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STATE WATER CORPORATION

CHAFFEY DAM AUGMENTATION AND SAFETY UPGRADE

ENVIRONMENTAL IMPACT STATEMENT

STATE SIGNIFICANT INFRASTRUCTURE

Appendices



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Appendix 1: Director-General's Requirements

Director General's Environmental Assessment Requirements

Section 115Y of the *Environmental Planning and Assessment Act 1979*
Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*

Application Number	SSI - 5039
Infrastructure Project	Chaffey Dam Augmentation The proposal includes a dam safety upgrade and increasing the storage capacity from 62 gigalitres (GL) to 100 GL, by raising the dam wall by 8.4 metres and full supply water level by 6.5 metres.
Location	Woolomin, approximately 23 km southeast of Tamworth
Proponent	State Water Corporation
Date of Issue	23 January 2012
General Requirements	<p>The Environmental Impact Statement (EIS) must be prepared in accordance with, and meet the minimum requirements of, Part 3 of Schedule 2 of the <i>Environmental Planning and Assessment Regulation 2000</i> (the EP&A Regulation) and include the following:</p> <ol style="list-style-type: none"> 1. the information required under clause 6 of Schedule 2 of the EP&A Regulation; and 2. the content listed in clause 7 of Schedule 2 of the EP&A Regulation, including, but not limited to: <ul style="list-style-type: none"> • a summary of the environmental impact statement, • a statement of the objectives of the project, including a description of the strategic need, justification, objectives and outcomes, • an analysis of feasible alternatives to the carrying out of the project, including an analysis of options considered having regard to the project objectives (including an assessment of the environmental costs and benefits of the project relative to alternatives and the consequences of not carrying out the project), the suitability of the chosen option and whether or not the project is in the public interest, • an analysis of the project, including an assessment, with a particular focus on the requirements of the listed key issues, in accordance with clause 7(1)(d) of Schedule 2 of the EP&A Regulation (where relevant), • an identification of how relevant planning, land use and development matters (including relevant strategic and statutory matters, such as relevant water sharing plans, State water environmental management plans, including Namoi Catchment Action Plan) have been considered in the impact assessment (direct, indirect and cumulative impacts) and/or in developing management/ mitigation measures, • a compilation of the measures proposed to mitigate any adverse effects of the project on the environment, • a justification for the preferred project taking into consideration the objects of the <i>Environmental Planning and Assessment Act 1979</i>, and • detailing how the principles of ecologically sustainable development will be incorporated in the design, construction and ongoing operation phases of the project.
Key issues	<p>The EIS must address the following specific matters:</p> <p>Soil and Water – including but not limited to:</p> <ul style="list-style-type: none"> • impacts on surface water flows, quality and quantity and risks to groundwater quality, with particular reference to impacts on surrounding

	<p>(up and down stream) waterways, their habitats and environmental flows, and inclusion of baseline water quality and flow conditions;</p> <ul style="list-style-type: none"> • flooding impacts and characteristics, with an assessment of the potential changes to flooding behaviour (levels, velocities and direction) and impacts on bed and bank stability, through flood modelling, including: <ul style="list-style-type: none"> ◦ hydraulic modelling for a range of flood events, ◦ description, justification and assessment of design objectives, ◦ an assessment of afflux and flood duration (inundation period) on land, infrastructure, property and business operations, ◦ consideration of the changes in rainfall frequency and/or intensity as a result of climate change; and ◦ outline contingency measures for flooding events with potential for inundation and discharge through the spillway area during construction; • waterways to be modified as a result of the project, including ecological, hydrological and geomorphic impacts (as relevant), including temporary crossings, and measures to rehabilitate the waterways to pre-construction conditions or better, including fish passage requirements taking into account <i>Policy and Guidelines for Fish Friendly Waterway Crossings</i> (Department of Primary Industries, 2004); and • identification and assessment of soil characteristics and properties that may impact or be impacted by the project and details of erosion and sedimentation control measures. <p>Biodiversity - including but not limited to:</p> <ul style="list-style-type: none"> • impacts on the biodiversity values of the site and adjoining areas, including terrestrial, riparian and aquatic habitats; • impacts on Endangered Ecological Communities, critical habitat, threatened and protected species, populations and their habitats, listed under both State and Commonwealth legislation that have been recorded or considered likely to occur on the site and surrounding land, and whether the proposal or specific aspects of the proposal constitute Key Threatening Processes in terms of the <i>Threatened Species Conservation Act 1995</i>; • targeted surveys of threatened flora and fauna species and their habitat that are known or likely to occur within the project's study area based on the presence of suitable habitat. Details of the survey methodology employed, including survey effort and timing and representativeness for the species targeted, should be included; • the details of available offset measures to compensate the biodiversity impacts of the proposal where offset measures are proposed, consistent with the <i>Principles for the use of biodiversity offsets in NSW</i>; and • taking into account the <i>Draft Guidelines for Threatened Species Assessment</i> (Department of Environment and Conservation, 2005); <i>Threatened Species Survey and Assessment Guidelines: Field Survey Methods for Fauna - Amphibians</i> (DECCW, 2009); and <i>Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities – Working Draft</i> (DEC, 2004). <p>Heritage – including but not limited to:</p> <ul style="list-style-type: none"> • impacts to Aboriginal heritage (including cultural and archaeological significance), in particular impacts to Aboriginal heritage sites identified within or near the project. Where impacts are identified, the assessment shall: <ul style="list-style-type: none"> ◦ outline the proposed mitigation and management measures (including measures to avoid significant impacts and an evaluation of the effectiveness of the measures), demonstrate effective consultation with Aboriginal communities in determining and assessing impacts and developing and selecting options and mitigation measures
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	<p>(including the final proposed measures),</p> <ul style="list-style-type: none"> o demonstration that an appropriate archaeological assessment methodology, including research design, (where relevant) has been undertaken, including results, and, o take into account the <i>Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation</i> (Department of Environment and Conservation, 2005) and be undertaken by a suitably qualified heritage consultant; and <ul style="list-style-type: none"> • impacts to historic heritage (including archaeology, heritage items conservation areas and natural areas), in particular impacts to the Bowling Alley Point site should be assessed. Where impacts to State or locally significant historic heritage items are identified, the assessment shall: <ul style="list-style-type: none"> o outline the proposed mitigation and management measures (including measures to avoid significant impacts and an evaluation of the effectiveness of the mitigation measures), o include a statement of heritage impact for heritage items (including significance assessment), o demonstrate that an appropriate archaeological assessment methodology, including research design, (where relevant) has been undertaken, including results, and o take into account the guidelines in the NSW Heritage Manual (1996) and be undertaken by a suitably qualified heritage consultant. <p>Traffic and Transport – including but not limited to:</p> <ul style="list-style-type: none"> • construction traffic impacts, including: <ul style="list-style-type: none"> o the identification of construction traffic routes and the nature of existing traffic on these routes, o an assessment of construction traffic volumes, and o potential impacts to the State, regional and local road network (including safety and level of service) and potential disruption to existing public transport/school bus services and access to properties and businesses. The assessment shall identify suitable mitigation and management measures; and • operational traffic and transport impacts to the State, regional and local road network, including changes to local road connectivity and impacts on local traffic arrangements, road capacity/ safety and modified access to realigned roads. The assessment shall identify suitable mitigation and management measures. <p>Noise and Vibration – including but not limited to construction and operational noise and vibration impacts taking into account (where relevant) the <i>Interim Construction Noise Guideline</i> (Department of Environment and Climate Change, 2009), <i>Assessing Vibration: A Technical Guideline</i> (Department of Environment and Conservation, 2006) and the <i>NSW Road Noise Policy</i> (Department of Environment Climate Change and Water, 2011).</p> <p>Air Quality – including but not limited to an assessment of the construction air quality impacts on sensitive receptors, including impacts from particulate matter, total suspended solids and other air pollutants generated by the project.</p> <p>Visual Amenity – including but not limited to an assessment of the visual impact of the project on the landscape character of the area and details of landscaping treatment and design.</p> <p>Land Use, Property and Socioeconomic - including but not limited to:</p> <ul style="list-style-type: none"> • impacts on directly affected properties and land uses, including impacts related to access and recreational uses of the dam, land use, mineral resources and exploration, property infrastructure, future development
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	<p>potential, property acquisition and land sterilisation;</p> <ul style="list-style-type: none"> • impacts on Crown land, reserves and assets, and land reserved under the <i>National Parks and Wildlife Act 1974</i>; • impacts on natural resources, including mining and extractive resources utilisation; and • identification of services and utilities to be relocated. <p>Spoil and Waste Management – including but not limited to dredging impacts, an estimation of the likely spoil generation and type (including identification of known or potential contamination issues), disposal/recycling sites and management of all types of waste material.</p> <p>Hazards and Risk – including an assessment of the hazards and risk associated with the proposal including details of hazardous materials used or kept on the premises during the construction and operation phases. The assessment must refer to the Department's Guideline <i>Applying SEPP 33</i> (DUAP, 1994), where relevant.</p>
Environmental Risk Analysis	<p>Notwithstanding the above key assessment requirements, the EIS must include an environmental risk analysis to identify potential environmental impacts associated with the project (construction and operation), proposed mitigation measures and potentially significant residual environmental impacts after the application of proposed mitigation measures. Where additional key environmental impacts are identified through this environmental risk analysis, an appropriately detailed impact assessment of this additional key environmental impact must be included in the EIS.</p>
Consultation	<p>You should undertake an appropriate and justified level of consultation with relevant parties during the preparation of the EIS, including but not limited to:</p> <ul style="list-style-type: none"> • local, State and Commonwealth government authorities, including the: <ul style="list-style-type: none"> ○ Department of Primary Industries (Agriculture, Forests, Fisheries, Minerals, Crown Land and Office of Water), ○ Heritage Council of NSW, ○ Office of Environment and Heritage (Environment Protection Authority), ○ Roads and Maritime Services, ○ Namoi Catchment Management Authority, ○ NSW Dams Safety Committee, and ○ Tamworth Regional Council; • specialist interest groups, including Local Aboriginal Councils, Aboriginal stakeholders and industry/ growers associations, mining and petroleum title holders and exploration licence holders; • utilities and service providers; and • the public, including community groups and adjoining and affected landowners. <p>The EIS must describe the consultation process and the issues raised, and identify where the design of the infrastructure has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.</p>
Further consultation after 2 years	<p>If you do not lodge an EIS for the infrastructure within 2 years of the issue date of these DGRs, you must consult with the Director General in relation to the requirements for lodgement.</p>



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Appendix 2: Supplementary Director-General's Requirements



Contact: Swati Sharma
Phone: (02) 9228 6221
Fax: (02) 9228 6355
Email: swati.sharma@planning.nsw.gov.au
Our ref: 11/21677-1

Mr Michael Jeffery
State Water Corporation
GPO Box 1604
SYDNEY NSW 2001

Attention: Mr Jubrahil Khan

Dear Mr Jeffery

Chaffey Dam Augmentation Project (SSI – 5039) – Director-General's Requirements

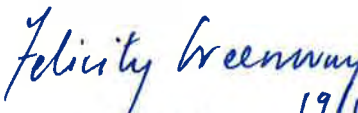
I refer to the Director-General's Requirements for the above project which were issued on 23 January 2012, in accordance with section 115Y of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

As you will be aware on 28 September 2012 the Minister for Sustainability, Environment, Water, Population and Communities declared the project a controlled action and consequently the project requires assessment and approval under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The Commonwealth Minister has also decided the project will be assessed by NSW, through an accredited assessment under Part 5.1 of the EP&A Act.

The Department of Sustainability, Environment, Water, Population and Communities has provided the Department with the Commonwealth's environmental assessment requirements for the project. In accordance with section 115Y(4) of the EP&A Act, the Director-General has modified the Director-General's Requirements for the project. The Proponent, in the preparation of the Environmental Impact Statement for the project must, in addition to the requirements dated 23 January 2012, address the enclosed Commonwealth requirements for the assessment of the controlled action.

If you have any queries in relation to this matter, please contact Swati Sharma on (02) 9228 6221 or via email at swati.sharma@planning.nsw.gov.au.

Yours sincerely


19/10/12

Felicity Greenway
A/Director, Infrastructure Projects
as delegate of the Director-General



Environment Assessment Requirements for input into the Director-General's Requirements

**Chaffey Dam Augmentation and Safety Upgrade, Tamworth, NSW
(EPBC Ref. 2012/6523)**

The delegate for the Commonwealth Minister for Sustainability, Environment, Water, Population and Communities has determined that the proposed action, to augment and upgrade Chaffey Dam, near Tamworth, NSW, is a controlled action under section 75 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) as it is likely to have a significant impact on threatened species and ecological communities listed under the EPBC Act.

The delegate has also determined that the project be assessed through an accredited assessment of Part 5.1 of the NSW *Environment Assessment and Planning Act 1979* (EP&A Act) - State Significant Infrastructure. In accordance with the accredited assessment process for this project, the assessment of the impacts of the action on the relevant matters of national environmental significance must be integrated into the assessment required for Part 5.1 of the EP&A Act. The assessment must include enough information about the controlled action and its relevant impacts to allow the Commonwealth Minister for Sustainability, Environment, Water, Population and Communities, or his delegate, to make an informed decision of whether or not to approve the controlled action under the EPBC Act.

To this end, provided below are the Environment Assessment requirements under the EPBC Act for input into the Director-General's Requirements. Pursuant to section 115Y(4) of Part 5.1 of the EP&A Act, the Director-General is required to notify the proponent of these requirements.



Key Assessment requirements:

The following matters must be addressed in the Environmental Assessment of the action:

- (1) Impacts on ecological communities and threatened species listed under Section 18 and 18A of the *Environment Protection and Biodiversity Conservation Act 1999*;
- (2) Any relevant Commonwealth Government technical and policy guidelines;
- (3) Matters outlined in Schedule 4 of the *Environment Protection and Biodiversity Conservation Regulation 2000*, included in the requirements below; and
- (4) The requirements outlined below:

1. General information

The background of the action including:

- a) the title of the action;
- b) the full name and postal address of the designated proponent;
- c) a clear outline of the objective of the action;
- d) the location of the action;
- e) the background to the development of the action;
- f) how the action relates to any other actions (of which the proponent should reasonably be aware) that have been, or are being, taken or that have been approved in the region affected by the action;
- g) the current status of the action; and
- h) the consequences of not proceeding with the action.

2. Description of the action

A detailed description of all components of the action, including:

- a) all construction, operational (including water uses) and (if relevant) de-commissioning components of the action;
- b) the precise location of the preferred option for any works to be undertaken, structures to be built and elements of the action that may have impacts on matters of National Environmental Significance (NES); and
- c) how the works are to be undertaken and design parameters for those aspects of the structures or elements of the action that may have relevant impacts (as per section 5(a)).

3. Feasible alternatives

Any feasible alternatives to the referred action, to the extent reasonably practicable, including:

- a) if relevant, the alternative of taking no action;
- b) a comparative description of the impacts of each alternative on the NES matters protected by controlling provisions of Part 3 of the EPBC Act for the action;
- c) sufficient detail to make clear why any alternative is preferred to another; and



- d) a description of short, medium and long-term advantages and disadvantages of the different options.

4. Description of the existing environment and relevant matters of national environmental significance

A description of the environment of the proposal site and the surrounding areas (upstream, within and downstream of the impoundment) that may be directly or indirectly affected by the action, including:

- a) quantification and description of, and maps showing, the location, nature, extent and where relevant, the condition, of all vegetation types occurring on and adjacent to the vegetation on site;
- b) quantification and description of the quality, quantity and hydrological flow regimes of surface and groundwater – including seasonal dynamics (e.g. volume, timing, duration and frequency of flows) – and relevant water planning and allocation frameworks, including release strategies;
- c) quantification and description of, and maps showing, the distribution and abundance of EPBC Act listed threatened species and ecological communities within the site and in surrounding areas that may be impacted by the proposal. This should include, *but not be limited to*, up-to-date survey results for the Booroolong Frog¹, Murray Cod, Border Thick-tailed Gecko, Small Snake Orchid, Bluegrass, *Euphrasia arguta*, and the White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland ecological community (and any other relevant listed species and ecological communities);
- d) quantification and description of, and maps showing, the nature, location and extent of habitat for EPBC Act listed threatened species and ecological communities (as in 4(c)) within the site and in surrounding areas (including upstream, within and downstream of the impoundment) that may be impacted by the proposal; and,
- e) a detailed description of the methodology, timing, effort and results of all targeted surveys undertaken for all relevant EPBC Act matters and associated habitat, how the methodologies compare with any relevant guidelines or policies and a description of any limitations and constraints of the surveys undertaken.

¹ **Booroolong Frog** – in relation to 4c) and 4d) the survey methods must be appropriate for this species and ensure high probability of detection. For example, surveys in the Peel River catchment should be within the breeding period for the species (mid-November – mid-December), should identify known and potential breeding (and other) habitat and then survey a high proportion of those habitats for the species to determine distribution and relative abundance (e.g. breeding habitat is known to be areas of stream bank with cover of loose rock or bedrock containing rock crevices). Strict hygiene protocols should be implemented in any survey work, to prevent introduction or spread of *Chytridiomycosis* or any other harmful pathogen.



5. Assessment of relevant impacts

An assessment of the relevant impacts of the action including:

- a) a detailed description and assessment of the nature and extent of all relevant impacts, including short-term and long-term direct, indirect, facilitated and cumulative impacts, that the action will have or is likely to have on threatened species and ecological communities listed under sections 18 and 18A of the EPBC Act during all stages of the project (e.g. before and during construction, operational and (if relevant) de-commissioning stages);
- b) whether any relevant impacts are likely to be unknown, unpredictable or irreversible;
- c) analysis of the scale of the relevant impacts for each EPBC Act listed threatened species and ecological community – including in a local, regional and national context; and
- d) any technical data and other information used or needed to make a detailed assessment of the relevant impacts.

6. Proposed safeguards, mitigation and offset measures

A description of changes to the action and feasible mitigation measures, that are intended to avoid, minimise or compensate for relevant impacts, including:

- a) a description of how the action has been designed to avoid impacts to threatened species and ecological communities;
- b) a consolidated list of mitigation measures proposed to be undertaken to prevent or minimise the relevant impacts of the action, before, during and after construction and during operation;
- c) an assessment of the expected or predicted effectiveness of the mitigation measures, including a justification of the location and design of mitigation measures to be implemented to ensure their effectiveness. This analysis should be based on best available knowledge and baseline data for the relevant matters;
- d) a description of the objectives of the mitigation measures, thresholds for corrective actions, and the corrective actions to be implemented should these thresholds be exceeded;
- e) any statutory or policy basis for the mitigation measures;
- f) details of environmental management plans that set out the framework for continuing management, mitigation and monitoring programs for the relevant impacts of the action, including the person or agency responsible for implementing these programs and provisions for independent environmental auditing;
- g) the name of the agency responsible for endorsing or approving each mitigation measure or monitoring program;
- h) in the event that impacts cannot be avoided or mitigated, a description of any offsets to compensate for any predicted or potential residual impacts on threatened species and ecological communities. This should be in accordance with the EPBC Act Environmental Offsets Policy and include:



- i. an assessment of how any proposed offset compensates for the residual impacts on threatened species and ecological communities which remain following avoidance and mitigation measures to be implemented;
- ii. the location of any proposed offset;
- iii. the timing of the delivery of any offset; and
- iv. how the offset will be secured and managed in perpetuity.

7. Other approvals and conditions

Any other requirements for approval or conditions that apply, or that the proponent reasonably believes are likely to apply, to the proposed action. Information must include:

- a) details of any local or State government planning scheme, or plan or policy under any local or State government planning system that deals with the proposed action, including:
 - i. what environmental assessment of the proposed action has been, or is being, carried out under the scheme, plan or policy;
 - ii. how the scheme provides for the prevention, minimisation and management of any relevant impacts;
- b) a description of any approval that has been obtained from a State, Territory or Commonwealth agency or authority (other than an approval under the EPBC Act), including any conditions that apply to the action;
- c) a statement identifying any additional approval that is required; and
- d) a description of the monitoring, enforcement and review procedures that apply, or are proposed to apply, to the action.

8. Consultation

A description of any consultation undertaken about the action, including:

- a) any consultation that has already taken place;
- b) proposed consultation about relevant impacts of the action; and
- c) if there has been consultation about the proposed action, any documented response to, or result of, the consultation; and
- d) identification of affected parties, including a statement mentioning any communities that may be affected and describing their views.

9. Economic and Social Matters

The economic and social impacts of the action, both positive and negative, must be analysed. This analysis must include:

- a) details of any public consultation activities undertaken, and their outcomes;
- b) projected economic costs and benefits of the project, including the basis for their estimation through cost/benefit analysis or similar studies; and
- c) employment opportunities expected to be generated by the project (including construction and operational phases).



10. Environmental record of person proposing to take the action

A description of the environmental record of the person proposing to take the action, including:

- a) details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against:
 - i. the person proposing to take the action; and
 - ii. for an action for which a person has applied for a permit, the person making the application.
- b) if the person proposing to take the action is a corporation, details of the corporation's environmental policy and planning framework.

11. Information sources

For information given in the environment assessment, the assessment must state:

- a) the source of the information;
- b) how recent the information is;
- c) how the reliability of the information was tested; and
- d) what uncertainties (if any) are in the information.

12. Conclusion

An overall conclusion as to the environmental acceptability of the proposal must be provided, including discussion on compliance with principles of ESD and the objects and requirements of the EPBC Act. Reasons justifying undertaking the proposal in the manner proposed should be outlined.

Measures proposed or required by way of offset for any unavoidable impacts on NES matters, and the relative degree of compensation, should be re-stated here.



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Appendix 3: Correspondence with NSW Office of Water

Contact: Jubrahil Khan
Phone: 02 8245 2049
Fax: 02 8245 2104

Our Ref: STW110341

NSW Commissioner for Water
NSW Office of Water
G P O Box 3889
Sydney NSW 2001

21 November 2012

Dear Mr Harriss,

I refer to the augmentation of Chaffey Dam to 100GL and the need to lower the storage level of the dam during construction of the raised morning glory spillway.

Chaffey Dam provides water and drought security to the city of Tamworth and irrigators along the Peel Valley. Increasing Chaffey Dam capacity to 100GL has been determined as cost effective for future requirements.

Chaffey Dam has been ranked by the NSW Dams Safety Committee (DSC) as being in the "Extreme Flood Failure" hazard category. Stage 1 of the upgrade at Chaffey Dam has been completed, with full compliance being incorporated into the proposed augmentation works.

The Commonwealth and New South Wales Governments have committed contributions of \$16.945 million and \$6.647 million to the augmentation component of the works with the Tamworth Regional Council contributing \$3.36 million. The NSW Government will fund the dam safety component of the project.

The 100GL augmentation will involve raising the full supply level of the dam by 6.5 metres to 525.1 metres AHD, thus the morning glory spillway by 6.5 metres, raising the crest of the dam by 8.4 metres, reconfiguring the auxiliary spillway fuseplug and realignment of roads that are impacted by the raising of the full supply level. The project is expected to be completed by mid 2015.

State Water Corporation has commenced planning and approval works for the construction to commence by June 2013. The detailed design is in progress and expected to be completed by the end of October. The Environmental Impact Assessment in accordance with the Director Generals Requirements is well advanced and is expected to be ready for submission to Department of Planning by the end of November 2012. Construction is expected to start before June 2013.

The morning glory spillway remains the primary spillway for any spills for flood events up to an annual exceedence probability (AEP) of 1 in 10,000. The construction of the raised bell mouth requires work below the current full supply level. In the event the dam is at full capacity this construction cannot commence.

Due to the timeframe in which the funds have been allocated by the Federal and NSW Governments, the construction must be completed by end of June 2015 and does not allow programming the construction work in a dry season when the storage maybe below full supply.

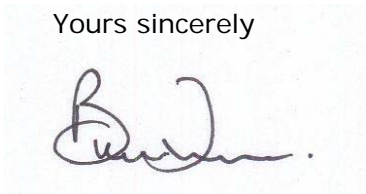
State Water undertook storage behaviour analysis for a number of storms for storage level lowered by 1 metre, 1.5 metre and 2 metres below the current full supply level. Lowering of the storage level by 2 metres to RL516.8 m will provide the best opportunity to commence raising of the morning glory and provide a reduced risk to construction from flooding. (Refer to Attachment 1 for details). During this period the inflows and any downstream demand will be managed by operating the valves. Lowering of the storage level by 2 meters will reduce the storage volume of Chaffey Dam by 11GL and will be required for a maximum period of 6 months.

Based on the order of construction, raising of the morning glory spillway is not expected to commence before May 2014. Start of this work will also depend on the storage behaviour at the time and the contractor's assessment of the weather forecast for the period of construction.

State Water Corporation is seeking your approval to maintain a Temporary FSL, 2 metres below the current FSL for a period of six months, expected to commence in May 2014, to enable construction of the raised morning glory spillway.

The project manager for Chaffey Dam Augmentation and Safety Upgrade will provide all necessary information for Office of Water to assess this request. He can be contacted on 02 8245 2049 or email: Jubrahil.Khan@statewater.com.au.

Yours sincerely



Brett Tucker
CEO
State Water Corporation

Attachments:

Attachment 1. Chaffey Dam Construction flood conditions

Attachment 1

Black & Veatch Ltd
Grosvenor House
69 London Road
Redhill, SURREY
RH1 1LQ



BLACK & VEATCH

TECHNICAL NOTE			
To		Date	15/10/2012
Copy			
From	Rob Fraser	Ref	
Subject	Bowling Alley Point velocities and construction flood conditions		

1 INTRODUCTION

The purpose of this note is to:

- Determine flow velocities in the Peel River during flood events for use in the design of the Bowling Alley Point bridge;
- Simulate potential flood conditions during construction to assess the likely flood rise to overflow level; and
- Simulate potential flood conditions during construction to assess the likelihood of the dam crest level being reached.

2 WATER LEVELS AND FLOW VELOCITY AT BOWLING ALLEY POINT

2.1 Information available

The following information was provided to B&V to assess flood conditions at Bowling Alley Point:

- 1) A report (*Chaffey Dam – 1 in 100 year flood analysis*) dated January 2008, determining the flood impact at the “New Road Bridge”.
- 2) A MIKE11 model of the river upstream of Chaffey Dam accompanied by Excel results spreadsheets, received from State Water on 7 March 2012.
- 3) A detailed report (*Hydrologic Assessment of Auxiliary Spillway Options for Augmented Chaffey Dam*) dated November 2011, containing a complete set of inflow hydrographs.

Key points to note about the January 2008 report are that:

- The 1 in 100 year flood inflow was calculated using a calibrated RORB model of the catchment developed in 1998, with rainfall intensities calculated from the procedure in AR&R 1999.
- The flood hydrograph is split into two parts: one entering the top of the model (Inflow_1); and one distributed across the modelled reach (Inflow_2). The peak of Inflow_1 is 1091m³/s and the peak combined inflow is 1347m³/s, for the critical 18 hour storm.
- Flood levels were estimated using a MIKE11 model of a 10.5km reach of the Peel River, with Chaffey Dam as the downstream limit of the model.
- The predicted 1 in 100 year flood level at the bridge is 527.9mAHD.

The MIKE11 model provided is that referred to in the January 2008 report. The model results do not, however, match those in the report. There is no information on what methods/guidelines were used in estimating the 1 in 100 year flood inflow, which has a peak of

1582m³/s. However, there seems to be a mistake in how the inflows are connected in the model since this inflow is used twice, once at the upstream end and also distributed across the modelled reach. This double counting gives a much higher flood level at the bridge (530.5mAHD). Re-running the model with just a single inflow at the upstream end of the model gives a peak flood level of 527.8m. Note that the hydrograph shape is important in determining the flood peak, hence the slightly lower flood level despite a higher peak inflow than in the 2008 report.

The inflow hydrographs in the November 2011 report were used by B&V in the reservoir flood routings to assess the auxiliary fuseplug design. The method used for simulating the inflow hydrographs is the same 1998 calibrated RORB model of the catchment with point design rainfalls estimated from the procedure in AR&R 1999, in this case using the CRCFORGE-Extract computer program. The peak inflow for the 1 in 100 year 18-hour storm is 1149m³/s.

2.2 Approach

Water levels and velocities at Bowling Alley Point have been assessed using the MIKE11 model with the following modifications:

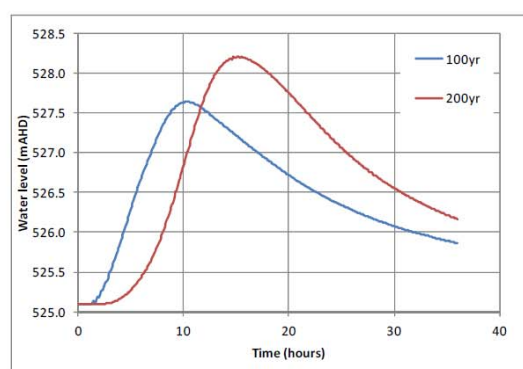
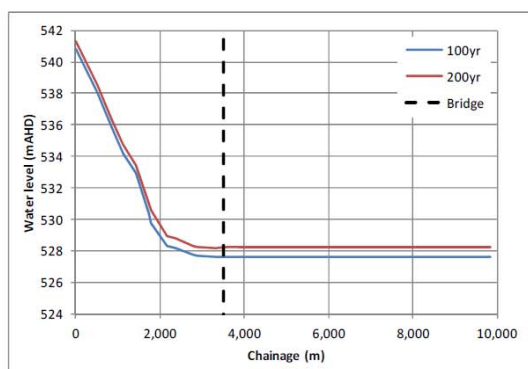
- The inflow hydrographs have been taken from the November 2011 State Water report. A single inflow has been applied at the upstream end of the modelled reach.
- The outflow rating for the morning glory spillway has been changed to the one used by B&V in the reservoir routing studies. This rating is based on a new WES profile weir rather than simply the existing morning glory spillway raised by 6.5m.

2.3 Results

According to the previous MIKE11 modelling, the Bowling Alley Point bridge is located at chainage 3514m. The results have been assessed for the closest model nodes – chainage 3611.40m for water level and chainage 3464.45m for velocity. Results for the 1 in 100 and 1 in 200 AEP events are shown in Table 2.1 and Figure 2.1.

Table 2.1 - Peak water levels and velocities at Bowling Alley Point

Event	Peak water level (mAHD)	Peak velocity (m/s)
1 in 100 AEP	527.6	1.3
1 in 200 AEP	528.2	1.3



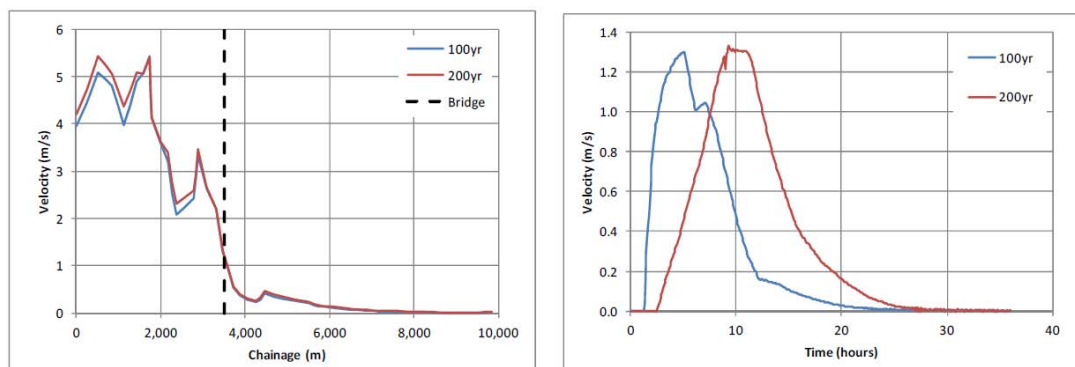


Figure 2.1 - Water levels and velocities at Bowling Alley Point

3 CONSTRUCTION FLOOD CONDITIONS – FLOOD RISE TO OVERFLOW LEVEL

Flood routings have been undertaken to assess the effect of controlling reservoir water levels below the morning glory spillway level during construction. The time delay between the first inflow and the reservoir reaching the morning glory crest level has been extracted from the results. These results are presented in Table 3.1, Table 3.2 and Figure 3.1.

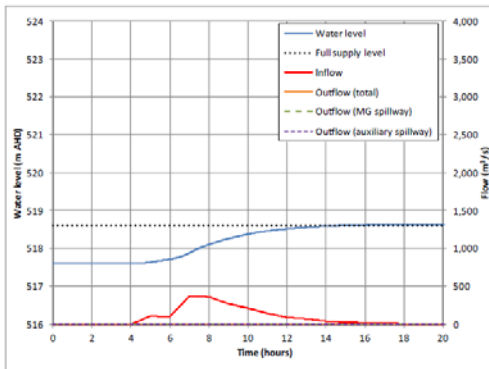
We used the 1 in 5, 10, 20 and 50 AEP inflow hydrographs provided by State Water in August 2012 for the critical 18 hour storm duration (results in Table 3.1 and Table 3.2). For the 1 in 100 to 1 in 1000 AEP events, the inflow hydrographs were taken from the November 2011 State Water report. These were for a suite of storm durations between 6 and 72 hours. In these events, the 6 hour storm gives the quickest rise of overflow level (Table 3.1 and Figure 3.1) but the 18 hour storm gives a higher peak water level (Table 3.2).

Table 3.1 - Time to reach overflow level

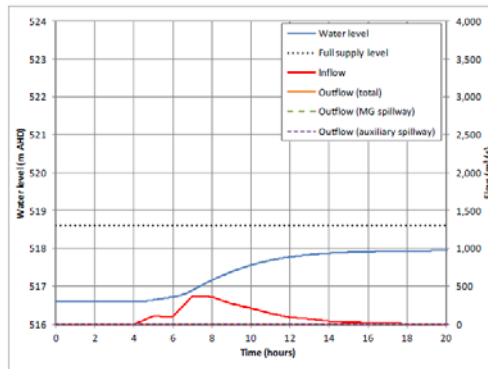
Event	Time to reach overflow level from initial inflow (hours)		
	Start 1m below overflow	Start 1.5m below overflow	Start 2m below overflow
1 in 5 AEP	10.5	-	-
1 in 10 AEP	5.9	8.3	-
1 in 20 AEP	5.7	6.6	7.5
1 in 50 AEP	4.2	5.1	5.8
1 in 100 AEP	2.6	3.2	3.9
1 in 200 AEP	2.5	2.9	3.3
1 in 500 AEP	2.3	2.6	2.9
1 in 1,000 AEP	2.3	2.6	2.9

Table 3.2 - Peak water level

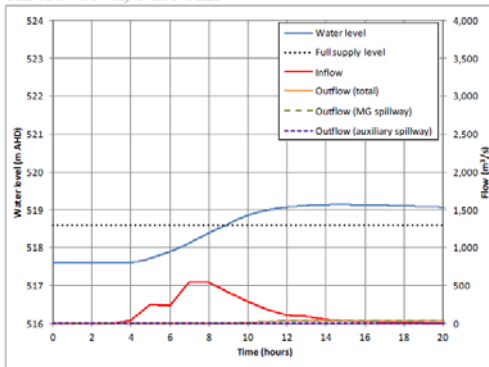
Event	Peak water level in reservoir (mAHD)		
	Start 1m below overflow	Start 1.5m below overflow	Start 2m below overflow
1 in 5 AEP	518.65	518.30	517.96
1 in 10 AEP	519.14	518.81	518.48
1 in 20 AEP	519.92	519.65	519.38
1 in 50 AEP	520.68	520.44	520.20
1 in 100 AEP	521.24	521.06	520.86
1 in 200 AEP	521.94	521.79	521.64
1 in 500 AEP	523.09	522.91	522.72
1 in 1,000 AEP	524.26	524.09	523.90



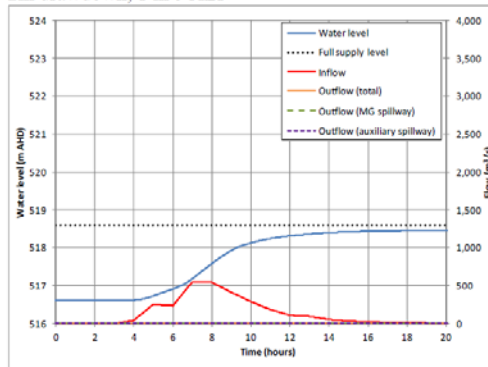
1m drawdown, 1 in 5 AEP



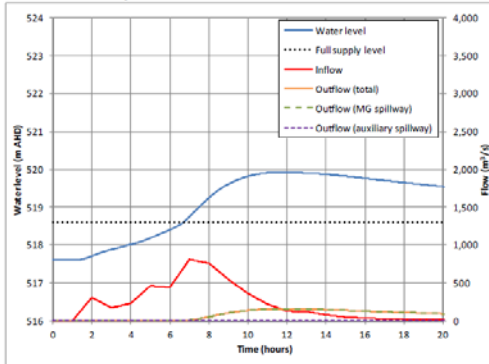
2m drawdown, 1 in 5 AEP



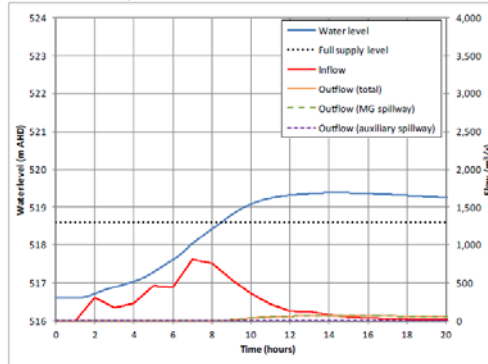
1m drawdown, 1 in 10 AEP



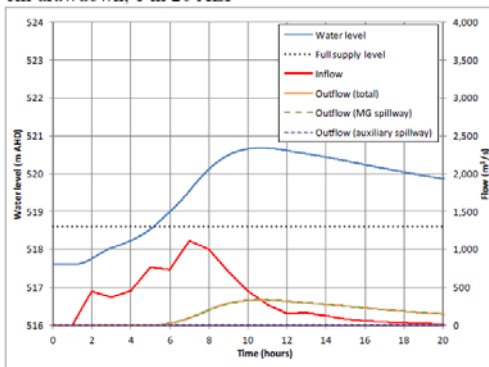
2m drawdown, 1 in 10 AEP



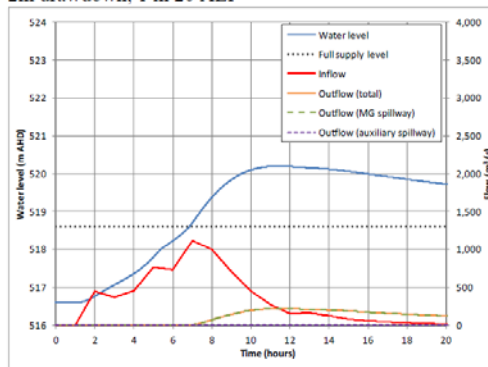
1m drawdown, 1 in 20 AEP



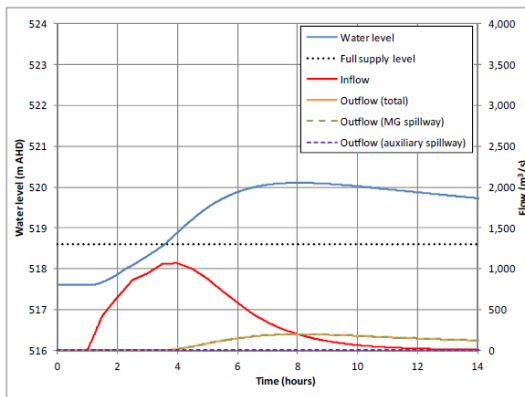
2m drawdown, 1 in 20 AEP



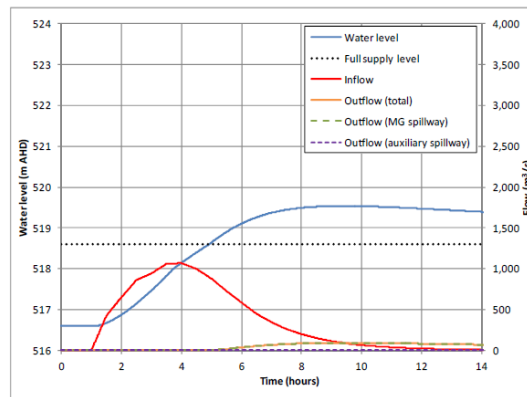
1m drawdown, 1 in 50 AEP



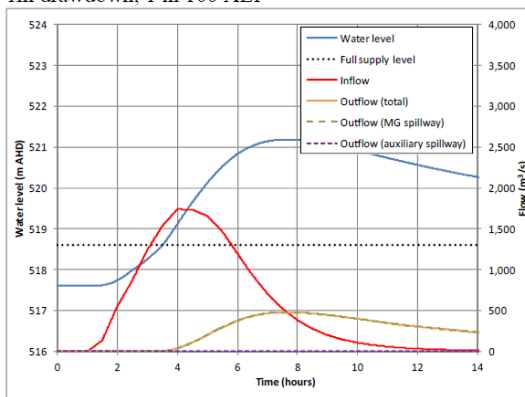
2m drawdown, 1 in 50 AEP



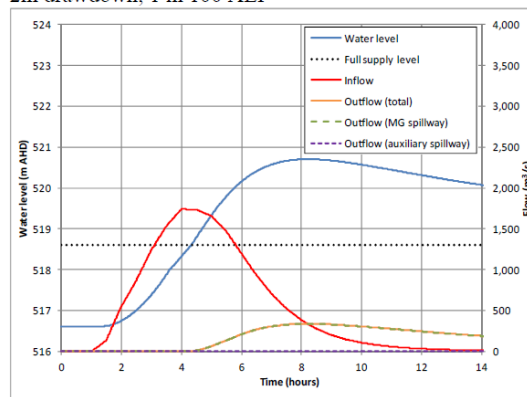
1m drawdown, 1 in 100 AEP



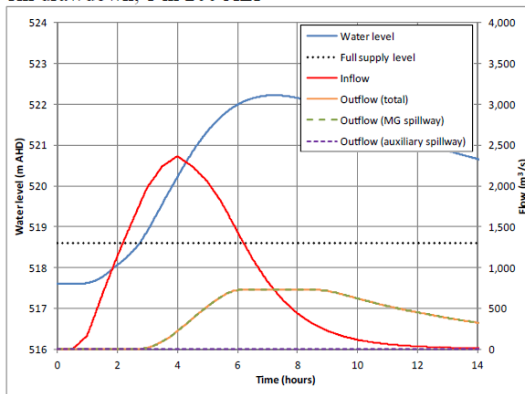
2m drawdown, 1 in 100 AEP



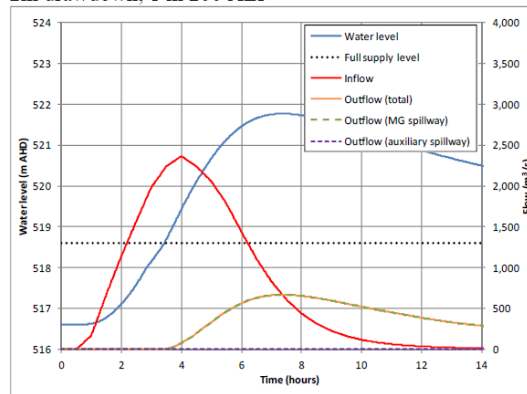
1m drawdown, 1 in 200 AEP



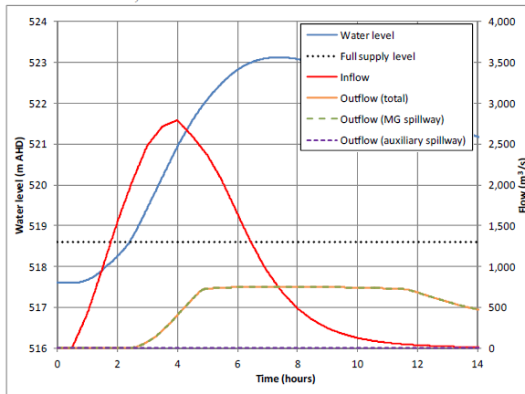
2m drawdown, 1 in 200 AEP



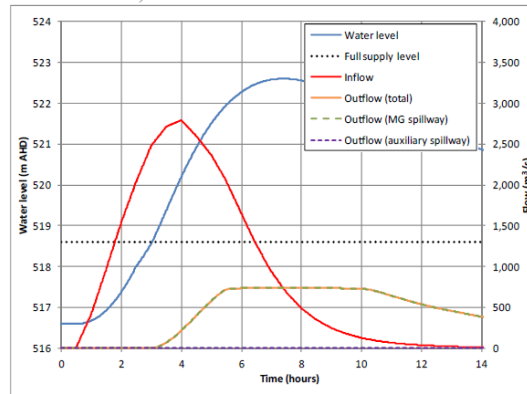
1m drawdown, 1 in 500 AEP



2m drawdown, 1 in 500 AEP



1m drawdown, 1 in 1000 AEP



2m drawdown, 1 in 1000 AEP

Figure 3.1 - Flood rise to overflow level



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Appendix 4: Department of Primary Industries Fishway Correspondence



29th January 2007

Our ref: DamSafetyProgram160107

Your ref:

Mrs Jocelyn Karsten
Environmental Project Officer
State Water Corporation
PO Box 2213
DANGAR NSW 2309

Dear Jocelyn

Dam Safety Upgrade Program

Thank you for your letter dated the 4th December 2006 concerning State Water Corporations Dam Safety Upgrade Program. I am writing to outline NSW DPI's initial assessment of the application of section 218 of the *Fisheries Management Act 1994* to 5 relevant major dam safety upgrades that will be undertaken in the next 5 to 10 years. The Departments initial assessment is based on the outline of the proposed upgrade works provided in your letter.

As you are aware, section 218 of the *Fisheries Management Act 1994* (Fishways to be provided in construction of dams and weirs) states that "a public authority that proposes to construct, alter or modify a dam, weir or reservoir on a waterway must, if the Minister so requests, include as a part of the works for the dam, weir or reservoir, or for its alteration or modification, a suitable fishway or fish by-pass". The intent of Section 218 of the *FMA 1994* is to allow for the installation of a fishway to mitigate the impact of weir or dam on fish migration where possible.

There are several aspects which are considered when applying this provision. The relevant aspects include:

1. Presence of native fish that require to migrate as part of their lifecycle
2. Potential extent and value of habitat to be reinstated to fish migration
3. Presence of other barriers to fish migration and future actions and developments
4. Cost benefit of a fishway

Burrendong Dam

Burrendong Dam is a significant barrier to fish migration on the Macquarie River and impacts upon the lifecycles of several threatened species, populations and the endangered ecological community in the natural drainage system of the

lowland catchment of the Darling River. There are potentially 21 native fish species which are unable to migrate past this structure.

The backed up waters of Burrendong Dam influence the junction of the Cudgegong and Macquarie Rivers. The nature and extent of fish habitat both upstream in these rivers and downstream in the Macquarie River is significant.

Recently, NSW DPI has worked closely with SWC to construct four fishways at Duck Creek Regulator, Crooked Creek Regulator, Gunningbar Weir and Warren Weir in the Macquarie Valley. Furthermore, NSW DPI has managed the development of a new fishway at Dubbo Weir on Macquarie River. These recent activities represent a major contribution to the cumulative rehabilitation of fish passage obstructions in the Macquarie Catchment.

I understand that the proposed works involve installing a 3.1 metre high parapet wall on the main and saddle dams as well as raising of spillway walls. The cost of a fishway solution at Burrendong Dam is likely to be significant, however project development and feasibility investigations will allow for the cost benefit of a fishway to be analysed in due course over the life of this upgrade project.

Chaffey Dam

Chaffey Dam is a barrier to fish migration on the Peel River. The endangered ecological community is located downstream of Chaffey Dam. There are potentially 21 native fish species which are unable to migrate past this structure.

The extent and quality of fish habitat upstream of Chaffey Dam is limited.

Recently, NSW DPI has worked closely with SWC to progress fishway development as a part of the Keepit Dam Safety Upgrade project. This represents a major contribution to the cumulative rehabilitation of fish passage obstructions in the Namoi Catchment.

I understand that the proposed works involve installing a fuse plug auxiliary spillway and may also involve the raising of the weir crest and augmentation of the dams storage. There is potential for the project to result in the raising of the dam wall by up to 8 metres. The cost of a fishway solution at Chaffey Dam is likely to be significant.

Copeton Dam

Copeton Dam is a significant barrier to fish migration on the Gwydir River and impacts upon the lifecycles of several threatened species, populations and the endangered ecological community in the natural drainage system of the lowland catchment of the Darling River. There are potentially 21 native fish species which are unable to migrate past this structure.

The nature and extent of fish habitat upstream and downstream of Copeton Dam is significant. The waters upstream of Copeton Dam represent one of the most extensive areas in the Murray Darling Basin that is not populated by the alien species European Carp.

I understand that the proposed works involve installing a fuse plug auxiliary spillway and possibly raising the dam wall. The cost of a fishway solution at Copeton Dam is likely to be significant, however project development and feasibility investigations will allow for the cost benefit of a fishway to be analysed in due course over the life of this upgrade project.

Split Rock Dam

Split Rock Dam is a significant barrier to fish migration on the Manilla River and impacts upon the lifecycles of several threatened species, populations and the endangered ecological community in the natural drainage system of the lowland catchment of the Darling River. There are potentially 21 native fish species which are unable to migrate past this structure.

The nature and extent of fish habitat upstream and downstream of Split Rock Dam is significant.

I understand that the proposed works involve installing a 2 metre high parapet wall on the main and saddle dams and possibly a fuse-plug auxiliary spillway. The cost of a fishway solution at Split Rock Dam is likely to be significant, however project development and feasibility investigations will allow for the cost benefit of a fishway to be analysed in due course over the life of this upgrade project.

Wyangala Dam

Wyangala Dam is a significant barrier to fish migration on the Lachlan River and impacts upon the lifecycles of several threatened species, populations and the endangered ecological community in the natural drainage system of the lowland catchment of the Lachlan River. There are potentially 17 native fish species which are unable to migrate past this structure.

The backed up waters of Wyangala Dam influence the junction of the Lachlan and Abercrombie Rivers. The nature and extent of fish habitat both upstream in these rivers and downstream in the Lachlan River is significant.

Recently, NSW DPI has worked closely with SWC to construct two fishways at Buggan Creek Weir and Island Creek Weir in the Lachlan Valley. Furthermore, SWC is also progressing the design of a new fishway at Lake Cargellico Weir on Lachlan River. These recent activities represent a major contribution to the cumulative rehabilitation of fish passage obstructions in the Lachlan Catchment.

I understand that the proposed works involve installing a 1.6 metre high parapet wall and an auxiliary spillway. The cost of a fishway solution at Wyangala Dam is likely to be significant, however project development and feasibility investigations will allow for the cost benefit of a fishway to be analysed in due course over the life of this upgrade project.

In view of the above information, NSW DPI recommends that the capacity for a fishway be investigated and incorporated into the Burrendong, Copeton, Split Rock and Wyangala Dam Safety Upgrade Projects.

NSWDPI does not recommend the capacity for a fishway be investigated and incorporated into the Chaffey Dam Safety Upgrade Project.

If you have any questions please do not hesitate to contact me on (02) 6042 4200.

Yours faithfully

A handwritten signature in black ink, appearing to read 'Adam Vey', with a stylized flourish at the end.

Adam Vey
Senior Conservation Manager
Aquatic Habitat Rehabilitation (State Water Liaisons)



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Appendix 5: Project Risk Workshop Register of Invitees and Attendees



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**Chaffey Dam Augmentation and Safety Upgrade Environmental Impact Assessment
Register of Stakeholders for Risk Workshop 15 May 2012
301015-02980-REG-0001 Rev 0 15 May 2012**

Stakeholder	Representative	Position	Attended Risk Workshop
State Water Corporation	Jubrahil Khan	Project Manager	Yes
State Water Corporation	Amanda Cooke		Yes
State Water Corporation	Francisca Alvarez		Yes
State Water Corporation	Fiona Gainsford		Yes
Department of Planning and Infrastructure	Swati Sharma		No
Department of Planning and Infrastructure	Belinda Scott		No
Office of Water	Mark Simons		Yes
Roads and Maritime Services	Matt Adams		No
Department of Primary Industries - Fisheries, Forests and Agriculture	Matthew Gordos	Senior Conservation Manager	No
Department of Primary Industries - Fisheries, Forests and Agriculture	David Ward	Conservation Manager	Yes
Environment Protection Authority - Armidale	Andrea Jackes	Act. Regional Operations Officer NW Branch	No
Environment Protection Authority - Armidale	Lindsay Fulloon		No
Environment Protection Authority - Armidale	Kharl Turnbull		Yes
Namoi Catchment Management Authority	James Hutchinson-Smith	Catchment Coordinator - Upper Namoi	Yes
Namoi Catchment Management Authority	Bruce Brown	General Manager	No
Namoi Catchment Management Authority	Anna Cronin	Riparian Management	Yes
Namoi Catchment Management Authority	Jeremy Cape	Catchment Coordinator Partnerships	No
Office of Environment and Heritage	Gary Estcourt		No
Environment NSW	Peter Christie		No
Environment NSW Frog Specialist	David Coote		No
Bowling Alley Point Recreation Trust	Andrew Brown		No
Bowling Alley Point Recreation Trust	Robert Warren		Yes
NSW Dams Safety Committee	Steve Knight		No
Tamworth Regional Council	Bruce Logan		Yes
Tamworth Regional Council	Traffic Engineer (Matthew Ferris)		Yes
Tamworth Local Aboriginal Land Council	Fiona Snape	CEO	No
Tamworth Local Aboriginal Land Council	Brian Allen		No
Nungaroo Local Aboriginal Land Council	Mark Austin	CEO	No
Tamworth Historical Society	John Vickery		Yes
NSW State Emergency Service	Andrew Galvin		Yes
Peel Water Users	Jan Hahn		No
WorleyParsons	Chris Thomas	Manager - Environment and Water Resources	Yes
WorleyParsons	Sofie Zivanovic	Principal Environmental Planner	Yes
WorleyParsons	Nicole Cowlshaw	Senior Environmental Planner	Yes
SLR Consulting	Martin Davenport	Senior Project Consultant	Yes
ngh environmental	Jacqui Coughlan	Principal Ecologist	Yes
Better Transport Futures	Mark Lucas	Senior Traffic Engineer	Yes
Navin Officer Heritage Consultants	Nicola Hayes	Archaeologist	Yes



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Appendix 6: Stakeholder Consultation Report



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Chaffey Dam Augmentation and Safety Upgrade Environmental Impact Assessment

Stakeholder Consultation Report



301015-02980 – 301015-02980-REP-0012

7 November 2012

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**STATE WATER CORPORATION
CHAFFEY DAM AUGMENTATION AND SAFETY UPGRADE ENVIRONMENTAL IMPACT ASSESSMENT
STAKEHOLDER CONSULTATION REPORT**

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**PROJECT 301015-02980 - CHAFFEY DAM AUGMENTATION AND SAFETY UPGRADE
ENVIRONMENTAL IMPACT ASSESSMENT**

REV	DESCRIPTION	ORIG	REVIEW	WORLEY- PARSONS APPROVAL	DATE	CLIENT APPROVAL	DATE
A	Issued for internal review	<u>S Zivanovic</u>	<u>R Power</u>	<u>N/A</u>	05-Sep-12	<u>N/A</u>	
0	Issued for use	<u>S Zivanovic</u>	<u>R Power</u>	<u>C Thomas</u>	07-Nov-12	<u></u>	
		<u></u>	<u></u>	<u></u>		<u></u>	
		<u></u>	<u></u>	<u></u>		<u></u>	



**STATE WATER CORPORATION
CHAFFEY DAM AUGMENTATION AND SAFETY UPGRADE ENVIRONMENTAL IMPACT ASSESSMENT
STAKEHOLDER CONSULTATION REPORT**

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CHAFFEY DAM AUGMENTATION AND SAFETY UPGRADE ENVIRONMENTAL IMPACT ASSESSMENT STAKEHOLDER CONSULTATION REPORT

1 OVERVIEW

This Stakeholder Consultation Report has been prepared to provide a summary of the stakeholder consultation process, including methodology, activities and outcomes, undertaken as part of the consultation for the Chaffey Dam Augmentation and Safety Upgrade Environmental Impact Assessment (EIA) (the Project). Consultation is one of the requirements of the Director-General's Assessment Requirements for the Project.

A Stakeholder Consultation Plan was prepared at Project commencement. The Stakeholder Consultation Plan recognised the need for the Project team to work together with stakeholders to identify, progress and deliver, optimum outcomes for the Project.

A stakeholder was defined as any person, community or group, organisation, Department or Agency that has an interest in the Project or could be potentially affected by its delivery or outputs.

A range of stakeholders were identified including:

- State Water Corporation
- Department of Planning and Infrastructure
- Department of Primary Industries (Fisheries, Forests and Agriculture)
- Environment Protection Authority
- Namoi Catchment Management Authority
- NSW Office of Water (NOW)
- Nungaroo Local Aboriginal Land Council
- Roads and Maritime Services (RMS)
- Community of Nundle
- Department of Sustainability, Environment, Water, Population and Communities (SEWPaC)
- Tamworth Regional Council
- Tamworth Local Aboriginal Land Council
- Registered Aboriginal stakeholders
- Owners of residential and agricultural properties within and adjoining Chaffey Dam
- NSW Office of Environment and Heritage
- Bowling Point Alley Recreation Trust
- Nundle Fishing Club
- Tamworth Fishing Club
- Tamworth Historical Society
- Mining Lease holders
- Community of Woolomin
- Local environmental groups

The Stakeholder Consultation Plan was used to establish new communications with stakeholders, improve existing communications with stakeholders, obtain stakeholder support, gather valuable data and information to facilitate consistent and sustainable decision-making.

The Stakeholder Consultation Plan proposed **three** key decision-making points where engagement with stakeholders would be undertaken:



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- during scoping (concept plan preparation);
- during analysis (site investigations and environmental assessment and where options and alternatives are being considered); and
- during decision-making (public exhibition and determination).

Stakeholders were consulted throughout the scoping and analysis phases of the Project. It is anticipated that consultation with relevant stakeholders will continue during the decision making phase.

The consultation methodology employed sought to ensure that in the management of the EIA for the Project, there was consideration of the environment in which the Project is to operate, the scope and degree of likely impacts and an endeavour to address the needs of the various stakeholders that may be impacted or affected by the Project.

Key matters raised by the stakeholders included:

- How are impacts on private lands being addressed?
- How are impacts on leased lands (Tamworth Fishing Club and Bowling Alley Point Recreation Area) being addressed?
- What impacts would the new Full Supply Level (FSL) and Probable Maximum Flood (PMF) have on development and use of land and will there be any additional restrictions on land?
- What impact will this have on insurance and level of cover?
- The FSL is proposed to be raised. What happens if private property sustains damage due to flood waters?
- Further resumption of dairy land coupled with the loss of water supply will lead to the loss of a Dairy Farm enterprise (established in 1930) and the redundancy of four employees.
- Are the remains of the old community hall, tennis court and shop going to be documented?
- What is happening to the Arboretum?
- Cattle should not be allowed to graze freely around Chaffey Dam in the areas of the Peel River Catchment. They are eroding the banks of the Peel River, carry diseases and cause algal outbreaks in the lower water supply.
- Will a Traffic Management Plan be prepared for construction activities? An accident occurred on Western Foreshore Road during construction of the existing Bowling Alley Point Bridge?
- The construction timeframe is approximately two years. Will construction personnel come from out of town or require accommodation in town?
- Have the Aboriginal heritage investigations found any human remains?



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- Below the 1 in 100 year flood line should be a buffer zone for the protection of the dam and should not permit cattle grazing?
- Good camping areas amongst tree areas will be inundated by the new FSL. The relocated Bowling Alley Point Recreation Area is likely to be moved closer to the road (due to the proposed new FSL and reduced land availability). Is there any possibility of planting tree barriers along the road to screen car lighting, noise and for safety of campers? The planting would also recreate a 'bush camping' feel;
- Is a new access track going to be provided to and within the Bowling Alley Point Recreation Area?
- Department of Primary Industries (Crown Lands) will look into the preparation of a formal recreation plan for the relocated Bowling Alley Point Recreation Area, including potential upgrade of the boatramp. In 2009 the Minister for Ports and Waterways announced funding to support boating infrastructure projects across NSW. The Chaffey Dam Bowling Alley Point Recreation Reserve was one of the successful 'applicants';
- What are the potential impacts on the Booroolong Frog habitat?
- What are the potential impacts on threatened species?
- Is there likely to be cold water pollution downstream?
- Is the reservoir water level required to be lowered for construction of the Project?
- What is happening to the early warning system?
- Is an Environment Protection Licence (EPL) required?
- Can the Arboretum be made accessible to local environmental groups who may want to collect seeds from some of the rare and endangered trees?

The above raised matters will need to be investigated and addressed in the Environmental Impact Statement (EIS) being prepared for the Project.

It was noted that stakeholders had different levels of interest, expectation and influence over the Project, depending on a range of issues. The issues included their perceived contributions to or over the Project, their potential to influence decision-making, their ability to slow or halt the Project and their ability to impact on the effectiveness of outcomes.

For a Project which is relatively isolated from major urban areas (residential and employment areas) it is considered that there was an appreciable level of interest in the Project. It is thought that some of the interest may arise from it being a popular recreational destination in the region.



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2 STAKEHOLDER IDENTIFICATION

2.1 Identifying who should be involved

In order to identify the relevant stakeholders for the Project, the following questions were canvassed:

- Who is directly responsible for determining the Project?
- Who is responsible for decisions on key issues?
- Who will be affected by any decisions or outcomes from the EIA, including individuals, Agencies and organisations?
- Who runs the organisations or Agencies with relevant interests?
- Who can obstruct a decision if not involved?
- Who is influential in the area, or amongst the community?
- Who has been involved in the site in the past?
- Who has not been involved to date, but should have been?

A stakeholder was defined as any person, community or group, organisation, Department or Agency that has an interest in the Project or could be potentially impacted/affected by its delivery or outputs.

2.2 Key Stakeholders

Table 2.1 lists the key stakeholders identified for the Project.

Table 2.1 Key Stakeholders

Government	Organisations	Community and Private Land Owners
State Water Corporation	Bowling Point Alley Recreation Trust	Mining Lease holders around Chaffey Dam
Department of Planning and Infrastructure	Nundle Fishing Club	Owners of residential and agricultural properties around Chaffey Dam
Department of Primary Industries (Fisheries, Forests and Agriculture)	Tamworth Fishing Club	Community of Nundle
Environment Protection Authority (EPA)	Tamworth Historical Society	Community of Woolomin



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Government	Organisations	Community and Private Land Owners
Namoi Catchment Management Authority (CMA)	Local environmental groups (including Land Care Group, Tamworth Urban Group, Tamworth Garden Club and National Parks Association of NSW Tamworth- Namoi Branch	
NSW Office of Water (NOW)		
NSW Office of Environment and Heritage (OEH)		
Roads and Maritime Services (RMS)		
Tamworth Regional Council		
Tamworth Local Aboriginal Land Council		
Nungaroo Local Aboriginal Land Council		
Department of Sustainability, Environment, Water, Population and Communities (SEWPaC)		



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3 STAKEHOLDER CONSULTATION

3.1 Aim of Stakeholder Consultation

The Aim of Stakeholder Consultation was to help ensure engagement with relevant and interested stakeholders in the carrying out of the EIA.

3.2 Objective of Stakeholder Consultation

The Objective of Stakeholder Consultation was to facilitate in identifying and prioritising possible issues that may require addressing and the proposed management of potential key issues.

3.3 Methodology

The key components of Stakeholder Consultation for the Project comprised:

- a facilitated Risk Workshop held over one day at State Water's Chaffey Dam offices;
- two Community Consultation Sessions, open to the public and interested stakeholders;
- two Community Drop-in Sessions, which were convened at a local shopping centre in Tamworth and the General Store at Woolomin;
- a Community and Stakeholder Survey undertaken via electronic and hard copy distribution of an information brochure and questionnaire;
- development and maintenance of a Project Website;
- development and maintenance of Community Consultation Comment Register;
- a meeting with the SEWPaC to inform the Department of the Project and to seek input on the requirement for the Project to be referred under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act);
- telephone and email consultation with Namoi CMA and OEH regarding Project assessment methodology for Biodiversity and Aboriginal Heritage;
- email consultation with the Environment Protection Authority; and
- a meeting with the Department of Planning and Infrastructure to update the Department on the status of the EIA for the Project and to discuss the Minister for Sustainability, Environment, Water, Population and Communities' declaration of the Project as a controlled action, requiring assessment and approval under the Commonwealth EPBC Act.

These activities were proposed to engage stakeholders in the EIA process and to document Project community consultation activities, outcomes and considerations in the EIS.



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3.4 Risk Workshop

On Tuesday 15 May 2012, a Risk Workshop was held at State Water's Chaffey Dam offices to bring together key members of the WorleyParsons Project Team, with State Water and key government stakeholders.

A Register of invitations sent out and attendees is provided at **Appendix 1**. Approximately 20 people attended the Risk Workshop including representatives from:

- State Water Corporation;
- Office of Water;
- Department of Primary Industries (Fisheries, Forests and Agriculture);
- Environment Protection Authority
- Namoi Catchment Management Authority;
- Bowling Alley Point recreation Trust;
- Tamworth regional Council;
- Tamworth Historical Society; and
- NSW State Emergency Services.

The Risk Workshop was facilitated to enable constructive discussion on the primary constraints and opportunities of the Project, to identify key risks to successful and timely delivery of Project approvals, and to develop practical, implementable strategies to avoid or minimise the identified risks.

Attendees were also shown the key works areas for the Project. Photos of the site visit are provided at Photo 1 and Photo 2.



Photo 1 Risk Workshop Site Visit – dam wall



Photo 2 Risk Workshop Site Visit - lookout



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Table 3-1 lists potential issues, hazards and risks for the Project identified at the Risk Workshop.

Table 3-1 Risk Workshop identification of potential issues, hazards and risks for the Project

POTENTIAL ISSUE	POTENTIAL HAZARD	POTENTIAL RISK
BIODIVERSITY		
Booroolong Frog	Chytrid fungus entering river system with potential impact on Booroolong Frog (NCMA)	Chytrid not addressed in EIS
Booroolong Frog	Chytrid fungus entering river system with potential impact on Booroolong Frog (NCMA)	Inappropriate controls provided in survey methodology
Booroolong Frog	Chytrid fungus entering river system with potential impact on Booroolong Frog (NCMA)	Appropriate mitigation measures not included in EIS
Booroolong Frog	Loss of habitat for Booroolong Frog due to inundation (NCMA)	Appropriate mitigation measures not included in EIS
Threatened species (generally)	Construction impacts to threatened species (NCMA)	Appropriate mitigation measures not included in EIS
Threatened species (generally)	Spring survey required and cannot be undertaken due to timeframe for EIS delivery (NCMA)	Inadequate assessment of threatened species in EIS
Threatened species (generally)	Spring survey required (NCMA)	Extension to project EIA timeframe
Threatened species (generally)	Significant impact to threatened species (NCMA)	Species Impact Statement / EPBC Act Controlled Action required
Fish habitat	Loss of habitat for fish (DPIF)	Inadequate identification and/or assessment of fish habitat in EIS (not only threatened species)
Fish habitat	Change in water depth at offtake (DPIF)	Cold water pollution downstream
Fish habitat	s218 Fisheries Management Act (DPIF)	Fishway required for dam
Biobanking	Biobanking required (EPA)	Inadequate offsets proposed
Biobanking	Insufficient suitable land available for Biobanking (EPA)	Inadequate offsets available for Biobanking
SOIL AND WATER		
Water Security	Shift in water availability from one category of water user to another (NOW)	Not adequately addressed in EIS - decrease in reliability further down system
Water Security	Allocation of downstream flows (NOW)	Project doesn't meet objectives of Peel Water Sharing Plan
Approvals	Reservoir water level required to be lowered for construction of Project (NOW)	Relevant approvals not identified



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POTENTIAL ISSUE	POTENTIAL HAZARD	POTENTIAL RISK
HERITAGE (ABORIGINAL)		
Heritage survey	Inadequate timing and methodology of investigations (potential for survey as condition of approval) (NOHC)	Loss of heritage values / items / sites
Heritage survey	Item of high heritage significance discovered (e.g. burial site) (NOHC)	Additional survey work required and time delays
Heritage survey	Detailed design not available (NOHC)	Inadequate survey due to lack of information
Consultation	2010 Guidelines used for consultation (NOHC)	DGRs not complied with
HERITAGE (EUROPEAN)		
Heritage survey	Assessment and mitigation of impact to heritage items not adequately completed (e.g. relocation of AAC plaque near Arboretum not undertaken, relocation of footbridge not undertaken, loss of mine tailings, loss of war memorial plaque (THS)	Loss of European heritage
Heritage survey	Discovery of new heritage item (THS)	Not assessed in EIS
TRAFFIC AND TRANSPORT		
Design	Changes to road and bridge alignments (Council)	Inadequate road design for handover to Council
Infrastructure damage	Heavy vehicle use during construction (including repeated heavy vehicle movement from import of fill) (Council)	Damage to road pavement
Amenity	Traffic impacts to local communities and those on haul routes (SLRC)	Communities significantly impacted by traffic
LAND USE, PROPERTY AND SOCIOECONOMIC		
Design	Inefficient land uses (BAPRT)	Strategic opportunities for land uses not identified
Design	Recreation areas removed or altered (BAPRT)	Loss of recreation areas or associated income (steep banks, loss of area, loss of income including camping and agistment fees)
Design	Recreation areas removed or altered (BAPRT)	Loss of facilities (including boat ramp, toilet facilities, septic system)
NOISE AND AIR		
Amenity	Noise and amenity impacts (Council)	Inappropriate construction hours
Amenity	Construction (particularly Bowling Alley Point) impacts, materials handling (SLRC)	Inadequate consideration and mitigation of construction impacts
Amenity	Noise impacts to recreation area (SLRC)	Recreation areas temporarily unavailable or undesirable
Amenity	Noise impacts to local communities and those on haul routes (SLRC)	Communities significantly impacted by noise



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POTENTIAL ISSUE	POTENTIAL HAZARD	POTENTIAL RISK
SPOIL AND WASTE MANAGEMENT		
Waste	Inappropriate waste management strategies (EPA)	Spills and inappropriate waste disposal
Water Quality	Inadequate management when working over water (EPA)	Use of barge not appropriately addressed in EIS
EMERGENCY MANAGEMENT		
Consultation	Inadequate community consultation (SES)	Misinformation in community
Consultation	Removal of early warning systems (SES)	Multiple public submissions in relation to warning system for flooding downstream
GENERAL		
DGRs	Impacts not assessed and mitigated	Inadequate coverage of issues in EIS
Complaints	Queries in relation to previous works (Council)	Inadequate assessment and management of complaints
Approvals	EPLs required (EPA)	Concrete batching plant, placement of stockpiled rock (or other scheduled activity) not appropriately licensed

The above raised matters will need to be investigated and addressed in the Environmental Impact Statement (EIS) being prepared for the Project.

An important component of the Risk Workshop was opening the communication lines that would need to be maintained throughout the Project between the WorleyParsons Project Team, State Water and key government stakeholders.

3.5 Community Consultation Sessions

Two community consultation sessions were held to inform stakeholders of the Project and to seek their comment and input.

The first session was an informal meeting held at Chaffey Dam whilst the second session comprised a more formal Town Hall Meeting. This methodology ensured that a larger cross-section of the Tamworth community was engaged, including both residents close to Chaffey Dam and those in the main centre of Tamworth.

3.5.1 Community Consultation Day Barbeque

Advertisements for the Community Consultation Day Barbeque were placed in the local newspaper (Northern Daily Leader) on Saturday 30 June 2012, Wednesday 4 July 2012 and Saturday 7 July 2012 and Notices provided at the Woolomin General Store prior to the Community Consultation Day (refer **Appendix 2**).



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Details of land owners within the Project Site and adjoining land owners were obtained from Tamworth Regional Council and letters were posted to these land owners to notify them of the Community Consultation Day Barbeque. Notices were also provided at the Woolomin General Store.

On Saturday 14 July 2012 from midday to 2pm, a Community Consultation Day Barbeque was held and comprised a casual “sausage sizzle” at State Water’s Chaffey Dam Office, 3580 Nundle Road Woolomin.

The following consultation material was used:

- **Coloured display boards** set-up to illustrate the project details including:
 - Project Layout
 - Western Foreshore Road Draft Design
 - Bowling Alley Point Road Draft Design
- **Chaffey Dam Safety Upgrade and Augmentation Project Brochure** for residents/ land owners/ community to take away
- A **Community Survey** for residents/ land owners/ community to participate it

The purpose of the Community Consultation Day Barbeque was to notify stakeholders of the project details, involve and listen to the community about any concerns they may have and gain information and opinions from various sectors of the community which will assist the proponent in the preparation of the EIA and government authorities in their assessment of the EIA.

Information regarding staging and timeframes, the process for gaining approving for the Project and the ‘next steps’ in the Project Program were discussed.

The Community Consultation Day Barbeque was well attended by approximately 40 people including adjoining land owners, local residents, the Tamworth Fishing Club, Peel Valley Water Users and representatives of State Water.

Photos of the Community Consultation Day Barbeque and Display Boards are provided at Photo 3 and Photo 4.



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**Photo 3 Community Consultation Day
Barbeque**



**Photo 4 Community Consultation Day
Barbeque – Display Boards**

Key issues raised by the community during the day were:

- How are impacts on private lands being addressed?
- How are impacts on leased lands (Tamworth Fishing Club and Bowling Alley Point Recreation Area) being addressed?
- What impacts do the new FSL and PMF have on development and use of land and will there be any additional restrictions on land?
- What impact will this have on insurance and levels of cover?
- The FSL is proposed to be raised. What happens if private property sustains damage due to flood waters?
- Further resumption of dairy land coupled with the loss of water supply will lead to the loss of a Dairy Farm enterprise (established in 1930) and the redundancy of four employees.
- Are the remains of the old community hall, tennis court and shop going to be documented?
- What is happening to the Arboretum?
- Cattle should not be allowed to graze freely around Chaffey Dam in the areas of the Peel River Catchment. They are eroding the banks of the Peel River, carry diseases and cause algal outbreaks in the lower water supply.
- Will a Traffic Management Plan be prepared for construction activities? An accident occurred on Western Foreshore Road during construction of the existing Bowling Alley Point Bridge.
- The construction timeframe is approximately 2 years. Will construction personnel come from out of town or require accommodation in town?



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The above raised matters will need to be investigated and addressed in the EIS being prepared for the Project.

Minutes of the Community Consultation Day Barbeque are provided at **Appendix 3**.

Stakeholders were advised that a second Community Consultation Meeting would be held in Tamworth town centre in August 2012 with them and the community to be informed of the details once the date and location had been confirmed.

3.5.2 Community Consultation Night

Advertisements for the Community Consultation Night were placed in the Northern Daily Leader on Wednesday 22 August 2012 and Saturday 25 August 2012, prior to the Community Consultation Night and Notices were provided at the Woolomin General Store (refer **Appendix 4**).

Letters were also posted to land owners within the Project Site as well as adjoining land owners to notify them of the Community Consultation Night.

An email was sent to the key Agencies and Stakeholders invited to the Risk Workshop informing them of the Community Consultation Night and inviting them to attend.

On Thursday 30 August 2012 from 6:30pm – 8:30pm, the Community Consultation Night was held at Tamworth Community Centre, Darling Street, Tamworth.

The following consultation material was used:

- **PowerPoint presentation**
- **Coloured display boards** set-up to illustrate the project details including:
 - Project Layout (including new FSL, new 1 in 100 year flood level, new PMF level, proposed road re-alignment and proposed works areas)
 - Western Foreshore Road Design
 - Tamworth-Nundle Road, Rivers Road and Bowling Alley Point Road Design
- **Chaffey Dam Safety Upgrade and Augmentation Project Brochure** for residents/ land owners/ community to take away
- A **Community Survey** for residents/ land owners/ community to participate in.

The purpose of the Community Consultation Night was to:

- Outline the Project;
- Summarise Key Findings of Site Investigations;
- Summarise Proposed Management and Mitigation Measures;



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- Discuss Project Timeframes; and
- Take Questions and Comments.

Information regarding staging and timeframes, the process for gaining approving for the Project and the 'next steps' in the Project Program were discussed.

The Community Consultation Night had considerably fewer attendees than the first consultation session. It is understood that this may have been due to the fact that Tamworth Council held their second Crime Meeting on the same night, at the Tamworth Regional Entertainment Centre. That meeting was a follow up to their December 2011 public meeting which was attended by more than 1,000 residents who discussed their concerns about rising crime and anti-social behaviour in the Tamworth LGA. The second meeting was attended by the NSW Attorney General Greg Smith, State Member for Tamworth Kevin Anderson and Mayor Col Murray and over 300 community members.

Given the extensive notification and advertising for the Project (letters, newspapers, emails to relevant stakeholders including Council and notices in public places) which took place in early August 2012 advising the community of the second consultation night, it was considered unfortunate that Council's Crime Meeting was held, at short notice, on the same night.

A photo of the Community Consultation Night is at Photo 5.



Photo 5 Community Consultation Night

Key issues raised by the community during on the night were:

- Continued use of the land immediately adjoining Chaffey Dam for cattle grazing and wandering stock should be discouraged. They are eroding the banks of the Peel River, carry diseases and cause algal outbreaks in the lower water supply.
- Have the Aboriginal heritage investigations found any human remains?
- Below the 1 in 100 year flood line should be a buffer zone for the protection of the dam and should not permit cattle grazing.
- Good camping areas amongst tree areas will be inundated by the new FSL. The relocated Bowling Alley Point Recreation Area is likely to be moved closer to the road (due to the



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proposed new FSL and land availability). Is there any possibility of planting tree barriers along the road to screen car lighting, noise and for safety of campers? The planting would also recreate a 'bush camping' feel.

- Is a new access track going to be provided to and within the Bowling Alley Point Recreation Area?
- Department of Primary Industries (Crown Lands) will look into the preparation of a formal recreation plan for the relocated Bowling Alley Point Recreation Area, including potential upgrade of the boatramp. In 2009 the Minister for Ports and Waterways announced funding to support boating infrastructure projects across NSW. The Chaffey Dam Bowling Alley Point Recreation Reserve was one of the successful 'applicants'.
- The Aboretum is not a listed heritage item. What is happening to it?

The above raised matters will need to be investigated and addressed in the EIS being prepared for the Project.

Minutes of the Community Consultation Night are provided at **Appendix 5**.

3.6 Community Drop-in Sessions

Advertisements advising of the Community Drop-In Sessions to be held on 30 and 31 August, 2012 were placed in the Northern Daily Leader on Wednesday 22 August 2012 and Saturday 25 August 2012 prior to the Community Drop-In Sessions (refer **Appendix 4**).

Two Community Drop-in Session were held over two days in August 2012. They provided an opportunity for the public to view and take with them information about the Project and to engage in discussions with members of the Project Team, including State Water representatives. Printed handouts were available to provide Project information and a copy of the Community and Stakeholder Survey.

On 30 August 2012, the first Community Drop-in Session was held at Tamworth City Plaza.

On 31 August 2012, the second Community Drop-in Session was held outside Woolomin General Store.

A photo of one of the Community Drop-in Sessions is at Photo 6.



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Photo 6 Community Drop-in Session at Tamworth City Plaza

3.7 Community and Stakeholder Survey

A Community and Stakeholder Survey was prepared to actively seek comment and feedback from the public in a structured manner. The Community and Stakeholder Survey was available for completion in hard copy at the Community Drop-in Sessions and meetings and online via the Project Website.

Copies of the Community and Stakeholder Survey responses are provided at **Appendix 6**.

The outcomes of the survey will need to be assessed and considered in the EIS being prepared for the Project.

3.8 Project Website

A Project Website was established to provide public access to information on the Project.

The Project website address is www.worleyparsons.com/chaffeydam

The information made publicly available on the website includes the proposed Project Layout (concept design), the EIA process and event information related to the stakeholder and community meetings and community drop-in sessions.

A Feedback Form on the Project Website enables the public to provide feedback, comments and suggestions on the Project. The Community and Stakeholder Survey is also available for completion on the Project Website.

Comments received in the Feedback Forms and Community and Stakeholder Surveys will need to be assessed and considered in the EIS.

An image of the Project Website is at Photo 7.



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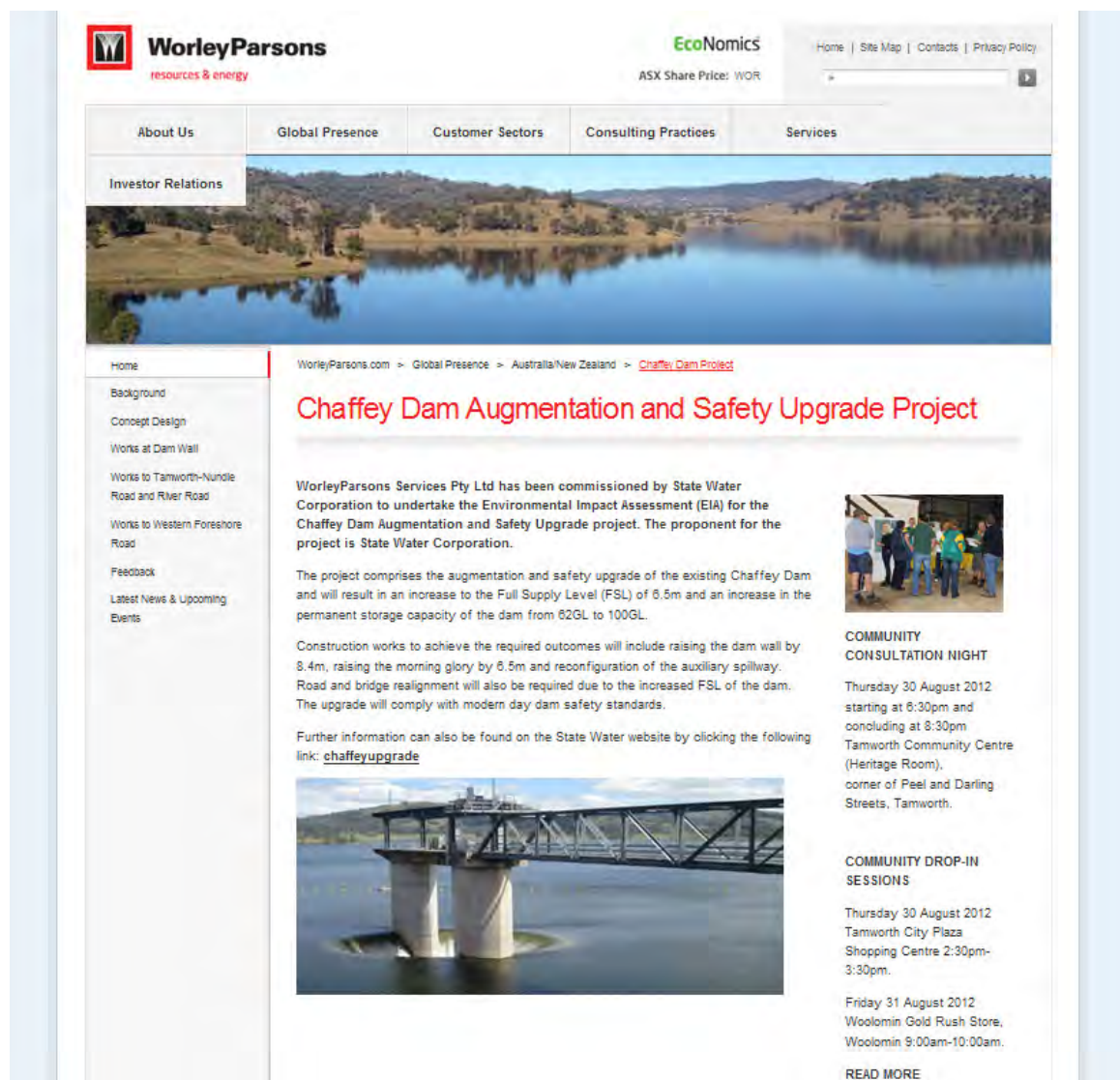


Photo 7 Project Website – www.worleyparsons.com/chaffeydam

3.9 Community Consultation Comment Register

A Community Consultation Comment Register was prepared for the Project to record all comments

The Register is comprised of the following comments:

- matters raised by stakeholders at the community consultation sessions;
- matters raised by stakeholders at the drop-in sessions;
- feedback from correspondence from the project website;
- email correspondence;



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- phone correspondence; and
- letter correspondence.

The Community Consultation Comment Register is included at **Appendix 7**.

3.10 Consultation with the Department of Sustainability, Environment, Water, Population and Communities

A meeting was held with the Department of Sustainability, Environment, Water, Population and Communities (SEWPaC) on 5 July 2012 to inform the Department of the Project and to seek input on the requirement for the Project to be referred under the EPBC Act.

On 29 August 2012, a *Referral of Proposed Action Form* was submitted by State Water to SEWPaC. The assessment provided in the Referral concludes that implementation of the Project is not likely to constitute a significant impact on any matter of NES.

SEWPaC provided its determination for the Project on 28 September 2012, concluding that the Project is a controlled action and as such, requires assessment and a decision of approval under the EPBC Act before it can proceed.

3.11 Office of Environment and Heritage

The Office of Environment and Heritage was consulted in relation to the Project biodiversity and Aboriginal heritage methodology.

On 28 May 2012, a letter was sent to Environment NSW to seek comment on the biodiversity methodology for the Project.

On 7 June 2012, a response letter was received, providing several points for consideration in the EIA. The letter is included at **Appendix 8**.

3.12 Namoi Catchment Management Authority

Representatives from the Namoi CMA attended the Project Risk Workshop on 15 May 2012 and contributed to development of a risk matrix for the Project.

Namoi CMA and frog specialist Phil Sparks were also consulted in relation to assessment of impacts on the Booroolong Frog. Ongoing informal consultation has been and continues to be carried out with Namoi CMA regarding management of the Booroolong Frog.

3.13 Consultation with the Department of Planning and Infrastructure

A meeting was held with the Department of Planning and Infrastructure on 8 October 2012 to update the Department on the status of the Environmental Impact Assessment for the Project and to discuss the Minister for Sustainability, Environment, Water, Population and Communities' declaration of the



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Project as a controlled action, requiring assessment and approval under the Commonwealth's EPBC Act.

Supplementary DGRs were issued on 19 October 2012 by the Department of Planning and Infrastructure to incorporate SEWPaC's environmental assessment requirements for the Project.



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4 OUTCOMES OF STAKEHOLDER CONSULTATION DURING THE EIA PHASE

It is considered that the outcomes from undertaking the stakeholder consultation process during the EIA phase may be summarised to include:

- formation of new formal partnerships;
- improved working relationships;
- improved communication channels;
- agreement on purpose and direction of the program to deliver the Project (i.e. the EIS);
- early identification of potential issues, conflicts and benefits;
- opportunity for generation and dissemination of new ideas;
- resolution of conflict situations before they manifest and impact on progress; and
- development of increased community cohesion and strengthened shared identity.



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5 RECOMMENDATIONS

All comments raised during the EIA phase, including comments raised at the Community Consultation Day Barbeque, Community Consultation Night, Drop-In Sessions and comments received in the Feedback Forms and Community and Stakeholder Surveys will need to be assessed and considered in the EIS.

It is very important that consultation with relevant stakeholders continue during the decision making (public exhibition and determination) phase.

Finally, whilst it is beyond the EIA/EIS and decision making phase, it is also recommended that State Water continue consultation with stakeholders following the determination phase (during construction and operation of the Project).



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Appendix 1 Register of Stakeholders invited to the Risk Workshop



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Chaffey Dam Augmentation and Safety Upgrade Environmental Impact Assessment
Register of Stakeholders for Risk Workshop 15 May 2012
301015-02980-REG-0001 Rev B 9 May 2012

Stakeholder	Representative	Position	Contact	Email	Attending Risk Workshop
State Water Corporation	Jubrahil Khan	Project Manager	(02) 8245 2049	jubrahil.khan@statewater.com.au	Yes <i>Jubrahil Khan</i>
State Water Corporation	Amanda Cooke			amanda.cooke@statewater.com.au	Yes <i>Amanda Cooke</i>
State Water Corporation	Francisca Alvarez			francisca.alvarez@statewater.com.au	Yes <i>Francisca Alvarez</i>
State Water Corporation	Fiona Gainsford			fiona.gainsford@services.nsw.gov.au	Yes <i>Fiona Gainsford</i>
Department of Planning and Infrastructure	Swati Sharma		(02) 9228 6221	swati.sharma@planning.nsw.gov.au	No
Department of Planning and Infrastructure	Belinda Scott			belinda.scott@planning.nsw.gov.au	No
Office of Water	Mark Simons		(02) 4904 2572	mark.simons@water.nsw.gov.au	Yes <i>Mark Simons</i>
Roads and Maritime Services	Matt Adams		(02) 6640 1344	land_use_northern@rta.nsw.gov.au	No
Department of Primary Industries - Fisheries, Forests and Agriculture	Matthew Gordos	Senior Conservation Manager	(02) 6626 1395	matthew.gordos@dpi.nsw.gov.au	No
Department of Primary Industries - Fisheries, Forests and Agriculture	David Ward	Conservation Manager	(02) 6763 1255	david.ward@industry.nsw.gov.au	Yes <i>D. Ward</i>
Environment Protection Authority - Armidale	Andrea Jackes	Act. Regional Operations Officer NW Branch	(02) 6773 7000	andrea.jackes@epa.nsw.gov.au	No
Environment Protection Authority - Armidale	Lindsay Fulloon		(02) 6773 7000	lindsay.fulloon@epa.nsw.gov.au	No
Environment Protection Authority - Armidale	Khari Turnbull			Khari.Turnbull@epa.nsw.gov.au	Yes <i>K. Turnbull</i>
Namoi Catchment Management Authority	James Hutchinson-Smith	Catchment Coordinator - Upper Namoi	(02) 6764 5970	james.hutchsmith@cma.nsw.gov.au	Yes <i>James Hutchinson-Smith</i>
Namoi Catchment Management Authority	Bruce Brown	General Manager	(02) 6764 5907	bruce.brown@cma.nsw.gov.au	No
Namoi Catchment Management Authority	Anna Cronin	Riparian Management	0428 280 809	anna.cronin@cma.nsw.gov.au	Yes <i>Anna Cronin</i>
Namoi Catchment Management Authority	Jeremy Cape	Catchment Coordinator Partnerships	0428 974 588	jeremy.cape@cma.nsw.gov.au	Yes <i>Jeremy Cape</i>
Office of Environment and Heritage	Gary Estcourt		(02) 9873 8562	gary.estcourt@heritage.nsw.gov.au	No
Environment NSW	Peter Christie		(02) 6883 5347	peter.christie@environment.nsw.gov.au	No
Environment NSW Frog Specialist	David Coote		(02) 6883 5303	david.coote@environment.nsw.gov.au	No
Bowling Alley Point Recreation Trust	Andrew Brown		(02) 6769 3170		No
Bowling Alley Point Recreation Trust	Robert Warren		0429 813 529	rabbitrd@bigpond.net.au	Yes <i>Robert Warren</i>
NSW Dams Safety Committee	Steve Knight		(02) 9895 7349	steve@damsafety.nsw.gov.au	No
Tamworth Regional Council	Bruce Logan		(02) 6767 5820	b.logan@tamworth.nsw.gov.au	Yes <i>Bruce Logan</i>
Tamworth Regional Council	Traffic Engineer (Matthew FERRIS)		02 6767 5465	m.ferris@tamworth.nsw.gov.au	Yes <i>Matthew Ferris</i>
Tamworth Local Aboriginal Land Council	Fiona Snape	CEO	(02) 6766 9028	tamworth.lalc@bigpond.com	No
Tamworth Local Aboriginal Land Council	Brian Allen				No
Nungaroo Local Aboriginal Land Council	Mark Austin	CEO	(02) 6746 2356	nungaroo@bigpond.com	No
Tamworth Historical Society	John Vickery		(02) 6761 8169	jvickery@bigpond.com	Yes <i>John Vickery</i>
NSW State Emergency Service	Andrew Galvin		(02) 6740 2300	andrew.galvin@one.ses.nsw.gov.au	Yes <i>Andrew Galvin</i>
Peel Water Users	Jan Hahn		(02) 6769 4338	janhahn@activ8.net.au	No
WorleyParsons	Chris Thomas	Manager - Environment and Water Resources	(02) 8456 7230	chris.thomas@worleyparsons.com	Yes <i>Chris Thomas</i>
WorleyParsons	Sofie Zivanovic	Principal Environmental Planner	(02) 8456 7385	sofie.zivanovic@worleyparsons.com	Yes <i>Sofie Zivanovic</i>
WorleyParsons	Nicole Cowlishaw	Senior Environmental Planner	(02) 8456 7209	nicole.cowlishaw@worleyparsons.com	Yes <i>Nicole Cowlishaw</i>
SLR Consulting	Martin Davenport	Senior Project Consultant	(02) 4908 4500	mdavenport@slrconsulting.com	Yes <i>Martin Davenport</i>
ngh environmental	Jacqui Coughlan	Principal Ecologist	(02) 8202 8333	jacqui.c@nghenvironmental.com.au	Yes <i>Jacqui Coughlan</i>
Better Transport Futures	Mark Lucas	Senior Traffic Engineer	(02) 4940 0304	mluca@bettertransport.com.au	Yes <i>Mark Lucas</i>
Navin Officer	Nicola Hayes	Archaeologist	(02) 6282 9415	nhayes@nohc.com.au	Yes <i>Nicola Hayes</i>



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STATE WATER CORPORATION

CHAFFEY DAM AUGMENTATION AND SAFETY UPGRADE ENVIRONMENTAL IMPACT ASSESSMENT

STAKEHOLDER CONSULTATION REPORT

Appendix 2 Advertisements - Community Consultation Day Barbeque

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COMMUNITY CONSULTATION

CHAFFEY DAM AUGMENTATION AND SAFETY UPGRADE PROJECT

WorleyParsons Services Pty Ltd has been commissioned by State Water Corporation to undertake the Environmental Impact Assessment (EIA) for the Chaffey Dam Augmentation and Safety Upgrade project. The proponent for the project is State Water Corporation.

The project comprises the augmentation and safety upgrade of the existing Chaffey Dam and will result in an increase to the Full Supply Level (FSL) of 6.5m and an increase in the permanent storage capacity of the dam from 62 GL to 100 GL.

Construction works to achieve the required outcomes will include raising the dam wall by 8.4m, raising the morning glory by 6.5m and reconfiguration of the auxiliary spillway. Road and bridge realignment will also be required due to the increased FSL of the dam. The upgrade will comply with modern day dam safety standards.

A Community Consultation Day will be held on Saturday 14 July 2012 from midday to 2 pm at Chaffey Dam, State Water Office, 3580 Nundle Road, Woolomin.

The purpose of this consultation is to notify the community of the project details, involve and listen to the community about any concerns they may have and gain information and opinions from various sectors of the community which will assist the proponent in the preparation of the EIA and government authorities in their assessment of the EIA.

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STAKEHOLDER CONSULTATION REPORT

Appendix 3 Minutes of the Community Consultation Day Barbeque



Project No: 301015-02980

Project: Chaffey Dam Augmentation and Safety Upgrade EIA

Community Consultation Day Barbeque

FACILITATORS NAME & ORGANISATION		DATE	14 July 2012
WORLEYPARSONS	Sofie Zivanovic (SZ)		
	Nicole Cowlshaw (NC)		
		TIME START	12:00pm
STATE WATER	Jubrahil Khan (JK)	TIME FINISH	2:15pm
	Glen Tully (GT)	LOCATION	Chaffey Dam
	Nick Burr (NB)	RECORDER	Sofie Zivanovic
		DOC NO	301015-02980-MOM-0004

MINUTES OF COMMUNITY CONSULTATION DAY BARBEQUE

ITEM	ITEM DETAILS
1.	Welcome <ul style="list-style-type: none">Welcome and thank you to the community for attending and their interest in the project.Informed attendees that WorleyParsons Services Pty Ltd has been commissioned by State Water Corporation to undertake the Environmental Impact Assessment (EIA) for the Chaffey Dam Augmentation and Safety Upgrade project.Informed attendees that the proponent for the project is State Water Corporation.
2.	Attendance <p>Approximately 40 people attended the day including adjoining land owners, local residents, the Tamworth Fishing Club, Peel Valley Water Users and representatives of State Water.</p> <p>Names were not recorded as it was an informal consultation session.</p>
3.	Purpose of the Community Consultation Day <ul style="list-style-type: none">Informed attendees that that the Community Consultation Day was an informal consultation, to notify the community of the project details, involve and listen to the community about any concerns they may have and gain information and opinions from various sectors of the community which will assist the proponent in the preparation of the EIA and government authorities in their assessment of the EIA.The following consultation material was used

ITEM	ITEM DETAILS
	<ul style="list-style-type: none"> ○ Coloured display boards set-up to illustrate the project details including: <ul style="list-style-type: none"> ▪ Project Layout Concept Plan, showing that the project will impact on freehold land and leased land by way of New Full Supply Level (FSL) and New Probable Maximum Flood (PMF) Level ▪ Western Foreshore Road Draft Design ▪ Bowling Alley Point Road Draft Design ○ Chaffey Dam Safety Upgrade and Augmentation Project Brochure for attendees (including residents/ land owners/ community) to take away ○ State Significant Infrastructure (SSI) Approval Flowchart

4. **Project Description**

- The project comprises the augmentation and safety upgrade of the existing Chaffey Dam and will result in an increase to the Full Supply Level (FSL) of 6.5m and an increase in the permanent storage capacity of the dam from 62GL to 100GL.
- Construction works to achieve the required outcomes will include raising the dam wall by 8.4m, raising the morning glory by 6.5m and reconfiguration of the auxiliary spillway. Road and bridge realignment will also be required due to the increased FSL of the dam. The upgrade will comply with modern day dam safety standards.
- Works at the Dam Wall
 - The crest of the existing dam wall will be raised by 8.4m to 542.1m AHD. This will be achieved by placement of rockfill on the upstream and downstream sides of the embankment.
 - The existing morning glory spillway will be raised by 6.5 m. This will effectively entail a duplication of the exiting morning glory intake at the raised level. The existing access bridge and trash rack structure will be extended to cater for the increase in storage level. No changes are proposed to the existing morning glory spillway outlet channel.
 - The existing auxiliary spillway fuseplug will be modified to a two-bay design to enable a staged trigger of the fuseplug, at the 1 in 10,000 and 1 in 20,000 Annual Exceedance Probability (AEP) events.
- Works to Local Roads
 - The Project will result in the some inundation of existing local roads and bridges. Consequently, realignment of local roads and work to existing bridges is required in sections of Tamworth-Nundle Roads, River Road and Western Foreshore Road.
 - Works to the intersection of Tamworth- Nundle and River Roads

The intersection of Tamworth-Nundle Roads and River Road will be modified to direct traffic flow around the sweeping bend across the altered

ITEM	ITEM DETAILS
	<p>Bowling Alley Point Bridge. Traffic entering Tamworth-Nundle Road from River Road will be required to give way.</p> <p>The alignment of River Road will be modified from the intersection with Tamworth- Nundle Road, approximately 1.1km to the south. This modification will primarily comprise a shift of up to around 10m to the east.</p> <p>The alignment of Tamworth-Nundle Roads will be modified from the western side of the Bowling Alley Point Bridge to around 50m north of the bridge. This modification will primarily comprise a shift of the north-south section of road up to around 10m to the east.</p> <p>The location of the Bowling Alley Point Bridge will be altered, with the eastern end of the new bridge located around 10m from its existing location. The western end of the bridge will remain in the same location. The new bridge will be two lanes wide and approximately 174m in length, with six spans. The deck level of the bridge will be at 529.30m AHD to provide adequate clearance above the 1 in 100 AEP flood level.</p> <ul style="list-style-type: none"> • Works to Western Foreshore Road <ul style="list-style-type: none"> ○ Approximately 3.2km of the Western Foreshore Road will be realigned from Hyde's Creek in the south to Silver Gully in the north. The realignment will comprise a shift of the existing road up to around 20m west. Construction of a new two span, single lane, 60m long bridge at Hyde's Creek will also be undertaken. • Relocation of Bowling Alley Point Recreation Area and Tamworth Fishing Club <ul style="list-style-type: none"> ○ The Bowling Alley Point Recreation Area and the Tamworth Fishing Club are to be relocated to higher ground.

5. Construction Staging and Timeframes

- The program for construction and operation of the Project will be dependent on the selected contractor and dam safety requirements, however the preliminary program is expected to comprise the following:
 - Weeks 1 to 12 -Construction documentation, approvals and establishment (up to 20 personnel on site)
 - Weeks 13 to 60 - Raising of dam wall, realignment of roads and bridges and reconfiguration of auxiliary spillway (up to 50 personnel on site)
 - Weeks 61 to 90 Raising of morning glory spillway (up to 40 personnel on site)
 - Weeks 90 to 104 Commissioning and site disestablishment (up to 20 personnel on site)

6. Key Issues Raised by Community

- How are impacts on private lands being addressed?
- How are impacts on leased lands (Tamworth Fishing Club and Bowling Alley Point Recreation Area) being addressed?
- What impacts do the new FSL and PMF have on development and use of land and will

ITEM	ITEM DETAILS
	<p>there be any additional restrictions on land?</p> <ul style="list-style-type: none"> • What impact will this have on insurance and level of cover? • The FSL is proposed to be raised. What happens if private property sustains damage due to flood waters? • Further resumption of dairy land coupled with the loss of water supply will lead to the loss of a Dairy Farm enterprise (established in 1930) and the redundancy of four employees. • Are the remains of the old community hall, tennis court and shop going to be documented? • What is happening to the Arboretum? • Cattle should not be allowed to graze freely around Chaffey Dam in the areas of the Peel River Catchment. They are eroding the banks of the Peel River, carry diseases and cause algal outbreaks in the lower water supply. • Will a Traffic Management Plan be prepared for construction activities? An accident occurred on Western Foreshore Road during construction of the existing Bowling Alley Point Bridge • The construction timeframe is approximately 2 years. Will construction personnel come from out of town or require accommodation in town?

7. **Next Steps**

- Environmental fieldwork / investigations and community and stakeholder consultations will continue over the next few months.
- Environmental investigations include:
 - Flora and Fauna
 - Soil and Water
 - Heritage (Aboriginal and European)
 - Traffic and transport
 - Noise and Vibration
 - Air Quality
 - Visual Amenity
 - Land Use, Property and Socioeconomic
 - Spoil and Waste Management
 - Hazards and Risk
- A second Community Consultation Meeting will be held in Tamworth in August 2012 –

ITEM	ITEM DETAILS
	the community will be informed of the details once the date and location is confirmed.
	<ul style="list-style-type: none">• Consultation with Local, State and Commonwealth government authorities is also taking place.• A website is being created to keep the community informed about the Project.• Submission of the Final Draft Environmental Impact Statement (EIS) to the Department for review is scheduled for October 2012.
8.	Other Items At least 2 weeks' notice will be given for future community consultation to ensure landowners are given suitable notice of upcoming consultation.

END OF RECORD



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STAKEHOLDER CONSULTATION REPORT

Appendix 4 Advertisements – Community Consultation Night

Second Round of Community Consultation for the Chaffey Dam Augmentation and Safety Upgrade Project

On behalf of State Water Corporation, WorleyParsons Services Pty Ltd welcomes you to attend a second round of community consultation for the Chaffey Dam Augmentation and Safety Upgrade Project.

Community Consultation Night

Date: Thursday 30 August 2012

Location: Tamworth Community Centre (Heritage Room), Darling Street, Tamworth

Time: Commencing at 6:30 pm

The Community Consultation Night will commence with a presentation to notify the community of the project's progress and to outline the findings of specialist studies. The presentation will be followed by an opportunity to raise any questions or concerns in relation to the project. The evening will conclude at 8:30 pm.

Tamworth Community Drop-in Session

Date: Thursday 30 August 2012

Location: Tamworth City Plaza Shopping Centre, Tamworth NSW

Time: Between 2:30 pm and 3:30 pm

Woolomin Community Drop-in Session

Date: Friday 31 August 2012

Location: Woolomin Gold Rush Store, 65-67 Tamworth-Nundle Road, Woolomin

Time: Between 9:00 am and 10:00 am

The purpose of the Community Drop-in Sessions is to provide the community with information on the project and to allow the community to raise any questions or concerns they may have regarding the project.



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SECOND ROUND OF COMMUNITY CONSULTATION
CHAFFEY DAM AUGMENTATION AND SAFETY UPGRADE PROJECT
WorleyParsons Services Pty Ltd has been commissioned by State Water Corporation to undertake the Environmental Impact Assessment (EIA) for the Chaffey Dam Augmentation and Safety Upgrade project. The proponent for the project is State Water Corporation. On behalf of State Water, WorleyParsons welcomes you to attend a second round of community consultation for the project. A Community Consultation Night will be held on Thursday 30 August 2012 at the Tamworth Community Centre (Heritage Room), Darling Street, Tamworth, commencing at 6:30pm. A presentation will be made to notify the community of the project's progress and to outline the findings of specialist studies, followed by an opportunity to raise any questions or concerns in relation to the project. The evening will conclude at 8:30pm.
Two Community Drop-in Sessions will also be held, the first on Thursday 30 August 2012 at Tamworth City Plaza Shopping Centre between 2:30pm and 3:30pm and the second on Friday 31 August 2012 at Woolomin Gold Rush Store, 65-67 Tamworth-Nundle Road, Woolomin, between 9:00am and 10:00am. The purpose of these sessions is to provide the community with information on the project and to allow the community to raise any questions or concerns they may have regarding the project. The consultation will also assist the proponent in the preparation of the EIA and government authorities in their assessment of the EIA.

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STAKEHOLDER CONSULTATION REPORT

Appendix 5 Minutes of the Community Consultation Night



Project No: 301015-02980

Project: Chaffey Dam Augmentation and Safety Upgrade EIA

Community Consultation Night

FACILITATORS NAME & ORGANISATION		DATE	30 August 2012
WORLEYPARSONS	Sofie Zivanovic (SZ)		
	Warick Honour (WH)		
		TIME START	6:30pm
STATE WATER	Jubrahil Khan (JK)	TIME FINISH	8:30pm
	Glen Tully (GT)	LOCATION	Tamworth Community Centre
	Jane Urquhart (JU)	RECORDER	Sofie Zivanovic
		DOC NO	301015-02980-MOM-0005

MINUTES OF COMMUNITY CONSULTATION NIGHT

ITEM	ITEM DETAILS
1.	Welcome <ul style="list-style-type: none">Welcome and thank you to the community for attending and their interest in the project.Informed attendees that WorleyParsons Services Pty Ltd has been commissioned by State Water Corporation to undertake the Environmental Impact Assessment (EIA) for the Chaffey Dam Augmentation and Safety Upgrade project.Informed attendees that the proponent for the project is State Water Corporation.
2.	Attendance <p>Approximately 10 people attended the night including adjoining land owners, local residents, Bowling Point Alley Recreation Trust members, the Department of Primary Industries (Crown Land) and representatives of State Water.</p> <p>Names were not recorded.</p>
3.	Purpose of the Community Consultation Night <p>The purpose of the Community Consultation Night was to:</p> <ul style="list-style-type: none">Outline the Project;Summarise Key Findings of Site Investigations;

ITEM	ITEM DETAILS
	<ul style="list-style-type: none"> • Summarise Proposed Management and Mitigation Measures; • Discuss Project Timeframes; and • Take Questions and Comments. <p>The following consultation material was used:</p> <ul style="list-style-type: none"> • PowerPoint presentation • Coloured display boards set-up to illustrate the project details including: <ul style="list-style-type: none"> • Project Layout (including new FSL, new 1 in 100 year flood level, new PMF level, proposed road re-alignment and proposed works areas) • Western Foreshore Road Design • Tamworth-Nundle Road, Rivers Road and Bowling Alley Point Road Design • Chaffey Dam Safety Upgrade and Augmentation Project Brochure for residents/ land owners/ community to take away • A Community Survey for residents/ land owners/ community to participate in.
4.	Project Description
	<ul style="list-style-type: none"> • The project comprises the augmentation and safety upgrade of the existing Chaffey Dam and will result in an increase to the Full Supply Level (FSL) of 6.5m and an increase in the permanent storage capacity of the dam from 62GL to 100GL. • Approximately 185ha of land will become inundated. • Construction works to achieve the required outcomes will include raising the dam wall by 8.4m, raising the morning glory by 6.5m and reconfiguration of the auxiliary spillway. Road and bridge realignment and relocation of South Bowlo Fishing Club and Bowling Alley Point Recreation Area will also be required due to the increased FSL of the dam. The upgrade will comply with modern day dam safety standards. • Works at the Dam Wall <ul style="list-style-type: none"> ○ The crest of the existing dam wall will be raised by 8.4m to 542.1m AHD. This will be achieved by placement of rockfill on the upstream and downstream sides of the embankment. ○ The existing morning glory spillway will be raised by 6.5 m. This will effectively entail a duplication of the exiting morning glory intake at the raised level. The existing access bridge and trash rack structure will be extended to cater for the increase in storage level. No changes are proposed to the existing morning glory spillway outlet channel. ○ The existing auxiliary spillway fuseplug will be modified to a two-bay design to enable a staged trigger of the fuseplug, at the 1 in 10,000 and 1 in 20,000 Annual Exceedance Probability (AEP) events.

ITEM	ITEM DETAILS
<ul style="list-style-type: none"> • Works to Local Roads <ul style="list-style-type: none"> ○ The Project will result in the some inundation of existing local roads and bridges. Consequently, realignment of local roads and work to existing bridges is required in sections of Tamworth-Nundle Roads, River Road and Western Foreshore Road. ○ Works to the intersection of Tamworth- Nundle and River Roads <p>The intersection of Tamworth-Nundle Roads and River Road will be modified to direct traffic flow around the sweeping bend across the altered Bowling Alley Point Bridge. Traffic entering Tamworth-Nundle Road from River Road will be required to give way.</p> <p>The alignment of River Road will be modified from the intersection with Tamworth- Nundle Road, approximately 1.1km to the south. This modification will primarily comprise a shift of up to around 10m to the east.</p> <p>The alignment of Tamworth-Nundle Roads will be modified from the western side of the Bowling Alley Point Bridge to around 50m north of the bridge. This modification will primarily comprise a shift of the north-south section of road up to around 10m to the east.</p> <p>The location of the Bowling Alley Point Bridge will be altered, with the eastern end of the new bridge located around 10m from its existing location. The western end of the bridge will remain in the same location. The new bridge will be two lanes wide and approximately 174m in length, with six spans. The deck level of the bridge will be at 529.30m AHD to provide adequate clearance above the 1 in 100 AEP flood level.</p> • Works to Western Foreshore Road <ul style="list-style-type: none"> ○ Approximately 3.2km of the Western Foreshore Road will be realigned from Hyde's Creek in the south to Silver Gully in the north. The realignment will comprise a shift of the existing road up to around 20m west. Construction of a new two span, single lane, 60m long bridge at Hyde's Creek will also be undertaken. • Relocation of Bowling Alley Point Recreation Area and Tamworth Fishing Club <ul style="list-style-type: none"> ○ The increased FSL will result in the inundation of land currently occupied by the South Bowlo Tamworth Fishing Club and the Bowling Alley Point Recreation Area. ○ State Water is committed to relocating both the South Bowlo Tamworth Fishing Club and the Bowling Alley Point Recreation Area and is currently negotiating with the Fishing Club and the Recreation Trust as to the their new locations. 	

5. Objectives of the Project

The Objectives of the Project are to:

- Improve town water security for Tamworth and for irrigation and agricultural purposes; and
- Meet modern dam safety standards.

ITEM	ITEM DETAILS
6.	Construction Staging and Timeframes <ul style="list-style-type: none"> • The program for construction and operation of the Project will be dependent on the selected contractor and dam safety requirements, however the preliminary program is expected to comprise the following: <ul style="list-style-type: none"> ○ Weeks 1 to 12 -Construction documentation, approvals and establishment (up to 20 personnel on site) ○ Weeks 13 to 60 - Raising of dam wall, realignment of roads and bridges and reconfiguration of auxiliary spillway (up to 50 personnel on site) ○ Weeks 61 to 90 Raising of morning glory spillway (up to 40 personnel on site) ○ Weeks 90 to 104 Commissioning and site disestablishment (up to 20 personnel on site)
7.	Land Uses Around the Dam <ul style="list-style-type: none"> • Land under private ownership and leasehold, including rural residential properties and land used for grazing and dairy farming – predominately to the south and west • Bowling Alley Point Recreation Area – eastern foreshore • South Bowlo Fishing Club – northern foreshore • Nundle Fishing Club – south-eastern foreshore • Dulegal Arboretum – north-western foreshore • Roads and Bridges • State Water Administration and Maintenance Facilities and Storage Custodian's residence
8.	Site Investigations Undertaken – Potential Impacts and Management and Mitigation Measures <ul style="list-style-type: none"> • Noise and Vibration • Air Quality • Traffic and Transport • Indigenous Heritage • European Heritage • Biodiversity • Property

ITEM	ITEM DETAILS
9.	Project Timeframes <ul style="list-style-type: none"> Indigenous Heritage Consultation and Site Visit – September 2012 Biodiversity Spring Surveys – mid October 2012 Ongoing Consultation with the Commonwealth Department of Sustainability Environment, Water, Population and Communities (SEWPaC) and NSW Department of Planning and Infrastructure (DP&I) Finalise Environmental Impact Statement (EIS) – end October 2012 Public Exhibition of EIS – end November 2012 (30 day exhibition period)
10.	Key Issues Raised by Community <ul style="list-style-type: none"> Continued use of the land immediately adjoining Chaffey Dam for cattle grazing and wandering stock should be discouraged. They are eroding the banks of the Peel River, carry diseases and cause algal outbreaks in the lower water supply; Have the Aboriginal heritage investigations found any human remains?; Below the 1 in 100 year flood line should be a buffer zone for the protection of the dam and should not permit cattle grazing; Good camping areas amongst tree areas will be inundated by the new FSL. The relocated Bowling Alley Point Recreation Area is likely to be moved closer to the road (due to the proposed new FSL and land availability). Is there any possibility of planting tree barriers along the road to screen car lighting, noise and for safety of campers? The planting would also recreate a 'bush camping' feel; Is a new access track going to be provided to and within the Bowling Alley Point Recreation Area? Department of Primary Industries (Crown Lands) will look into the preparation of a formal recreation plan for the relocated Bowling Alley Point Recreation Area, including potential upgrade of the boat ramp. In 2009 the Minister for Ports and Waterways announced funding to support boating infrastructure projects across NSW. The Chaffey Dam Bowling Alley Point Recreation Reserve was one of the successful 'applicants'. The Aboretum is not a listed heritage item. What is happening to it?
11.	Other Items <p>Department of Primary Industries (Crown Lands) indicated that it is likely they will engage a consultant to prepare a formal Recreation Plan for the Bowling Alley Point Recreation Area.</p>

END OF RECORD



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CHAFFEY DAM AUGMENTATION AND SAFETY UPGRADE ENVIRONMENTAL IMPACT ASSESSMENT

STAKEHOLDER CONSULTATION REPORT

Appendix 6 Community and Stakeholder Surveys



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Community Survey

Chaffey Dam Augmentation and Safety Upgrade Project

Question 1: Do you and your family currently use Chaffey Dam for recreational activities (such as picnicking, walking, camping or fishing)? If so, how often?

☐

Never

☐

Once a year

☐

Twice a year

☒

Once a month

☐

Once a week

☐

More than once a week

Question 2: Do you think the Project will benefit the local community? If so, how?

☒

Yes

☐

No

☐

Undecided

Comments: Larger Guaranteed water supply

Question 3: What do you feel are the best aspects of the Project? What do you feel are the worst aspects of the Project?

Best aspects: water supply increase

Worst aspects:

Question 4: Do you live locally? If so, where?

☐

Woolomin

☐

Nundle

☐

Hanging Rock

☐

Dungowan

☐

Garoo

☒

Tamworth

Other:

Question 5: Which age group are you in?

☐

Under 25 years old

☐

35 to 45 years old

☐

55 to 65 years old

☐

25 to 35 years old

☒

45 to 55 years old

☐

More than 65 years old

Thank you for taking the time to complete this survey.

Please return the completed survey by email to: sofie.zivanovic@worleyparsons.com

or by fax to: Attention Sofie Zivanovic (02) 8923 6877

or by post to: Attention Sofie Zivanovic, WorleyParsons, PO Box 1812 North Sydney NSW 2059



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Community Survey

Chaffey Dam Augmentation and Safety Upgrade Project

Question 1: Do you and your family currently use Chaffey Dam for recreational activities (such as picnicking, walking, camping or fishing)? If so, how often?

☐

Never

☐

Once a year

☐

Twice a year

☒

Once a month

☐

Once a week

☐

More than once a week

Question 2: Do you think the Project will benefit the local community? If so, how?

☒

Yes

☐

No

☐

Undecided

Comments:

water supply

Question 3: What do you feel are the best aspects of the Project? What do you feel are the worst aspects of the Project?

Best aspects:

secure water supply

Worst aspects:

Question 4: Do you live locally? If so, where?

☐

Woolomin

☐

Nundle

☐

Hanging Rock

☐

Dungowan

☐

Garoo

☒

Tamworth

Other:

Question 5: Which age group are you in?

☐

Under 25 years old

☒

35 to 45 years old

☐

55 to 65 years old

☐

25 to 35 years old

☐

45 to 55 years old

☐

More than 65 years old

Thank you for taking the time to complete this survey.

Please return the completed survey by email to: sofie.zivanovic@worleyparsons.com

or by fax to: Attention Sofie Zivanovic (02) 8923 6877

or by post to: Attention Sofie Zivanovic, WorleyParsons, PO Box 1812 North Sydney NSW 2059



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Community Survey

Chaffey Dam Augmentation and Safety Upgrade Project

Question 1: Do you and your family currently use Chaffey Dam for recreational activities (such as picnicking, walking, camping or fishing)? If so, how often?

☒

Never

☐

Once a year

☐

Twice a year

☐

Once a month

☐

Once a week

☐

More than once a week

Question 2: Do you think the Project will benefit the local community? If so, how?

☒

Yes

☐

No

☐

Undecided

Comments: Secure water supply, flood protection, larger water recreation area

Question 3: What do you feel are the best aspects of the Project? What do you feel are the worst aspects of the Project?

Best aspects: As above

Worst aspects:

Question 4: Do you live locally? If so, where?

☐

Woolomin

☐

Nundle

☐

Hanging Rock

☐

Dungowan

☐

Garoo

☒

Tamworth

Other:

Question 5: Which age group are you in?

☐

Under 25 years old

☐

35 to 45 years old

☐

55 to 65 years old

☐

25 to 35 years old

☒

45 to 55 years old

☐

More than 65 years old

Thank you for taking the time to complete this survey.

Please return the completed survey by email to: sofie.zivanovic@worleyparsons.com

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Community Survey

Chaffey Dam Augmentation and Safety Upgrade Project

Question 1: Do you and your family currently use Chaffey Dam for recreational activities (such as picnicking, walking, camping or fishing)? If so, how often?

☐

Never

☐

Once a year

☐

Twice a year

☒

Once a month

☐

Once a week

☐

More than once a week

Question 2: Do you think the Project will benefit the local community? If so, how?

☒

Yes

☐

No

☐

Undecided

Comments:

more room for boating, fishing.
larger water capacity for the town

Question 3: What do you feel are the best aspects of the Project? What do you feel are the worst aspects of the Project?

Best aspects:

New fishing spots

Worst aspects:

lose our camp spot

Question 4: Do you live locally? If so, where?

☐

Woolomin

☐

Nundle

☐

Hanging Rock

☐

Dungowan

☐

Garoo

☐

Tamworth

Other:

Calala

Question 5: Which age group are you in?

☐

Under 25 years old

☐

35 to 45 years old

☐

55 to 65 years old

☒

25 to 35 years old

☐

45 to 55 years old

☐

More than 65 years old

Thank you for taking the time to complete this survey.

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Community Survey

Chaffey Dam Augmentation and Safety Upgrade Project

Question 1: Do you and your family currently use Chaffey Dam for recreational activities (such as picnicking, walking, camping or fishing)? If so, how often?

☐

Never

☐

Once a year

☐

Twice a year

☒

Once a month

☐

Once a week

☐

More than once a week

Question 2: Do you think the Project will benefit the local community? If so, how?

☒

Yes

☐

No

☐

Undecided

Comments:

Tam-water may not Run out

Question 3: What do you feel are the best aspects of the Project? What do you feel are the worst aspects of the Project?

Best aspects:

Worst aspects:

Question 4: Do you live locally? If so, where?

☐

Woolomin

☐

Nundle

☐

Hanging Rock

☐

Dungowan

☐

Garoo

☒

Tamworth

Other:

Question 5: Which age group are you in?

☐

Under 25 years old

☒

35 to 45 years old

☐

55 to 65 years old

☐

25 to 35 years old

☐

45 to 55 years old

☐

More than 65 years old

Thank you for taking the time to complete this survey.

Please return the completed survey by email to: sofie.zivanovic@worleyparsons.com

or by fax to: Attention Sofie Zivanovic (02) 8923 6877

or by post to: Attention Sofie Zivanovic, WorleyParsons, PO Box 1812 North Sydney NSW 2059



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Community Survey

Chaffey Dam Augmentation and Safety Upgrade Project

Question 1: Do you and your family currently use Chaffey Dam for recreational activities (such as picnicking, walking, camping or fishing)? If so, how often?

- | | | |
|--|--------------------------------------|--|
| <input type="checkbox"/> Never | <input type="checkbox"/> Once a year | <input type="checkbox"/> Twice a year |
| <input checked="" type="checkbox"/> Once a month | <input type="checkbox"/> Once a week | <input type="checkbox"/> More than once a week |

Question 2: Do you think the Project will benefit the local community? If so, how?

- | | | |
|---|-----------------------------|------------------------------------|
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Undecided |
|---|-----------------------------|------------------------------------|

Comments: Larger Guaranteed water supply for the Tamworth + District Community

Question 3: What do you feel are the best aspects of the Project? What do you feel are the worst aspects of the Project?

Best aspects: water supply increase

Worst aspects:

Question 4: Do you live locally? If so, where?

- | | | |
|-----------------------------------|---------------------------------|--|
| <input type="checkbox"/> Woolomin | <input type="checkbox"/> Nundle | <input type="checkbox"/> Hanging Rock |
| <input type="checkbox"/> Dungowan | <input type="checkbox"/> Garoo | <input checked="" type="checkbox"/> Tamworth |

Other:

Question 5: Which age group are you in?

- | | | |
|---|--|---|
| <input type="checkbox"/> Under 25 years old | <input type="checkbox"/> 35 to 45 years old | <input type="checkbox"/> 55 to 65 years old |
| <input type="checkbox"/> 25 to 35 years old | <input checked="" type="checkbox"/> 45 to 55 years old | <input type="checkbox"/> More than 65 years old |

Thank you for taking the time to complete this survey.

Please return the completed survey by email to: sofie.zivanovic@worleyparsons.com

or by fax to: Attention Sofie Zivanovic (02) 8923 6877

or by post to: Attention Sofie Zivanovic, WorleyParsons, PO Box 1812 North Sydney NSW 2059



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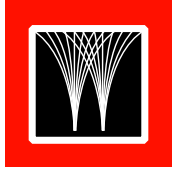


STATE WATER CORPORATION

CHAFFEY DAM AUGMENTATION AND SAFETY UPGRADE ENVIRONMENTAL IMPACT ASSESSMENT

STAKEHOLDER CONSULTATION REPORT

Appendix 7 Community Consultation Comment Register



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Chaffey Dam Augmentation and Safety Upgrade Environmental Impact Assessment Community Consultation Comment Register (7 November 2012)

ID.	DATE OF CONTACT	VIA	NAME	ADDRESS	PROPERTY DESCRIPTION	COMMENTS	ACTIONS
1	12/07/2012	Phonecall	Pete Sackett	River Road, Bowling Alley Point	Lot 282 DP 755324	Can't make Community Consultation Day Barbeque. After information on the project and a plan of works.	Sent Project description and website link (13 July 2012). Advise of second round of community consultation.
2	13/07/2012	Phonecall	Scott Hobden	926-946 West Bank Road, Nundle	Lot 4 DP 755324	Can't make Community Consultation Day Barbeque. After information on the project and a plan of works.	Sent Project description and website link (13 July 2012). Advise of second round of community consultation.
3	13/07/2012	Phonecall	Patricia Murphy	738 Monteray Road, Loomberah	Lot 1 DP 719760	After information on the project and a plan of works. Will try to attend Community Consultation Day Barbeque.	Sent Project description and website link (13 July 2012). Advise of second round of community consultation.
4	16/07/2012	Email	Pete Sackett	River Road, Bowling Alley Point	Lot 282 DP 755324	Thanks for being so prompt and informative. The web site looks good although I have only had a quick flick through it. As mentioned my land is adjacent to the small church at Bowling Alley point, being lots 68 and 69. The concept plan indicates that it falls inside the probable maximum flood level but outside the new full supply level. – Interesting issue. I look forward to hearing of developments with the project as they unfold. As mentioned we have a registered surveyor if you need someone.	Advise of second round of community consultation.
5	24/07/2012	Phonecall	Robyn and George Kightly	6 Terrell Avenue, Wahroonga, 2076	1050 Bowling Alley Point, Lot 263 DP 755324	After information on the project and a plan of works.	Sent Project description and website link (24 July 2012). Advise of second round of community consultation.
6	3/08/2012	Letter	RJ Barton	966 River Road, Bowling Alley Point		Refer to letter (attached 'RJ Barton Letter 03082012')	Assessment to be carried out in EIS
7	8/08/2012	Phonecall	Derek Hill	Bukit Padang Bowling Alley Point	Lot 1,2 and 3 DP 598184 (Council records) However note land titles rerferred to by Mr Hill below	Land will be significantly impacted by new FSL and PMF.	Assessment to be carried out in EIS

ID.	DATE OF CONTACT	VIA	NAME	ADDRESS	PROPERTY DESCRIPTION	COMMENTS	ACTIONS
8	10/08/2012	Email	Derek Hill	Bukit Padang Bowling Alley Point	Title to land held by P.A&D.HILL a. 537.4ha freehold; lot10 DP 37282, lots1-4 DP 241578, lot Pt37282 Peel River Land & Mineral Co. Est. Eastern Subdivision. b. 91.5ha 99 year lease lots 1-5 DP 598184 (Block 5) c. 1334ha Western Foreshore (Block 4), a 2 year lease which expires 30 June 2013 and which now includes the permissive occupancy, Block 11. d. est.120ha Bowling Alley Point Recreation Reserve, a 5 year lease which expires 30 June 2016. e. est. 16ha lease (Block 9) on the downstream side of the dam wall	Concerns. 1. We will lose both our stock and domestic, and our irrigation source as soon as the dam level rises .5m. above its present full supply level. A three phase private line provides power to the pumps. There are 4.1 km of S&D underground main which supply the dairy, 3 houses and 18 stock water troughs and 1.9 km of 150mm of irrigation underground main which allow delivery to 36ha of dairy area, all of which commence from this point 2. Further resumption of dairy land coupled with the loss of our water supply will force the closure of our dairy enterprise (est 1930) and the redundancy of our four employees, two of which live on the property. 3. The remaining land would support some dryland cropping and livestock, if an alternate water source can be identified and established and with some irrigation, if the licence could be transferred to Cann's Creek. 4. The new full supply level (FSL) as is the case of the present FSL, will be, at times, some distance downstream, exposing land which will grow useful stock feed. We would seek to negotiate a priority of access as a means of increasing our viability and for controlling weed growth. 5. We presently lease Blocks 4, 9 and the Rec. Reserve and are responsible for annual weed control and, as a lease condition, the progressive eradication of the blackberries on Block4. We would seek to negotiate a longer tenancy of these, coupled with the remaining land on this property, to insure viability into the future. This land was purchased in 1925, as a virgin block, badly scarred by gold mining and has been developed to the point of supporting five families within the Nundle community.	Assessment to be carried out in EIS
9	10/08/2012	Feedback Form	Robyn and George Kightly	Nundle Road, Bowling Alley Point, 2340	Lot 56	Would like to point out that there is a row of well established gum trees out the front of our property which we would like to see protected from damage during the course of road construction. Is this possible? Is anyone going to document what remains of the old community hall, tennis court & shop at the front of our place? Would be nice if there was something to show this was there once. Also, the Probable Maximum Flood Level looks like it covers most of our land. What impact will this have on our insurance and level of cover? Will we be compensated for extra costs for this? What happens if we sustain damage due to flood waters? Has anyone else raised this issue? Wont be able to make the next meeting (would like to) so please keep us updated on any further comments. Can we get copies of the Minutes from the meetings held?	Assessment to be carried out in EIS. Provide a copy of the minutes of the meeting and invite comments.
10	13/08/2012	Email	Scott Hobden	926-946 West Bank Road, Nundle	Lot 4 DP 755324	Do not live at "Monreid" Nundle during the week. We are unable to attend meetings Mon – Fri at present due to work commitments. Is it possible to reschedule meetings to weekends to ensure a robust community consultative process is achieved.	Advise consultation cannot be rescheduled. Provide a copy of the minutes of the meeting and invite comments.

ID.	DATE OF CONTACT	VIA	NAME	ADDRESS	PROPERTY DESCRIPTION	COMMENTS	ACTIONS
11	20/08/2012	Email	Scott Hobden	926-946 West Bank Road, Nundle	Lot 4 DP 755324	My biggest concern at the moment is the impact it will have on our place “ Monreid” and the sterilisation of prime agricultural land. The other concern is the access to our property from the Western Foreshore Road Hopefully these issues will be addressed in the EIA	Assessment to be carried out in EIS
12	31/08/2012	Phonecall	Cheryl Porter	PO Box 1349 Tamworth		After information on the project and a plan of works. Wants to speak with State Water to see if property will be acquired.	Sent Project description and website link (3 September 2012). Passed on contact details to State Water.
13	5/10/2012	Letter	National Parks Association of NSW Tamworth-Namoi Branch - Ron Webster	PO Box 185, Tamworth NSW 2340	n/a	Recognition of the hard work that went into the design, planning and planting of the Arboretum should be recorded for when the trees become inundated. One suggestions is that the Aboretum be made accessible to any of the current local environmental groups who may want to collect seeds from some of the rare and endangered trees.	Contacted Ron Webster to seek the names of the relevant local environmental groups. Ron advised Land Care Group, Tamworth Urban Group, Tamworth Garden Club and National Parks Association of NSW Tamworth-Namoi Branch. A letter will be sent out to these groups iniviting them to participate in seed collection.



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STATE WATER CORPORATION

CHAFFEY DAM AUGMENTATION AND SAFETY UPGRADE ENVIRONMENTAL IMPACT ASSESSMENT
STAKEHOLDER CONSULTATION REPORT

Appendix 8 Consultation with Office of Environment and Heritage

Nicole Cowlshaw
Senior Environmental Scientist
WorleyParsons
PO Box 1812
North Sydney NSW 2059

7 June 2012

Dear Ms Cowlshaw,

Thank you for the opportunity to comment on the proposed biodiversity assessment methodology for the Chaffey Dam Augmentation Project (the Project), provided to us in your letter of 28 May 2012. In relation to this matter, OEH raises the following points for your consideration.

- OEH notes that the Biobanking Assessment Methodology (BBAM) is not mentioned in the Director-General's Requirements (DGRs); however, OEH spoke to your consultant David Maynard on 4 June, who indicated that the BBAM would be used to assess native vegetation impacts resulting from the Project, and OEH support this approach.
- With regard to consideration of White Box - Yellow Box - Blakely's Red Gum Woodland (Box-Gum) EEC, it will be necessary to consider impacts to Derived Native Grassland that constitutes Box-Gum EEC under the TSC Act. Guidelines for the identification of Box-Gum EEC are available from OEH.
- OEH has reviewed the list of proposed target species (Table 1) with regard to relatively recent Atlas records from the vicinity of the Project area. In addition to the species listed in Table 1, OEH highlights the need for considering potential impacts to the following threatened species: *Dichanthium setosum*, *Eucalyptus oresbia*, *Eucalyptus rubida* subsp. *barbigerorum*, *Euphrasia arguta*, Regent Honeyeater, Gang-gang Cockatoo, Varied Sittella, Hooded Robin (south-eastern form), Turquoise Parrot, Diamond Firetail, Powerful Owl, Scarlet Robin, Flame Robin, Squirrel Glider, Koala and Spotted-tailed Quoll. OEH would require justification for not undertaking an assessment of impacts on any of these additional species. Survey techniques, timing and intensity should be undertaken in accordance with the guidelines alluded to in the DGRs and the BBAM.
- A chief concern for OEH is the impact of the Project on the Upper Peel River population of the Booroolong Frog. Comprehensive surveys for the Booroolong Frog in 2008 and 2009 identified a significant population of this Commonwealth listed Endangered species in the Upper Peel, including within the Project area (*North West Ecological Services (2009) Review of the conservation status of the Booroolong Frog (Litoria booroolongensis) within the Namoi River Catchment. Report to the Namoi CMA*). As a result, OEH recommends that targeted surveys for this species need not be undertaken. However, a detailed survey of the amount of habitat that will be lost to this species as a result of the Project will be necessary in order to determine the significance of this impact and appropriate avoidance, mitigation and offsets. For instance, consideration should be given to determining how exactly this portion of the population might avoid direct impacts (to avoid elevated water levels, will frogs move upstream or laterally into

non-preferred riparian habitat?), whether upstream habitat will accommodate the movements of these frogs (are there impediments including unsuitable habitat that may prevent dispersal?), and whether translocation of frogs will be required (will frogs be able to disperse unassisted, and is translocation feasible?). With regard to the forced dispersal or translocation of frogs, consideration should be given to the amphibian chytrid fungus and the potential for increased virulence with increased population densities and/or altitude.

Should you have any further questions regarding this matter please contact David Coote on 02-6883-5303.

Yours sincerely,

A handwritten signature in cursive script that reads "Todd Soderquist". The signature is written in dark ink and is positioned above the printed name and title.

Todd Soderquist

**A/Head Biodiversity Conservation Unit North West Region
Conservation and Regulation Division**

Cowlishaw, Nicole (Sydney)

From: Robert Taylor <Robert.Taylor@environment.nsw.gov.au>
Sent: Thursday, 31 May 2012 12:45 PM
To: Cowlishaw, Nicole (Sydney)
Subject: FW: Chaffey Dam EIA Aboriginal Heritage Assessment Methodology

Importance: High

Follow Up Flag: Follow up
Flag Status: Flagged

Nicole

We do not usually provide comment on proposed Aboriginal Heritage Assessment Methodology as the DGRs and our associated policy and guidelines available on the internet are considered to be adequate information for a professional to garner what is required.

However I did have a **brief** scan on the methodology and noticed there was no mention of assessment of the sensitivity of environments (landforms) present ie in the due diligence code it refers to some environments being more likely to contain sites than others.

Rob

From: Ewins Lou
Sent: Wednesday, 30 May 2012 3:15 PM
To: Taylor Robert
Cc: Estcourt Gary
Subject: FW: Chaffey Dam EIA Aboriginal Heritage Assessment Methodology
Importance: High

Hello Rob, one for you as it is in your region. Regards, Lou

Lou Ewins Manager Planning & Aboriginal Heritage Section, Metropolitan Branch

Office of Environment & Heritage, Department of Premier and Cabinet

79 George Street Parramatta NSW 2150 | **ph** (02) 9995 6802 | **mobile** 0419404998 | **fax** (02) 9995 6900

Lou.Ewins@environment.nsw.gov.au



Please consider the environment before printing this e-mail

From: Gary Estcourt [mailto:Gary.Estcourt@heritage.nsw.gov.au]
Sent: Monday, 28 May 2012 2:50 PM
To: Ewins Lou
Cc: Sicari Vincent
Subject: Fwd: Chaffey Dam EIA Aboriginal Heritage Assessment Methodology

Lou,

I have received this email regarding the proposed methodology for an Aboriginal Heritage Assessment in regard to the Chaffey Dam EIA (SSI-5039). Could you please advise who this should be sent to as it is not really within the role of the Heritage Branch.

Thanks for your assistance.

Gary

Gary Estcourt
Heritage Officer
Conservation Team
Heritage Branch
Environment and Heritage, Policy and Programs
Office of Environment and Heritage
E-mail: gary.estcourt@heritage.nsw.gov.au
Ph: (02) 9873 8562
Fax: (02) 9873 8599

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>>> "Cowlshaw, Nicole (Sydney)" <Nicole.Cowlshaw@WorleyParsons.com> 5/28/2012 1:54 pm >>>
Hi Gary,

Please find attached an advance copy of a letter posted to you today regarding the Aboriginal Heritage Assessment methodology for the Chaffey Dam Environmental Impact Assessment.

I also left a voicemail message for you on this matter.

Kind regards, Nicole.

Nicole Cowlshaw

Senior Environmental Scientist, WorleyParsons

Tel: +61 (0)2 8456 7209 | Email: nicole.cowlshaw@worleyparsons.com

Level 10 | 141 Walker St North Sydney NSW 2060

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