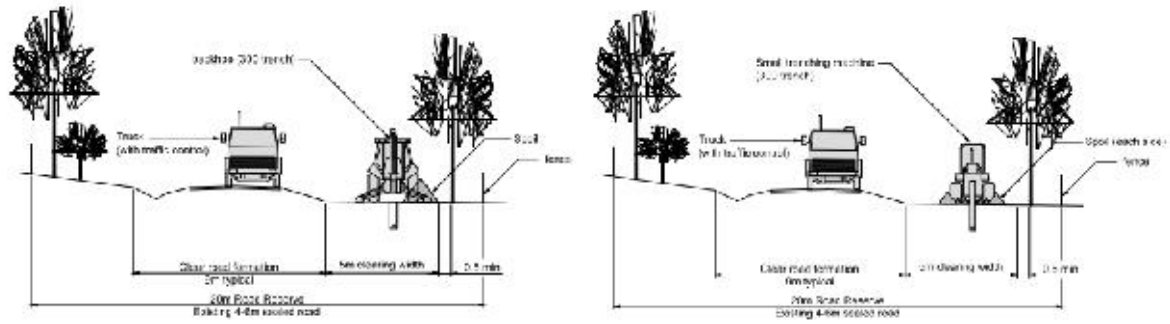
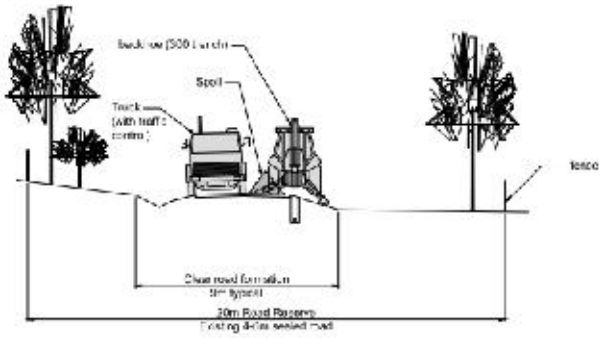


Figure 1-4 Cross section of activities within the construction corridor for the Irrigation Pipeline along Eukey Road



The potential disturbance footprint will be reduced further in areas of ecological value through alternative construction methodologies:

- narrow trenching;
- trenchless construction under vegetation communities and creek crossings;
- modifying the alignment to avoid vegetation communities and threatened flora;
- above ground construction around or between threatened flora species; and
- construction in SDRC road formations avoid vegetation communities and threatened flora.

1.4.7. Stalling Lane Access

The alignment of the proposed Stalling Lane access will be modified as necessary to avoid areas of ecological value. The detailed design and construction process will include:

- review of vegetation mapping;
- surveys (engineering, property and ecological constraints);
- determine appropriate design and construction solution to minimise potential impacts;
- closely supervise construction;
- rehabilitation; and
- maintenance.

1.4.8. Biodiversity Offset Strategy

The Proponent has developed a draft Biodiversity Offset Strategy for the Project which is provided in Appendix I.

1.4.9. Cultural Heritage Management Plan

In Section 15.2.3 the EIS noted the intention to develop a Cultural Heritage Management Plan with the endorsed Aboriginal parties. A CHMP was executed between SDRC and the endorsed Aboriginal parties in 2008.

1.4.10. Fish Stocking

SDRC do not propose to undertake any fish stocking in Emu Swamp Dam.

1.5. Changes to Legislative Framework

1.5.1. Commonwealth legislation

1.5.1.1. Environment Protection and Biodiversity Conservation Act 1999

Since the writing of the EIS, amendments to the EPBC Act have not affected the Project.

The Project has been determined to be a controlled action under the EPBC Act requiring controlling provisions for impacts to listed threatened species and communities.

The Australian Government has accredited the EIS process under the SDPWO Act under a bilateral agreement between the Australian and Queensland governments. This will enable the EIS to meet the environmental impact assessment requirements under both the Australian and Queensland legislation.

1.5.1.2. Native Title Act 1993

The *Native Title Act 1993* (NT Act) provides for the recognition and protection of native title, establishes ways in which future dealings affecting native title may proceed, establishes a mechanism for determining native title claims and provides for the validation of past acts. The NT Act also obligates the State to ascertain whether native title exists on each parcel of land affected by the project, issue notices for the suppression or extinguishment of native title if it does not exist and compensate native title holders for any loss, diminution or impairment of their rights.

Some activities necessary to deliver the Project will need to comply with the requirements of Part 2 Division 3 of the NT Act. The native title compliance assessment for the Project has involved the following steps:

Extinguishment Assessment – This assessment has been undertaken for every parcel where activities for the Project will take place. Based on the extinguishment principles referred to above, it has been ascertained that native title was historically extinguished over most parcels. Primarily, extinguishment was brought about through PEPAs (particularly freehold grants prior to 23 December 1996). However, some parcels have been identified as not necessarily subject to extinguishment. Those parcels proceeded to the Step 2 assessment.

Identifying Compliance Measures – For those parcels where there is not adequate evidence of extinguishment, an assessment has been made of the nature of the Project activities required and the optimum of compliance measure in Part 2 Division 3 of the NT Act for each of those activities.

Implementation of the preferred compliance measures will require the following:

- Notification in order to satisfy procedural rights for activities covered by Part 2, Division 3, Subdivisions J and K (Section 24JB(6) and Section 24KA(7)). Satisfying the procedural rights will be achieved by providing written notice and an opportunity to comment to Queensland South Native Title Services Limited (in the absence of any determined native title holders or registered native title claimants for the area).
- The compulsory acquisition required for the freeholding will be undertaken in accordance with the procedures prescribed by the *Acquisition of Land Act 1967*.

1.5.2. State legislation

The Emu Swamp Dam involves approvals and/or management plans under the following State legislation:

- *Sustainable Planning Act 2009*;
- *Environmental Protection Act 1994*;
- *Water Act 2000*;
- *Fisheries Act 1994*;
- *Forestry Act 1959*;
- Land Act 1994;
- *Nature Conservation Act 1992*;
- *Electricity Act 1994*; and
- *Transport Infrastructure Act 1994*.

1.5.2.1. State Development and Public Works Organisation Act 1971

Since the writing of the EIS, amendments to the SDPWO Act have not affected the Project.

For components of Emu Swamp Dam requiring approval under the *Southern Downs Regional Council Planning Scheme* following approval of the EIS, Section 37 of the SDPWO Act removes the Information and Referral Stage and the Notification Stage from the Integrated Development Assessment System (IDAS) as these components have been included in the EIS process under the SDPWO Act.

1.5.2.2. Sustainable Planning Act 2009

At the time of writing the EIS, the *Integrated Planning Act 1997* (IP Act) was in force. On 18 December 2009, the *Sustainable Planning Act 2009* (SP Act) was introduced to replace the IP Act. The SP Act regulates all development in Queensland and provides processes for assessing development through the IDAS process. As Emu Swamp Dam is undergoing an EIS process under the SDPWO Act, any components of the Project requiring approval under the IDAS process will not be subject to the Information and Referral Stage or the Notification Stage, as per Section 37 of the SDPWO Act.

Following the approval of the EIS under the SDPWO Act and the EPBC Act there are a number of approvals pathways options available under the SP Act, details of these are set out in Section 0.

Section 10 of the SP Act identifies what is considered to be development that is subject to the provisions of the SP Act. Types of development that would be applicable to Emu Swamp Dam include:

- Material Change of Use of premises;
- Operational Work;
- Building Work; and
- Reconfiguring a Lot.

Schedule 3 of the *Sustainable Planning Regulation 2009* (SP Regulation) outlines the types of activities considered assessable development, self-assessable development and the type of assessment. Schedule 7 of the SP Regulation outlines which referral agencies are required for different types of development and their jurisdictions.

Schedule 2 of the SP Regulation identifies development or activities designated as 'community infrastructure'. Community infrastructure includes 'water cycle management infrastructure', which is the definition applicable to the Project.

The types of approvals required for Emu Swamp Dam are identified in in Appendix C.

State Development Assessment Provisions

The State Assessment and Referral Agency (SARA), established within the Department of State Development, Infrastructure and Planning (DSDIP) became the single point of lodgement, coordination and decision making on behalf of all State agencies (not including government-owned organisations such as Energex). Under the new arrangements, SARA is the referral agency for all development applications where a State agency is a referral agency.

The State Development Assessment Provisions (SDAP) set out the matters of interest to the State for development assessment, where the chief executive administering the SP Act, being the Director-General of DSDIP, is responsible for assessing or deciding development applications.

The SDAP contain the matters the chief executive may have regard to when assessing a Development Application as either an assessment manager or a referral agency. The SDAP contain State Codes in which Development Applications must consider when a particular State matter is triggered by a development assessable under the IDAS.

The following State Codes apply to the Project:

- State Code 4.1 – Environmentally Relevant Activities;
- State Code 5.2 – Constructing or Raising Waterway Barrier Works;
- State Code 7.1 – Sustainable Management of Water Resources;
- State Code 7.2 – Removal of Quarry Material; and
- State Code 16.1 – Referable Dams.

These State Codes would be addressed in Development Applications seeking approval for activities impacting on State matters.

1.5.2.3. Environmental Protection Act 1994

The EIS identified a number of Environmentally Relevant Activities (ERAs) required for Emu Swamp Dam. Since the writing of the EIS, amendments to the *Environmental Protection Act 1994* (EP Act) have been made that involved the re-numbering of ERAs and the removal of ERAs devolved to local councils. As such, the following ERAs now apply to Emu Swamp Dam:

- ERA 16 – Extractive and screening activities, to establish the quarry and associated screening activities for construction of the dam wall;
- ERA 56 – Regulated waste storage, for storing regulated waste on site during construction activities.

These ERAs would be obtained through applying for an Environmental Authority under the EP Act.

Since the writing of the EIS, amendments have been made to the Environmental Protection Policies (EPPs) relevant to Emu Swamp Dam. Amended EPPs relevant to Emu Swamp Dam include:

- Environmental Protection (Air) Policy 2008;
- Environmental Protection (Noise) Policy 2008; and
- Environmental Protection (Water) Policy 2009.

Any amendments to the EPPs that have implications for Emu Swamp Dam are addressed in the relevant section of the Supplementary Report dealing with the environmental aspect each EPP is protecting.

1.5.2.4. Strategic Cropping Land Act 2011

Since writing the EIS, the *Strategic Cropping Land Act 2011* (SCL Act) came into effect on 30 January 2012. The purpose of the SCL Act is to protect agricultural land highly suitable for cropping from incompatible development. Under the SCL Act, areas throughout Queensland containing suitable cropping areas are mapped as Strategic Cropping Land (SCL) and Potential SCL. The provisions of the SCL Act apply to these areas.

There are areas within the footprint of Emu Swamp Dam that are mapped as Potential SCL. Schedule 13A of the SP Regulation identifies matters and activities that are excluded from the provisions of the SCL Act, which includes community infrastructure. Schedule 2, Part 2 defines water cycle management infrastructure as community infrastructure. As Emu Swamp Dam is considered community infrastructure, the provisions of the SCL Act do not apply. Consideration of *State Planning Policy 1/12: Protection of Queensland's Strategic Cropping Land* is also not required.

1.5.2.5. Vegetation Management Act 1994

Since the writing of the EIS, amendments to the SP Regulation have removed the need for developments designated as 'community infrastructure' under Schedule 2 of the SP Regulation to obtain approval to clear native vegetation protected under the *Vegetation Management Act 1999* (VM Act).

Schedule 24 of the SP Regulation identifies when clearing of native vegetation is not assessable development for certain activities. Schedule 24, Part 1 (16) states that clearing of vegetation for community infrastructure is not assessable development. Schedule 2, Part 2 defines water cycle management infrastructure as community infrastructure. As Emu Swamp Dam is considered community infrastructure, it is exempt from assessable development that is the clearing of native vegetation under the VM Act. Vegetation offsets under the VM Act are not required.

SDRC has developed a draft Biodiversity Offset Strategy for the Project which is provided in Appendix I.

1.5.2.6. Water Act 2000

Since the writing of the EIS, amendments to the *Water Act 2000* (Water Act) have not affected the project.

A Development Permit for Operational Work for a Particular Dam is required for work that is the construction of a dam which must be failure impact assessed.

A Development Permit for Operational Work that is interfering with water from a watercourse would be required for the dam wall and any activities that will interfere or change the course of flow in the Severn River.

A Development Permit for Operational Work that involves quarrying in a watercourse would be required for the establishment of the quarry and sand extraction areas within the Severn River.

The requirements relating to Land and Water Management Plans (LWMP) under Section 73 of the Water Act were removed in May 2013.

1.5.2.7. Fisheries Act 1994

Since the writing of the EIS, amendments to the *Fisheries Act 1994* (Fisheries Act) have not affected the Project. The Fisheries Act is now administered by SARA, for assessable development under the SP Act, and the DAFF.

The Development Permit for waterway barrier works would include any construction elements that would create a barrier within the Severn River, including barriers around quarry extraction areas and barriers during the construction of the dam wall.

1.5.2.8. Forestry Act 1959

The *Forestry Act 1959* (Forestry Act) provides for forest reservations, the management and protection of State forests, and the sale and disposal of forest products and quarry material. The Forestry Act manages the sale of quarry materials from State (Crown) lands, including Crown holdings.

Under the Forestry Act, quarry material includes any stone, gravel, sand, rock, clay, earth and soil not being a mineral as defined under the *Mineral Resources Act 1989*.

A section of the proposed quarry and sand extraction site is located in Lot 39 on BNT1522, a State Reserve, which means all quarry material is vested with the State. A Sales Permit under the Forestry Act is required prior to the extraction of material from any land vested with the State.

It has also been identified that there are small quantities of forest products on State land within the inundation area. SDRC will provide access for officers from DAFF Forest Products to assess timber resources impacted the inundation area, pipeline and associated infrastructure and liaise with DAFF to identify the most appropriate management methods for these forest products. It is likely that a Vegetation Clearance Management Plan will need to be developed in consultation with DAFF Forest Products and that all timber products will need to be salvaged where practical and feasible.

1.5.2.9. Electricity Act 1994

The *Electricity Act 1994* (Electricity Act) administers the electricity industry including use of electricity. Any interference with electricity infrastructure resulting from development must be approved by the relevant entity under the Electricity Act. The Project will impact on existing electricity infrastructure, which would require relocation in consultation with the relevant electricity entity.

1.5.2.10. Transport Infrastructure Act 1994

Since the writing of the EIS, amendments to the *Transport Infrastructure Act 1994* (TI Act) have not affected the project.

A Road Corridor Permit under the TI Act would be required to construct, maintain, operate or conduct ancillary works and encroachments on a State-controlled road. The pipeline will involve construction and operational activities within the New England Highway road corridor and would require a Road Corridor Permit.

The status of the pipeline in relation to whether it will be considered a 'public utility plant' has not confirmed. However, it is recognised that should it be classed as a public utility plant under the TI Act, Part 5, Division 3 and Part 8, Division 4 of the TI Act may apply.

1.5.2.11. Land Act 1994

Since the writing of the EIS, amendments to the *Land Act 1994* (Land Act) have not affected the project.

1.5.2.12. Building Act 1975

The *Building Act 1975* (Building Act) regulates, amongst other things, building development approvals, building work, building classification and building certifiers. The site office and habitable buildings associated with construction of the Project will require building work approval from a Private Certifier prior to use. The pump stations associated with operation of the Project will require building work approval from a Private Certifier prior to use.

1.5.2.13. Nature Conservation Act 1992

Since the writing of the EIS, amendments to the *Nature Conservation Act 1992* (NC Act) have not affected the Project. However, the classes of wildlife protected under the NC Act have changed from Endangered, Vulnerable and Rare (EVR) to Endangered, Vulnerable and Near Threatened (EVNT).

1.5.2.14. Aboriginal Cultural Heritage Act 2003

Since the writing of the EIS, amendments to the *Aboriginal Cultural Heritage Act 2003* (ACH Act) have not affected the project. The ACH Act is now administered by the Department of Aboriginal and Torres Strait Islander and Multicultural Affairs (DATSIMA).

1.5.3. Local legislation

1.5.3.1. Southern Downs Regional Council Planning Scheme

The Stanthorpe Shire Council Planning Scheme was in force at the time of writing the EIS. Since then, the local council amalgamations that occurred in 2008 have resulted in the preparation of a new planning scheme for the SDRC area. The *Southern Downs Regional Council Planning Scheme* (Planning Scheme) was introduced on 14 August 2012 and covers the Project area.

Emu Swamp Dam, including the dam wall, inundation area, pump station, pipeline and Stalling Lane Access would constitute a Material Change of Use of premises requiring assessment and approval under the Planning Scheme. The following construction activities are also likely to require assessment and approval under the Planning Scheme, with SDRC acting as the assessment manager:

- quarry, crushing and screening plants and the concrete batching plant;
- workshop, maintenance facility and fuel storage;
- site offices; and
- stockpile and laydown areas.

Confirmation will be required from the SDRC on the use definitions, levels of assessment and applicable Planning Scheme provisions and codes for these construction and operational components.

1.5.3.2. Local Laws

Local laws are statutory instruments made by local governments to regulate a broad range of issues within their communities. They are developed independently by a local government to meet the specific needs of its community. It has been identified that Emu Swamp Dam will require compliance with the following SDRC local laws:

- Local Law No. 4 – Local Government Controlled Areas, Facilities and Roads; and
- Local Law No. 7 – Control of Pests.

1.6. Currency of Data

The EIS for Emu Swamp Dam was released for public comment in 2008. The data and information used in the preparation of the environmental impact assessment was current at the time of printing. During the preparation of the Supplementary Report additional data has been obtained

Table 1-4 Adequacy of data used through the EIS and Supplementary Report

Environmental/ Social Aspect	Data and information		Adequacy of data
	EIS (2008)	Supplementary Report (2014)	
Topography, Geology, Soils and Geomorphology	Soil surveys by GTES (2007) Regional soil associations (Powell 1975) Regional mapping records published by the DNRW and the Geological Society of Queensland (GSQ) (2005)	Soil surveys by GTES (2013)	Additional data and updated surveys undertaken for the Supplementary Report together with work undertaken for the EIS are considered representative of the geology and soils.
Planning and Land Use	SSC cadastral data	SSC cadastral data	Updated cadastral data was reviewed for the Supplementary Report.
Contaminated Land	EMR Searches(2007) CLR Searches (2007)	No additional data/information	Contaminated lots were identified in the EIS. Land uses within the area in the past 5 years are unlikely to have resulted in additional contamination.
Surface Water Resources	IQQM Model for Granite Belt (1890 to 1996) DNRM Gauging data for Farnbro and Ballandean to 2007	Extended and Upgraded IQQM Model for Granite Belt (1890 to 2011) DNRM Gauging data for Farnbro and Ballandean to 2013	Updated IQQM modelling was used for the Supplementary Report.
Water Quality	SWAMP water quality monitoring data 2005-2007	SWAMP water quality monitoring data 2005-2010	Additional water quality data has been analysed for the Supplementary Report.
Groundwater	Regional geological mapping records published by Bureau of Mineral resources (1972) Boreholes and test pits were constructed by URS (2006)	No additional data/ information.	Data analysed in the EIS is considered representative of the groundwater conditions for the project area.
Terrestrial Ecology	Terrestrial flora surveys and vegetation mapping by 3D environmental (2007) Terrestrial fauna surveys by BAAM (2007) Protected Matters Search Tool search 2006 Queensland Herbarium's HERBRECS database search 2007 EPA WildNet search 2007 DNRW Regional Ecosystems mapping v5 Queensland Museum Database search 2007	Terrestrial flora surveys by SKM (2014) Protected Matters Search Tool search 2014 Queensland Herbarium's HERBRECS database search 2014 EPA WildNet search 2014 Australian Virtual Herbarium search 2014 Atlas of Living Australia search 2014 DNRW Regional Ecosystems mapping v6.1	Additional data and updated surveys undertaken for the Supplementary Report together with work undertaken for the EIS are considered representative of the terrestrial ecological conditions for the project.

	Birds Australia New Atlas Database search 2007		
Aquatic ecology	Aquatic ecology surveys by Ecology Management (2007) Protected Matters Search Tool search 2006 EPA Wildlife Online search 2007	Aquatic ecology surveys by frc environmental (2013) Protected Matters Search Tool search 2014 DEHP Wildlife Online search 2014 Atlas of Living Australia search 2014	Additional data and updated surveys undertaken for the Supplementary Report together with work undertaken for the EIS is considered representative of the aquatic ecological conditions for the project.
Air Quality	BoM meteorological data Stanthorpe EPA Air quality data for Toowoomba 2005 -2007	No additional data/information	Data analysed in the EIS is considered representative of air quality and meteorology in the project area.
Noise and Vibration	Noise surveys in 2007	No additional data/information	Field surveys in the EIS are considered representative of the baseline noise environment.
Transport and Infrastructure	TMR traffic volumes in 2005	No additional data/information	The most recently available TMR traffic volumes (2012) have been sourced from the TMR Traffic census for comparable locations to those used in the EIS. This comparison has illustrated that the 2005 traffic volumes used in the EIS have not significantly changed. Therefore the traffic data analysed in the EIS is considered to be current and representative in the project area.
Socio-Economic Environment	ABS 2006 Census data for Stanthorpe Shire region	No additional data/information	The ABS geographic boundaries were reviewed between the 2006 and 2011 Census period, which makes direct comparison between the areas identified in 2006 difficult. The population in Stanthorpe has remained relatively stable in relation to age profile, employment, education and housing. It is expected that current impacts on population and demography in the study area would be similar to those described in the EIS.
Cultural Heritage	Cultural Heritage surveys by Archaeo (2007)	No additional data/information	Surveys and data analysed in the EIS are considered representative for the Project site.

1.7. Approvals Pathway

Following approval of the Project under the SDPWO Act and the EPBC Act, there are a number of options available in order to obtain the necessary permits for the proposed Emu Swamp Dam and associated infrastructure. The adoption of particular approvals process over another is dependent on a number of factors, including environmental impact, agency advice and applicant preference. The alternate processes are outlined below. At this stage the SRDC have a preference for seeking a Community Infrastructure Designation (CID) through the Minister for State Development, Infrastructure and Planning.

1.7.1. Community Infrastructure Designation

A Minister or a local government may designate land for community infrastructure under chapter 5 of the SP Act. This process is a mechanism that was implemented as a means for the forward identification of land for community infrastructure to facilitate the integration of land use and infrastructure planning. A local government may only designate land for community infrastructure through the process for amending a planning scheme, which is described separately in Section 1.7.2 below.

A CID negates the need to obtain development approvals for any assessable development under the relevant local government planning scheme and for any reconfiguring of lots in relation to the Project. The CID does not negate the need to obtain development approvals for other assessable development triggered under schedule 3 of the *Sustainable Planning Regulation 2009* (SP Regulation) or other State legislation. Details of the approvals required for the Project under schedule 3 of the SP Regulation and other State legislation are listed in Appendix C. It should be noted that certain exemptions that apply to 'community infrastructure' defined under schedule 2 of the SP Regulation will apply to the Project irrespective of whether a CID is approved.

In order for the Project to be designated as community infrastructure, the approving Minister must be satisfied that:

- Adequate environmental assessment and public consultation has been carried out and that issues raised during public consultation have been adequately taken into account; and
- The Project passes the public benefit test, which includes justifying that the Project provides for the efficient and timely supply of community infrastructure, satisfies a government commitment to supply the community infrastructure, will facilitate implementation of legislation / policies or will facilitate the efficient allocation of resources.

In approving the designation, the Minister may include requirements about the use of land, such as plans showing the development height, shape or location of works on the land, or other requirements to lessen the impacts of works or use of the land. Following approval of the CID, the Planning Scheme would be required to be amended to reflect the designation. This could be undertaken as a 'minor amendment', details of this process are described in Section 1.7.2 below.

Adequate environmental assessment and public consultation is taken to have been completed if "the coordinator-general has, under the SDPWO Act, prepared a report evaluating an EIS including the community infrastructure". Provided the coordinator-general approves the EIS for the Project, the Project will meet the environmental assessment and public consultation requirements for a community infrastructure designation. As such, it is not likely that the approving Minister would need to further consult with other State agencies before deciding on the CID.

The SP Act also requires that each owner of land to which the proposed designation applies must be provided written notice of the proposed designation and given 15 business days to make a submission.

The benefit of this approach is that it provides some flexibility to make minor changes to the Project without further approvals, provided the changes are generally consistent with the use described in the designation. The CID is valid for up to 6 years compared to 4 years for a development permit for material change of use.

A CID cannot be created for land proposed for environmental offsets; land for these purposes must have appropriate mechanisms in place between SRDC and landowners. Additionally, a Deed of Agreement would be established between SRDC and EHP to confirm the requirements for the environmental offsets. The Deed of Agreement is a legal binding document to ensure that the agreed environmental offsets are implemented.

1.7.2. Amendment to the Southern Downs Regional Council Planning Scheme

Part 5, chapter 3 of the SP Act outlines a process for amending a local planning scheme, which is to be carried out in accordance with Statutory Guideline 01/13 "Making and amending local planning instruments". In accordance with section 2.2.2 of the Statutory Guideline, the Project would be considered as a 'minor amendment' to the Planning Scheme as it fits within each of the following:

(a) Reflects a current development approval, master plan for declared master planned area or an approval under other legislation
(f) Reflects changes to the planning scheme in response to a Ministerial direction if in the local government's opinion, the subject matter of those changes involved adequate public consultation
(g) Has involved adequate consultation with the public and the state.

As a minor amendment, there would be no State interest review and no public consultation requirements.

- The process to enable a minor amendment to be made is set out in section 2.3 of the Statutory Guideline and is summarised below:
- Stage 1, Step 1, the local government must decide to make the amendment to the planning scheme.
- Stage 1, Step 3, (non mandatory), the amendment is prepared (guideline states a performance indicator timeframe of 35 business days).
- Stage 1, Step 5, the amendment is progressed and once finalised the local government proceeds to Step 10 (there is no time limit to this stage).
- Stage 4, Step 10, is where the local government decides whether to adopt the proposed planning scheme amendment. Once the decision to adopt the amendment has been made the local government must place a notice in the gazette, a newspaper circulating in the area and the local government's website setting out the details of the proposed amendment. Once the notices have been placed and the amendment adopted the local government must notify the chief executive chief executive administering the SP Act, being the Director-General of DSDIP, and provide a copy of the notice and an electronic copy of the planning scheme and associated maps.

The Planning Scheme amendment would likely make the Project exempt from requiring any further approvals under the local planning scheme and could be drafted to provide some flexibility to allow for minor changes to the Project without needing to go through a further approval process provided any changes fall within the definition of the use. The amended zoning of the land will be valid for the life of the local planning scheme.

The Planning Acheme amendment will not negate the need for the Project to obtain approvals under State legislation as listed in Appendix C.

An amendment to the planning scheme would also be required should a CID (refer to Section 1.7.1 above) to approved by the Minister.

1.7.3. State and Local Government Planning Approval

The SP Act regulates all development in Queensland and provides a process for assessing development through the IDAS process. Section 10 of the SP Act identifies what is considered to be development that is subject to the provisions of the SP Act. Types of development that would be applicable to Emu Swamp Dam include Material Change of Use of premises; Operational Work; Building Work; and Reconfiguring a Lot. Development assessable under the SP Act is identified in a local planning scheme, a State planning regulatory provision or in schedule 3 of the *Sustainable Planning Regulation 2009* (SP Regulation), which identifies types of development requiring approval under various other integrated State legislation.

The Project will involve a material change of use identified as impact assessable development in the local planning scheme along with various other types of assessable development identified in schedule 3 of the SP Regulation, refer to Appendix C. Under this option, an application would need to be lodged with Council for a development permit for material change of use (MCU). As Emu Swamp Dam has undergone the EIS process under the SDPWO Act, any components of the Project requiring approval under the IDAS process will not be subject to the Information and Referral Stage or the Notification Stage, as per section 37 of the SDPWO Act. This means that the development application will not need to be referred to SARA for further consideration of State interests. Council would be responsible of issuing a development permit for MCU for the Project under the SP Act.

Other approvals required under State legislation will still need to be applied for separately. Approvals for the Project have been set out in Appendix C and include approvals under the following:

- Sustainable Planning Act;
- Building Act;
- Environmental Protection Act;
- Water Act;
- Fisheries Act;
- Nature Conservation Act;
- Forestry Act;
- Transport Infrastructure Act;
- Land Act;
- Electricity Act; and
- Southern Downs Regional Council Local Laws.

The development permit for material change of use is only valid for 4 years compared to 6 years for the CID process or for the life of the Planning Scheme for the amendment process. The development permit would require more detailed plans of the Project to obtain approval and any changes to the approved plans would likely require an application to amend the development approval.

1.7.4. Summary of Approval Pathways

Following a meeting held between representatives from SDRC, DSDIP and SKM on 20 January 2014, it is the preference of SDRC to follow a CID process for the dam and associated pipelines following the issuing of the approval from the coordinator-general. Through the discussions with the officers from DSDIP it is understood that the process for designation is the most appropriate for the Emu Swamp Dam project. Working closely with the DSDIP officers it is understood that ministerial designation could be secured within 2-3 months post EIS approval.

1.8. Land Acquisition Process

1.8.1. Inundation Area and Buffer Area

SDRC will manage the land acquisition process for properties impacted by the inundation area and/or the buffer area. The decision as to full or partial acquisition will be based on the degree of impact caused by the inundation area and/or the buffer area. It is acknowledged that the DNRM prefer that whole properties are acquired where possible, so as not to create smaller lots with limited viability for existing or future agricultural land uses. The aim of full acquisitions is to allow for the portions of two or more properties not impacted by the inundation area to be amalgamated in accordance with the *Southern Downs Regional Council Planning Scheme* (Planning Scheme) to create viable property areas for agricultural land uses. If partial acquisition of properties is considered, it would be due to the remaining land area being viable for the existing land use to continue.

Properties impacted by the inundation area and/or the buffer area may be acquired directly by SDRC by purchase or compulsory acquisition (through either a CID process or under the *Local Government Act 2009* (LG Act).

1.8.2. Offset Sites

SDRC will meet the Project's offset requirements by securing and managing direct, land-based offsets.

Offset sites may be acquired directly by SDRC by purchase or compulsory acquisition. Offsets sites may also be owned by third parties. All direct offset sites will be secured using one of the legally binding mechanisms on title that are available to ensure the protection of the offset and implementation of the Offset Area Management Plan. All stakeholders (including SDRC, third party landholders and covenantors) will be signatories to the Offset Area Management Plan (OAMP). SDRC has powers of compulsory land acquisitions under the LG Act and these powers will be used where other methods fail to secure offset areas for the Project.