

# Project Approval

## Section 75J of the *Environmental Planning and Assessment Act 1979*

I, the Minister for Planning, approve the project referred to in Schedule 1, subject to the conditions in Schedule 2.

These conditions are required to:

- prevent and/or minimise adverse environmental impacts;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the project.

This consolidated instrument includes modifications approved under section 75W of the *Environmental Planning and Assessment Act 1979*, as follows:

MP 06\_0190 MOD 1 approved on 10 June 2008;  
MP 06\_0190 MOD 2 approved on 17 October 2008;  
MP 06\_0190 MOD 3 approved on 3 November 2008;  
MP 06\_0190 MOD 4 approved on 22 December 2008;  
MP 06\_0190 MOD 5 approved on 20 March 2009; and  
MP 06\_0190 MOD 6 approved on 15 July 2009.

Frank Sartor MP  
**Minister for Planning**

Sydney

2007

File No: 9043442

### SCHEDULE 1

**Application No:** 06\_0190

**Proponent:** Sydney Water Corporation

**Approval Authority:** Minister for Planning

**Land:** Land is described as follows:

- Proposed Advanced Water Treatment Plant (AWTP) within St Marys STP, Links Road, Dunheved Industrial Estate, St Marys (on Lot 1 DP 223888, Lot 1 DP 31910 and Lot 1 DP 803832) within the local government areas of Penrith and Blacktown;
- Tertiary treated effluent to be transferred via a pipeline between Penrith STP, Castlereagh Road, Penrith (Lot 110 DP 774782) to the AWTP at St Marys STP (a distance of eight kilometres) and from Quakers Hill STP on Quakers Road, Quakers Hill (Lot 1 DP 1029672) to the AWTP at St Marys STP (a distance of 12 kilometres) within local government areas of Penrith and Blacktown;

- Replacement flows to be transferred via pipeline between AWTP at St Marys STP to Penrith STP within local government areas of Blacktown and Penrith;
- Concentrate to be transferred via pipeline between AWTP at St Marys STP to Quakers Hill STP within the local government area of Blacktown.
- Concentrate to be transferred from Quakers Hill STP to the Northern Suburbs Ocean Outfall Sewer via an existing pipeline from the STP to Seven Hills and a new pipeline between Seven Hills and Vineyard Creek at Dundas within the local government areas of Blacktown, Parramatta and Baulkham Hills.

**Project:**

Construction and operation of the Western Sydney Recycled Water Initiative - Replacement Flows Project, involving the interconnection of three existing sewage treatment plants and treating the available effluent from these plants via a new Advanced Water Treatment Plant (AWTP) to replace the water that is currently released from Warragamba Dam for extraction and river health purposes. The project involves the construction and operation of the following key components:

- an AWTP at the St Marys STP site for the treatment of the tertiary treated effluent from Quakers Hill, Penrith and St Marys STP. The AWTP would produce up to 50ML/day of highly treated recycled water for discharge to the Hawkesbury-Nepean River downstream of Penrith Weir, and about 8ML/day of a concentrate for discharge to the Northern Suburbs Ocean Outfall Sewer (NSOOS);
- a pipeline for the transfer of tertiary treated effluent from Penrith STP to the AWTP at the St Marys STP site;
- a pipeline for the transfer of tertiary treated effluent from Quakers Hill STP to the AWTP at the St Marys STP site;
- a pipeline for the transfer of recycled water produced by the AWTP at St Marys STP to the Penrith STP;
- discharge of the replacement flows to the Hawkesbury-Nepean River, via the Penrith STP discharge to Boundary Creek, immediately downstream of Penrith Weir;
- a pipeline for the transfer of the concentrate from the AWTP to Quakers Hill STP;
- a storage pond at Quakers Hill STP for the temporary storage of the concentrate, when the NSOOS may not be available for discharge (during periods of extended wet weather);
- transfer of the concentrate to the NSOOS via an existing pipeline from Quakers Hill STP to Seven Hills and a new pipeline between Seven Hills and Vineyard Creek at Dundas;
- balance storages and pumping stations at Penrith, Quakers Hill and St Marys STP; and
- temporary pilot facility at St Marys STP.

**Major Project:**

An Order, published in the Government Gazette, declaring the development to be a project under Part 3A of the EP&A Act was made by the Minister on 23 October 2006.

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## SCHEDULE 2

<b>Act, the</b>	<i>Environmental Planning and Assessment Act, 1979</i>
<b>AWTP</b>	Advanced Water Treatment Plant
<b>Conditions of Approval</b>	The Minister's conditions of approval for the project.
<b>Construction</b>	Includes all construction work in respect of the Project other than survey, acquisitions, fencing, investigative drilling or excavation, building/road dilapidation surveys, minor clearing (except where threatened species, populations or ecological communities would be affected), establishing site compounds (in locations meeting the criteria of the conditions), pilot testing or other activities determined to have minimal impact (e.g. minor access roads, minor adjustments to services/utilities, etc).
<b>Day</b>	the period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays
<b>DECC</b>	Department of Environment and Climate Change
<b>Department, the</b>	Department of Planning.
<b>Director-General, the</b>	Director-General of the Department of Planning (or delegate).
<b>Director-General's Approval</b>	A written approval from the Director-General (or delegate).  Where the Director-General's Approval is required under a condition the Director-General will endeavour to provide a response within one month of receiving an approval request. The Director-General may ask for additional information if the approval request is considered incomplete. When further information is requested the time taken for the Proponent to respond in writing will be added to the one month period.
<b>Director-General's Report</b>	The report provided to the Minister by the Director-General of the Department under section 75I of the EP&A Act.
<b>DPI (Fisheries)</b>	NSW Department of Primary Industries (Fisheries)
<b>DWE</b>	Department of Water and Energy.
<b>EA</b>	<i>Environmental Assessment: Western Sydney Recycled Water Initiative – Replacement Flows Project</i> (prepared by Sydney Water Corporation and Sinclair Knight Merz dated November 2006).
<b>EPA</b>	Environment Protection Authority as part of the Department of Environment and Climate Change
<b>EPL</b>	Environment Protection Licence issued under the <i>Protection of the Environment Operations Act, 1997</i>
<b>Evening</b>	the period from 6pm to 10pm on any day
<b>Minister, the</b>	Minister for Planning.
<b>Mtpa</b>	Million tonnes per annum.
<b>Night</b>	the period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays
<b>Operation</b>	Means the operation of the Project, but does not include pilot testing, the commissioning proving period and trials of equipment or temporary use of parts of the activity during construction.

<b>PPR</b>	<i>Preferred Project Report: Western Sydney Recycled Water Initiative – Replacement Flows Project</i> (prepared by Sydney Water Corporation and Sinclair Knight Merz dated February 2007).
<b>Proponent</b>	Sydney Water Corporation
<b>Publicly Available</b>	Available for inspection by a member of the general public (for example available on an internet site or at a display).
<b>RTA, the</b>	NSW Roads and Traffic Authority
<b>SCA</b>	Sydney Catchment Authority
<b>Sensitive Receiver</b>	Residence, education institution (e.g. school, TAFE college), health care facility (e.g. nursing home, hospital) or religious facility (e.g. church).
<b>Site</b>	Land to which Major Projects Application 06_0190 applies.

## 1. ADMINISTRATIVE CONDITIONS

### Terms of Approval

- 1.1 The Proponent shall carry out the project generally in accordance with the:
- a) Major Projects Application 06\_0190;
  - b) *Environmental Assessment: Western Sydney Recycled Water Initiative – Replacement Flows Project* (prepared by Sydney Water Corporation and Sinclair Knight Merz dated November 2006);
  - c) *Preferred Project Report: Western Sydney Recycled Water Initiative – Replacement Flows Project* (prepared by Sydney Water Corporation and Sinclair Knight Merz dated February 2007);
  - d) *Environmental Assessment Addendum. Replacement Flows Project – Cumberland Plain Woodland Area near Penrith STP* (prepared by Sydney Water Corporation and dated May 2008);
  - e) *Addendum Flora and Fauna Assessment for Proposed Modification to Pipeline Route: Western Sydney Recycled Water Initiative – Replacement Flows Project* (prepared by Sinclair Knight Merz and dated 3 April 2008);
  - f) Letter from Sydney Water Corporation dated 12 August 2008 and associated attachments (Sydney Water Corporation letter to NSW Health dated 7 July 2008 and NSW Health's response letter (undated)) to provide supporting information for modification of Condition 2.4;
  - g) Letter from Sydney Water Corporation (undated) and associated attachments (Environmental Assessment Addendum prepared by Sydney Water Corporation dated September 2008 titled *Replacement Flows Project – River-flat Eucalypt Forest area near the Quakers Hill concentrate storage pond* and *Flora and Fauna Addendum* prepared by Sinclair Knight Merz for the proposed modification of condition 2.11 dated 18 September 2008);
  - h) Letter from Sydney Water Corporation dated 26 November 2008 and associated attachments (Environmental Assessment Addendum prepared by Sydney Water Corporation dated November 2008 titled *Replacement Flows Project – Cumberland Plain Woodland community near Quakers Hill concentrate storage pond* and *Flora and Fauna Addendum* for Proposed Modifications to the Concentrate Pond at Quakers Hill STP prepared by Sinclair Knight Merz and dated 4 November 2008);
  - i) Letter from Sydney Water Corporation (undated) and associated attachments (Environmental Assessment Addendum prepared by Sydney Water Corporation dated February 2009 titled *Replacement Flows Project – River-flat Eucalypt Forest near the M7* and *Flora and Fauna Addendum* prepared by Sinclair Knight Merz titled *Addendum: Flora and Fauna Assessment for Proposed Modification to Pipeline Route – Bells Creek* and dated 3 February 2009); and
  - j) the conditions of this approval.
- 1.2 In the event of an inconsistency between:
- a) the conditions of this approval and any document listed from condition 1.1a) to 1.1i) inclusive, the conditions of this approval shall prevail to the extent of the inconsistency; and
  - b) any of the documents listed from condition 1.1a) to 1.1i) inclusive, the most recent document shall prevail to the extent of the inconsistency.
- 1.3 The Proponent shall comply with any reasonable requirement(s) of the Director-General arising from the Department's assessment of:
- a) any reports, plans or correspondence that are submitted in accordance with this approval; and
  - b) the implementation of any actions or measures contained in these reports, plans or correspondence.

## **Limits of Approval**

- 1.4 This approval shall lapse five years after the date on which it is granted, unless the works the subject of this approval are physically commenced on or before that time.
- 1.5 The project shall be limited to the release of up to 50 ML/day of highly treated recycled water (replacement flow) to the Hawkesbury-Nepean River and approximately 8 ML/day of concentrate from the advanced water treatment plant to the NSOOS.
- 1.6 The project shall not commence discharge of any highly treated recycled water to the Hawkesbury Nepean River system without the following being in place: existing Warragamba Dam releases or increased releases from the Upper Nepean Dams (Nepean Dam, Avon Dam, Cataract Dam and Cordeaux Dam).

## **Statutory Requirements**

- 1.7 The Proponent shall ensure that all licences, permits and approvals are obtained and maintained as required throughout the life of the project. No condition of this approval removes the obligation for the Proponent to obtain, renew or comply with such licences, permits or approvals. The Proponent shall ensure that a copy of this approval and all relevant other environmental approvals are available on the Site of the AWTP at all times during the project.

## **2. SPECIFIC ENVIRONMENTAL CONDITIONS**

### **Water Quality/ Water Cycle Management/ Aquatic Ecology Impacts**

- 2.1 The Proponent shall conduct a study, in consultation with DPI (Fisheries) to determine whether the discharge of the Project will create “attraction flows” for natural fish species within Boundary Creek. If a fish “attraction flow” is detected within Boundary Creek, as a result of a negative effect attributed to the Project, the Proponent, in consultation with DPI (Fisheries), will investigate and implement appropriate design and other mitigation measures. The results of the fish “attraction flow” study shall be submitted as a report to the Director-General.
- 2.2 The Proponent shall evaluate the likely conductivity of the permeate from the reverse osmosis plant and its potential for impacting on aquatic life in Boundary Creek. The evaluation should be based on measurements of conductivity upstream in the Nepean River and known information on impacts of osmosis on aquatic life. The evaluation will be used to determine if the addition of salt to the reverse osmosis treated water will be necessary prior to its discharge to minimise the likelihood of ecological impacts. The results of the evaluation shall be submitted to the Director-General.
- 2.3 The Proponent shall ensure that the AWTP does not commence normal operations until the performance of the treatment technology can be demonstrated via the pilot facility that the nature of the replacement flow produced is equal to or better (in terms of nutrient concentration and chemical contamination) to that predicted as part of the documents referred to in condition 1.1. The Proponent shall submit a report to the Director-General outlining the results of the pilot testing program and an indication of how it compares with the predicted quality of the replacement flow. Any additional measures that will be implemented to improve the quality of the replacement flow shall be detailed as part of the report.
- 2.4 The Proponent shall undertake biological monitoring of the pilot plant to prove that the AWTP will effectively remove biological contaminants from the feedwater. A comprehensive biological testing program shall be undertaken utilising the influent and effluent from each of the three Sewage Treatment Plants (i.e. Quakers Hill, St Marys and Penrith) in consultation with NSW Health to determine the micro-organisms to be tested. Once biological monitoring of the pilot plant has been completed, the Proponent is to submit the results to NSW Health. The Proponent shall also undertake verification monitoring during the full-scale AWTP commissioning and operation to validate the pilot plant testing results in consultation with NSW Health.

- 2.5 As stated in the documents referred to under condition 1.1, the Proponent shall conduct a survey of industries in the sewerage catchment to understand potentially hazardous sources and to identify the types of chemicals being discharged to the sewer. The frequency of review of the sewerage catchment (including industries, potential chemical sources, trade waste and source control) will be determined in consultation with NSW Health.
- 2.6 The Proponent shall manage the production and disposal of concentrate to ensure that there is no discharge of concentrate into the Hawkesbury-Nepean River, including the South Creek catchment, unless during an emergency situation. An “*emergency situation*” refers to emergency works which may need to be undertaken to avoid loss of life and/or significant property loss.
- 2.7 The Proponent shall develop an effluent management strategy in consultation with DECC, DPI (Fisheries) and SCA to reduce the impacts on the Warragamba River from the Wallacia STP as a result of the cessation of flows from the Warragamba Dam. The Proponent will liaise closely with SCA to ensure that the strategy is implemented, and mitigation measures to reduce impacts to aquatic ecology are in place at the Wallacia STP, prior to SCA ceasing all flow releases from Warragamba Dam.
- 2.8 The Proponent shall submit for the approval of the Director-General the following details regarding the concentrate storage pond:
- exact location of the pond within the Quakers Hill STP site;
  - proposed storage capacity;
  - protection measures to prevent the leakage of concentrate to underlying soil and groundwater; and
  - measures to be implemented to minimise the generation of odour.
- The abovementioned details are to be presented in a report and submitted to the Director-General following the detail design of the concentrate storage pond or within such time as agreed by the Director-General.
- 2.9 Until such time as there is a Water Sharing Plan, Ministerial direction made under the *Water Management Act 2000*, or other relevant instrument that approves or requires otherwise, the Proponent shall ensure that a minimum combined volume of tertiary treated effluent from St Marys STP and Quakers Hill STP continues to be discharged to the South Creek catchment following the commissioning of the project. The suitable combined volume of tertiary treated effluent to be discharged from these plants shall be determined by DWE and DECC in consultation with the Proponent.
- 2.10 Following project commissioning, the Proponent shall ensure that the highly treated replacement flow is discharged from the project into Boundary Creek, unless there is a Ministerial direction made under the *Water Management Act 2000*, or other relevant instrument that approves or requires otherwise.

### **Terrestrial Flora and Fauna Impacts**

- 2.11 Unless otherwise agreed in writing by the Director-General, the Proponent shall ensure that the project avoids direct impact to *Grevillea juniperina subsp juniperina* individuals, the habitat of *Meridolum corneovirens*, *Litoria aurea* and *Miniopterus schreibersii*, or the following Endangered Ecological Communities:
- Cumberland Plain Woodland (with the exception of the minor impacts described in the document referred to under conditions 1.1(d) and 1.1(h));
  - River-flat Eucalypt Forest on Coastal Floodplains (with the exception of the impacts described in the documents referred to under conditions 1.1(g) and 1.1(i)). In relation to the document referred to in condition 1.1(g), the Proponent is required to prepare a Vegetation Offset Strategy, in consultation with the Department of Environment and Climate Change, that establishes, conserves and



maintains at least 1.2 hectares of the endangered ecological community River-flat Eucalypt Forest in an area that creates or enhances connections between existing remnants either within the site or in close proximity (such as along Breakfast Creek). The Vegetation Offset Strategy shall be submitted to, and approved by, the Director-General prior to construction works commencing on the concentrate storage pond within the Quakers Hill STP site. The Vegetation Offset Strategy is required to be implemented within 12 months of the commencement of construction of the concentrate storage pond; and

c) Freshwater Wetlands on Coastal Floodplains.

Where direct impacts are not avoidable, additional to those outlined in (a) and (b) above, the Proponent is required to provide to the Director-General, when seeking approval to allow direct impacts, a Biodiversity Offset Strategy that demonstrates no cumulative environmental impact and results in a “maintain or improve” biodiversity outcome.

- 2.12 The Proponent shall ensure that temporary construction compounds are located to minimise the clearing of native vegetation.
- 2.13 The Proponent shall ensure that the route(s) of any pipeline infrastructure are aligned to avoid any significant flora and fauna or significant habitat areas as required by condition **Error! Reference source not found..** A suitably qualified ecologist shall undertake inspection of the route(s) prior to the commencement of construction to ensure adherence to this condition.
- 2.14 The Proponent shall ensure that all natural creeks (other than ephemeral watercourses and drainage lines) required to be crossed by pipeline infrastructure associated with the project are traversed utilising directional drilling/underboring construction methods. Where existing riparian vegetation occurs along creek banks, the Proponent shall ensure that the underground boring commences from the outer edge of the riparian buffer and extends for the full width of the watercourse and include any core riparian zone.
- 2.15 The Proponent shall ensure that all revegetation works are undertaken using locally native species. The Proponent shall ensure that the regeneration of rehabilitated/revegetated areas would be managed for a period of six months, or as agreed by the Director-General, until the newly planted vegetation has fully established.

## Noise and Vibration Impacts

### *Construction Noise and Vibration*

- 2.16 Unless otherwise specified in an approved Construction Noise and Vibration Management Plan for the project (refer to condition 4.2(c) of this approval), the Proponent shall only undertake construction activities associated with the project that would generate an audible noise at any residential premises during the following hours:
- a) 7:00 am to 6:00 pm, Mondays to Fridays, inclusive;
  - b) 8:00 am to 1:00 pm on Saturdays; and
  - c) at no time on Sundays or public holidays.

This condition does not apply in the event of a direction from police or other relevant authority for safety or emergency reasons.

### *Operation Noise*

- 2.17 The Proponent shall design, operate and maintain the project such that there is no increase in noise levels over those currently being emitted from each of the premises (St Marys STP, Quakers Hill STP and Penrith STP).
- 2.18 For the purpose of assessment of noise specified under condition 2.17 of this consent, noise from the project shall be:

- a) measured at the most affected point on or within the Site boundary at the most sensitive receiver to determine compliance with condition 2.17; and
- b) subject to the modification factors provided in Section 4 of the *New South Wales Industrial Noise Policy* (EPA, 2000), where applicable.

Notwithstanding, should direct measurement of noise from the project be impractical, the Proponent may employ an alternative noise assessment method deemed acceptable by the DECC (refer to Section 11 of the *New South Wales Industrial Noise Policy* (EPA, 2000)). Details of such an alternative noise assessment method accepted by the DECC shall be submitted to the Director-General prior to the implementation of the assessment method.

## **Traffic and Transport Impacts**

- 2.19 Prior to the commencement of construction of the pipeline infrastructure associated with the project, the Proponent shall develop to the satisfaction of the relevant road authority, the following information:
- a) where directional drilling/boring is proposed under roads, detailed plans (including vertical and horizontal alignment) of the pipeline route and mitigation measures proposed to reduce impacts to traffic and pedestrian safety during construction works on either side of the road are to be provided. An indication of timing of works, hours of construction and maintenance arrangements during operation should also be outlined;
  - b) where trenching is proposed to cross roads or where trenching is proposed to occur within the road reserve in close proximity to the road pavement, detailed design plans for the road works (including vertical and horizontal alignment) is to be provided as well as information regarding plant and equipment proposed to be used, construction compound locations, construction schedule and hours of construction, localised traffic diversions, need for short-term closure of roads or traffic lanes and restricted or modified access to adjacent properties. Proposed mitigation measures to be implemented to reduce construction impacts such as traffic control measures for peak traffic periods (i.e. detours/diversions) and measures to ensure traffic and pedestrian safety during construction activities are required to be outlined. Ongoing maintenance arrangements for the operational phase should also be provided.
- 2.20 The Proponent shall ensure that any measures to restore roads to pre-existing conditions are undertaken in a timely manner, in accordance with the requirements and the satisfaction of the relevant road authority and at the full expense of the Proponent.
- 2.21 The Proponent shall ensure that all road crossings of RTA maintained roads are to be constructed using underboring/directional drilling construction techniques unless otherwise agreed with the RTA. The construction method and depth of cover is to be determined in consultation with the RTA.
- 2.22 The Proponent shall ensure that the pipeline is designed to be maintenance free within the RTA's motorway corridors including the Westlink M7 and the future Castlereagh Freeway and Werrington Arterial corridors. The Proponent shall ensure that pits or other access structures are only located within areas of the project which are not motorway corridor or future motorway corridor, or as otherwise agreed with the RTA.

## **Air Quality Impacts**

### ***Odour***

- 2.23 The Proponent shall not permit any offensive odour, as defined under section 129 of the *Protection of the Environment Operations Act 1997*, to be emitted beyond the boundary of the project.

### ***Dust Emissions***

- 2.24 The Proponent shall design, construct, commission, operate and maintain the project in a manner that minimises or prevents the emission of dust including wind blown and traffic generated dust.

## **Soil and Water Quality Impacts**

### ***Construction Soil and Water Management***

- 2.25 The Proponent shall employ soil and water management controls to minimise soil erosion and the discharge of sediment and other pollutants to lands and/or waters during construction of the project, in accordance with *Managing Urban Stormwater: Soils and Conservation* (Landcom, 2004).
- 2.26 The Proponent shall maintain all erosion, sediment and pollution control infrastructure until such time as all ground disturbed by the works has been stabilised and rehabilitated so that it no longer acts as a source of sediment.
- 2.27 All stockpiled construction materials shall be stabilised and covered where practicable to prevent erosion or dispersal of the materials. The Proponent shall ensure that any spoil stockpiles are located away from watercourses.

### ***Operation Soil and Water Management***

- 2.28 Except as may be expressly provided by an Environment Protection Licence for the project, the Proponent shall comply with section 120 of the *Protection of the Environment Operations Act 1997* which prohibits the pollution of waters.

## **Waste Management**

- 2.29 All wastes generated by the project, other than those materials permitted to be discharged as part of concentrate via the Northern Suburbs Ocean Outfall Sewer, shall be avoided, beneficially reused, recycled or directed to a waste facility lawfully permitted to accept the materials.

## **Visual Amenity**

- 2.30 The Proponent shall ensure that all new external lighting associated with the project within the St Marys STP site boundary is mounted, screened, and directed in such a manner so as not to create a nuisance to surrounding land uses. The lighting shall be the minimum level of illumination necessary, and be in general accordance with *AS 4282 – 1997 Control of the Obtrusive Effects of Outdoor Lighting*.

## **Hazards and Risk Impacts**

- 2.31 The Proponent shall store and handle all dangerous goods, as defined by the Australian Dangerous Goods Code, strictly in accordance with:
- a) all relevant Australian Standards;
  - b) for liquids, a minimum bund volume requirement of 110% of the volume of the largest single stored volume within the bund; and
  - c) DECC's Environment Protection Manual Technical Bulletin Bunding and Spill Management.

In the event of an inconsistency between the requirements listed from a) to c) above, the most stringent requirement shall prevail to the extent of the inconsistency.

## **3. ENVIRONMENTAL MONITORING AND AUDITING**

### **Water Quality and Aquatic Ecology Monitoring Program**

- 3.1 The Proponent shall develop a Water Quality and Aquatic Ecology Monitoring Program, in consultation with the DECC, DPI (Fisheries) and NSW Health, to monitor the impacts of the project on the Hawkesbury Nepean River. The Program shall commence prior to the operation of the project. The Program shall be undertaken in conjunction with the Hawkesbury Nepean Integrated Monitoring Framework and provide a sub-set of data which can assist in the overall management of the river system. A review of the Program must be undertaken in consultation with the DECC, DPI (Fisheries) and NSW Health after three years

to determine ongoing monitoring requirements. The Program shall include, but not necessarily be limited to:

- a) a baseline monitoring program to be developed in consultation with DECC, DPI (Fisheries) and NSW Health. Collection of baseline data must be completed prior to any discharge from the project of treated wastewater.
- b) post-commissioning monitoring in which sampling and data collection for parameters determined as part of a) would be undertaken to:
  - i) evaluate the project's specific contribution to river health outcomes;
  - ii) evaluate the environmental impact of the project at a temporal and spatial scale; and
  - iii) compare the post-commissioning river health conditions with baseline conditions.
- c) sampling and data collection at representative sites where impacts are expected to occur (impact sites) and sites where impacts are not expected (control sites) within Warragamba River, Nepean River (upstream and downstream of the replacement flow discharge point), Hawkesbury River, South Creek (upstream and downstream of St Marys STP) and Eastern Creek (upstream and downstream of Quakers Hill STP).
- d) sampling and data collection of the replacement flow discharge and the immediate receiving environment to:
  - i) monitor the volume and temperature of the replacement flow;
  - ii) characterise and quantify the type, concentration and load of constituents being discharged into the Hawkesbury Nepean River;
  - iii) determine the area of impact for the replacement flow discharge including hydrological changes;
  - iv) quantify changes in the quality (including toxicity) of the receiving waters at the discharge point, with specific reference to phytoplankton, aquatic vegetation (floating and submerged), macro-invertebrates, fish, nutrients, other physico-chemical parameters and pathogens; and
  - v) a mechanism for the supply of data and results from the Program, including comparison of baseline and post-commissioning data, both on request and at agreed milestones, to DECC, DPI (Fisheries), NSW Health and the Director-General.
- e) should any signs of water quality deterioration be detected as a result of the project, the Proponent shall develop and implement management strategies and/or mitigation measures to minimise any potential adverse impacts on river health.

A report providing the results of the monitoring program and any additional mitigation measures being implemented by the Proponent shall be submitted to the Director-General within the following timeframes:

- a) baseline conditions are to be reported within four months of project commissioning;
- b) operational conditions are to be reported within four months after collection of 12 months of operational data and once a year for every year thereafter for the life of the monitoring program or as otherwise agreed with the Director-General.

### **Noise Performance Audit**

3.2 Within 90 days of the commencement of operation of AWTP, or as may be agreed by the Director-General, and during a period in which the project is operating under design loads and normal operating conditions, the Proponent shall undertake a program to confirm the noise emission performance of the AWTP plant. The program shall include, but not necessarily be limited to:

- a) noise monitoring, consistent with the guidelines provided in the *New South Wales Industrial Noise Policy* (EPA, 2000), to assess compliance with condition 2.17 of this consent.
- b) methodologies, locations and frequencies for noise monitoring;
- c) identification of monitoring sites at which pre- and post-project noise levels can be ascertained;

- d) details of any complaints and enquiries received in relation to noise generated by the operation of the AWTP and associated infrastructure within the first 90 days of operation;
- e) a statement of whether the Site of the AWTP is in compliance with noise limits in condition 2.17;
- f) any additional noise mitigation measures and timetables for implementation.

A report providing the results of the program shall be submitted to the Director-General within 28 days of completion of the testing required under a).

- 3.3 In the event that the program undertaken to satisfy condition 3.2 of this approval indicates that the operation of the AWTP, under design loads and normal operating conditions, will lead to greater noise impacts than permitted under condition 2.17 of this approval, then the Proponent shall provide details of remedial measures to be implemented to reduce noise impacts to levels required by that condition. Details of the remedial measures and a timetable for implementation shall be submitted to the Director-General for approval within such period as the Director-General may agree.

#### 4. ENVIRONMENTAL MANAGEMENT

##### Construction Environmental Management Plan

- 4.1 Prior to the commencement of construction of the project, the Proponent shall prepare and implement a **Construction Environmental Management Plan** (CEMP) to outline environmental management practices and procedures to be followed during construction of the project. The Plan shall be prepared in accordance with *Guideline for the Preparation of Environmental Management Plans* (DIPNR 2004) and shall include, but not necessarily be limited to:
- a) a description of all activities to be undertaken during construction including an indication of stages of construction, where relevant;
  - b) statutory and other obligations that the Proponent is required to fulfil during construction including all approvals, consultations and agreements required from authorities and other stakeholders, and key legislation and policies;
  - c) details of how the environmental performance of the construction works will be monitored, and what actions will be taken to address identified adverse environmental impacts. In particular, the following environmental performance issues shall be addressed in the Plan:
    - i) measures to monitor and manage dust emissions;
    - ii) measures to monitor and minimise soil erosion and the discharge of sediment and other pollutants to lands and/ or waters during construction activities; and
    - iii) measures to monitor and control noise emissions during construction works;
  - d) a description of the roles and responsibilities for all relevant employees involved in the construction of the project;
  - e) the additional plans, activities, studies and other requirements listed under condition 4.2 of this approval;
  - f) a traffic control plan to detail the various traffic control measures to be used for construction traffic access and disruptions to the classified road network; and
  - g) complaints handling procedures during construction.

The Plan shall be submitted for the approval of the Director-General no later than one month prior to the commencement of any construction works associated with the project, or within such period otherwise agreed by the Director-General. Construction works shall not commence until written approval of the Plan has been received from the Director-General.

- 4.2 As part of the Construction Environmental Management Plan for the project required under condition 4.1 of this approval, the Proponent shall prepare and implement the following:
- a) where soil testing prior to the commencement of construction identifies the presence of acid sulfate soils, an **Acid Sulfate Soil Management Plan** prepared in accordance

with guidance provided in *Acid Sulfate Soil Manual* (Acid Sulfate Soil Management Advisory Committee, 1998);

- b) a **Construction Surface Water Management Plan** to detail how surface water and stormwater will be managed during construction. The Plan shall include use of stormwater management controls, in accordance with *Managing Urban Stormwater: Soils and Construction* (Landcom, 2004).
- c) a **Construction Noise and Vibration Management Plan** to detail how construction noise and vibration impacts would be minimised and managed, including, but not necessarily limited to:
  - i) details of construction activities and a schedule for construction works;
  - ii) identification of construction activities that have the potential to generate noise and/ or vibration impacts on surrounding land uses, particularly residential areas and sensitive receivers including heritage items;
  - iii) a detailed description of what actions and measures would be implemented to ensure that these works would comply with the relevant noise and vibration criteria/ guidelines;
  - iv) procedures for notifying residents of construction activities that are likely to effect their noise and vibration amenity, as well as procedures for dealing with and responding to noise complaints; and
  - v) a description of how the effectiveness of these actions and measures would be monitored during the proposed works, clearly indicating how often this monitoring would be conducted, how the results of this monitoring would be recorded; and, if any non-compliance is detected.
- d) a **Flora and Fauna Protection Plan** to detail how construction impacts on terrestrial flora and fauna will be minimised and managed, including, but not necessarily limited to:
  - i) details of work practices (such as fencing and construction worker education) to minimise the potential for damage to vegetation and native fauna during construction activities;
  - ii) measures to avoid impact to significant vegetation communities such as Cumberland Plain Woodland, River-flat Eucalypt Forest on Coastal Floodplains and Freshwater Wetlands on Coastal Floodplains Endangered Ecological Communities along the pipeline route;
  - iii) measures to avoid impact to threatened flora species along the pipeline route including *Grevillea juniperina subsp juniperina* and threatened fauna species and their habitat including *Meridolum corneovirens*, *Litoria aurea* and *Miniopterus schreibersii*;
  - iv) weed management measures focusing on early identification of invasive weeds and determining effectiveness of management controls;
  - v) rehabilitation of disturbed areas to include plants of local provenance;
  - vi) an auditing program for construction work practices to ensure that there is no impact on threatened species or their habitats.
- e) a **Construction Traffic Management Protocol** to detail how construction of pipeline infrastructure associated with the project will be managed in proximity to local and regional roads during construction. The Protocol shall specifically address the management of day to day traffic during construction (directional drilling under or trenching across or adjacent to roads), restrictions to the hours of construction activities to avoid road use conflicts, any detours or road closures and the management of transport of construction waste materials. In addition to approval from the Director-General, the Construction Traffic Management Protocol shall be prepared to the satisfaction of the RTA and each relevant Council.

4.3 The Plans and Protocols referred to under condition 4.2 shall be submitted for the approval of the Director-General prior to the commencement of construction.

4.4 Nothing in this approval precludes the Proponent from developing the Plans referred to under condition 4.2 as separate plans, or as a single plan.

## Operation Environmental Management Plan

4.5 Prior to the commencement of operation of the project, the Proponent shall prepare and submit for the approval of the Director-General an **Operation Environmental Management Plan** (OEMP) to detail an environmental management framework, practices and procedures to be followed during the operation of the project. The Plan shall be consistent with the Department's *Guideline for the Preparation of Environmental Management Plans* (DIPNR 2004), and shall include, but not necessarily be limited to:

- a) a description of all activities to be undertaken during operation including an indication of stages of operation, where relevant;
- b) statutory and other obligations that the Proponent is required to fulfil during operation including all approvals, consultations and agreements required from authorities and other stakeholders, and key legislation and policies;
- c) details of how the environmental performance of the operations will be monitored, and what actions will be taken to address identified adverse environmental impacts. In particular, the following environmental performance issues shall be addressed in the Plan:
  - i) measures to monitor and minimise water quality impacts during operation;
  - ii) measures to monitor and minimise aquatic ecology impacts during operation;
  - iii) measures to monitor and control noise emissions during operation;
- d) a description of the roles and responsibilities for all relevant employees involved in the operation of the project; and
- e) complaints handling procedures during operation.

The Operation Environmental Management Plan shall be made available for inspection by the public upon request following its approval by the Director-General.

## 5. COMPLIANCE MONITORING AND TRACKING

### Compliance Tracking Program

5.1 The Proponent shall develop and implement a **Compliance Tracking Program** to track compliance with the requirements of this approval. The Program shall include, but not necessarily limited to:

- a) provisions for periodic review of the compliance status of the project against the requirements of this approval;
- b) provisions for periodic reporting of compliance status to the Director-General;
- c) a program for independent environmental auditing at least annually, or as otherwise agreed by the Director-General, in accordance with *ISO 19011:2002 - Guidelines for Quality and/ or Environmental Management Systems Auditing*; and
- d) mechanisms for rectifying any non-compliance identified during environmental auditing or review of compliance.

## 6. COMMUNITY INFORMATION, CONSULTATION AND INVOLVEMENT

6.1 Subject to confidentiality, the Proponent shall make all documents required under this approval available for public inspection on request.

### Complaints Procedure

6.2 Prior to the commencement of construction of the project, the Proponent shall ensure that the following are available for community complaints for the life of the project (including construction and operation):

- a) a telephone number on which complaints about construction and operational activities at the Site of the AWTP may be registered;
- b) a postal address to which written complaints may be sent; and
- c) an email address to which electronic complaints may be transmitted.

The telephone number, the postal address and the email address shall be displayed on a sign near the entrance to the Site of the AWTP, in a position that is clearly visible to the public, and which clearly indicates the purposes of the sign. This information is also to be provided on the Proponents website.

- 6.3 The Proponent shall record details of all complaints received through the means listed under condition 6.2 of this approval in an up-to-date Complaints Register. The Register shall record, but not necessarily be limited to:
- a) the date and time, where relevant, of the complaint.
  - b) the means by which the complaint was made (telephone, mail or email).
  - c) any personal details of the complainant that were provided, or if no details were provided, a note to that effect.
  - d) the nature of the complaint.
  - e) any action(s) taken by the Proponent in relation to the complaint, including any follow-up contact with the complainant.
  - f) if no action was taken by the Proponent in relation to the complaint, the reason(s) why no action was taken.

The Complaints Register shall be made available for inspection by the Director-General upon request and shall be provided in a format that meets confidentiality requirements.

### **Provision of Electronic Information**

- 6.4 The Proponent shall establish and maintain dedicated pages within its existing website for the provision of electronic information associated with the project. The Proponent shall publish and maintain up-to-date information on its website or otherwise make available this information when requested including, but not necessarily limited to:
- a) a copy of the documents referred to under condition 1.1 of this approval, and any documentation supporting modifications to this approval that may be granted from time to time;
  - b) a copy of this approval and each relevant environmental approval, licence or permit required and obtained in relation to the project;
  - c) a copy of each strategy, plan and program required under this approval; and
  - d) the outcomes of compliance tracking in accordance with condition 5.1 of this approval.

## **7. ENVIRONMENTAL REPORTING**

### **Incident Reporting**

- 7.1 The Proponent shall notify the Director-General of any incident with actual or potential significant off-Site impacts on people or the biophysical environment as soon as practicable after the occurrence of the incident. The Proponent shall provide written details of the incident to the Director-General within seven days of the date on which the incident occurred.
- 7.2 The Proponent shall maintain a register of accidents, incidents and potential incidents with actual or potential significant off-Site impacts on people or the biophysical environment. The register shall be made available for inspection at any time by the independent qualified person or team conducting the Environmental Audit and/or the Director-General.
- 7.3 The Proponent shall meet the requirements of the Director-General to address the cause or impact of any incident, as it relates to this approval, reported in accordance with condition 7.1 of this consent, within such period as the Director-General may agree.
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