

17 November 2021

Contact: *Justine Clarke*
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Our ref: *D2021/120274*

Nathan Heath
Department of Planning, Industry & Environment
4 Parramatta Square
12 Darcy Street
PARRAMATTA NSW 2150

Dear Mr Heath

Upper South Creek Advanced Water Recycling Centre – EIS Review (SSI-8609189)

Thank you for your Major Projects Planning Portal referral dated 21 October 2021, requesting WaterNSW's advice in relation to the Environmental Impact Statement (EIS) for the proposed Upper South Creek Advanced Water Recycling Centre (USCAWRC). WaterNSW understands that the objective of this project is to provide wastewater services for the Western Sydney Aerotropolis Growth Area and the South West Growth Area.

Sydney Water is proposing to build and operate this new facility and associated pipelines. The project is planned to be built in stages, with this EIS assessing stage 1 impacts. The project includes:

- a new Advanced Water Recycling Centre (AWRC) to collect wastewater from businesses and homes and treat it, producing high-quality treated water, renewable energy and biosolids for beneficial reuse
- a new green space area around the AWRC, adjacent to South Creek and Kemps Creek, to support the ongoing development of a green spine through Western Sydney
- new infrastructure from the AWRC to South Creek, to release excess treated water during significant wet weather events, estimated to occur about 3 – 14 days each year
- a new treated water pipeline from the AWRC to Nepean River at Wallacia Weir, to release high-quality treated water to the river during normal weather conditions
- a new environmental flows pipeline, from Wallacia to Warragamba River, to release high-quality treated water to the river just below Warragamba Dam
- a new brine pipeline from the AWRC connecting into Sydney Water's existing wastewater system to transport brine to the Malabar Wastewater Treatment Plant, and
- a range of ancillary infrastructure.

WaterNSW owns and manages land and several pieces of critical water supply infrastructure that could be impacted by this proposal:

- the Warragamba to Prospect Pipelines corridor, impacted by releases from the AWRC via South Creek
- the Upper Canal Corridor impacted by an underbore of the brine pipeline under the corridor, and
- Wallacia, Warragamba, and Penrith weirs impacted by the treated water pipeline and e-flow release pipeline.

It is essential this water supply and the water supply infrastructure is protected from the potential impacts of development.

The key factors for WaterNSW consideration when reviewing new development proposals within or adjacent to critical water supply infrastructure include the following:

- No intensification of risk applied to State critical infrastructure.
- WaterNSW infrastructure remains safe and serviceable at all times.
- No damage should occur to the water supply infrastructure at any stage of the development and that all mitigation measures are included in the design, construction and operation of such projects.
- Vibration impacts.
- Heritage impacts.
- Water quality and drainage.
- Changes in upstream land use that significantly increase flows on downstream infrastructure.
- Increases in bed and bank erosion and project sediment and erosion controls.
- Access impediments for operation and maintenance activities, as well as to future augmentation initiatives.

There is potential for the project to impact on WaterNSW operations and drinking water supply if WaterNSW's requirements are not adequately implemented during the final design, construction and operational phases. However, WaterNSW acknowledge the ongoing consultation between the project team and WaterNSW. WaterNSW specifically note and support the following:

- No dry weather releases to South Creek.
- That the project is not expected to have any negative impacts on Sydney's drinking water catchment.
- Stormwater management measure SW02, which requires that post-development peak flows do not exceed pre-development peak flows for the 50%, 5% and 1% AEP storm events.
- Baseline and post commissioning monitoring (water quality, aquatic ecology and geomorphic components) at water release discharge points, weir structures and at the Warragamba Pipelines corridor at South Creek.
- Ongoing consultation with WaterNSW where WaterNSW lands and infrastructure are interacted with or impacted by the project.

The majority of the key impact areas previously identified by WaterNSW have been considered in the EIS. Based on the information provided, WaterNSW has no objection to the proposed development, however, requests the following be addressed in the Response to Submissions Report (RTS):

- Environmental flows – as per the recommendation in the 'Metropolitan Water Plan for Sydney', further detail on how the variable environmental flow regime will be assessed by the Department of Planning, Industry and Environment (DPIE) and the timing for the release of the refined plan. It is WaterNSW's understanding that Warragamba e-flows are fixed until 2025. Clarification is requested.
- Environmental flows - it is understood that Sydney Water are exploring with DPIE releasing e-flows to the Nepean River at Wallacia Weir, negating the construction of the e-flows pipeline to Warragamba. WaterNSW requests further detail on when the final decision to build the e-flows pipeline will be made.
- Environmental flows – WaterNSW supports the summary provided on e-flow replacement (Volume 3, section 8.7.5), however requests that it be confirmed or made clearer in the documentation that the option for e-flow replacement or supplement is in combination with the existing e-flow program and not total replacement. Appendix F (section 6.1.3.5.2) identifies that the AWRC e-flows will replace the WaterNSW e-flow regime.

- Environmental flows – WaterNSW understands the e-flows pipeline remains subject to further Government decisions and analysis when considering how to manage Sydney’s water supply systems. E-flow releases will require coordination with WaterNSW to ensure a balance between recycled water and e-flow drivers. WaterNSW needs to understand what this coordination entails to determine the impact to operations. It is critical that WaterNSW is involved in monitoring and release considerations of the treated water pipeline at Wallacia Weir and the e-flow pipeline. It is unclear in the EIS if the proposal will change any requirements on WaterNSW to deliver e-flows and how Sydney Water will involve WaterNSW in data sharing and consultation. WaterNSW requests a corresponding management measure to address this concern.
- Route alignment – WaterNSW requests to see a more refined route alignment (not detailed) for the pipelines, as it is difficult to interpret the crossing locations from the high-level map.
- Traffic and transport – WaterNSW operations may be affected by construction traffic during building of the e-flows pipeline. WaterNSW requests further detail on this construction route, especially as it pertains to access around or near Warragamba Dam.
- Human health – as per Appendix W, WaterNSW questions whether it is acceptable to have a school in the evacuation zone of the methanol tanker (850m).
- Groundwater – with the exception of excess flows down South Creek, it is considered that changes to groundwater from this development will not impact on WaterNSW assets. WaterNSW request that this assumption be confirmed by Sydney Water.
- Geomorphic risks at Warragamba Pipelines – the results of the EIS assessment (Appendix G) have demonstrated that the AWRC is not increasing geomorphic related risks to WaterNSW infrastructure and that a range of Water Sensitive Urban Design (WSUD) measures will be implemented to mitigate these impacts. However, this report identified an existing medium erosion risk to the long-term stability of the channel and surrounding banks at the WaterNSW pipeline crossing the Wianamatta-South Creek floodplain downstream of the AWRC South Creek release location. The report identified this as a cumulative impact from increased development in the upstream catchment. WaterNSW is extremely concerned with the increased risk potential created at the Warragamba Pipelines caused by increased development in the catchment. Cumulative impacts and the potential cost implications created by these impacts must be addressed across the catchment especially as it relates to impacts on downstream critical infrastructure.

In addition, WaterNSW provides the following comments and requested conditions (Attachment 1). It is requested that these comments are considered and incorporated into any determination that falls in favour of the proponent. These conditions are considered vital to ensure the protection of the critical water supply infrastructure, and WaterNSW’s ability to operate and maintain our assets to deliver on our functions and responsibilities as a State corporation.

WaterNSW would appreciate our commentary being addressed within any further response to submissions by the proponent, and requests the Department continue to consult with us on any development that may impact on our assets, infrastructure or land, using the email address Environmental.Assessments@waternsw.com.au

If you have any questions regarding this letter, please contact Justine Clarke at justine.clarke@waternsw.com.au.

Yours sincerely



DARYL GILCHRIST
Manager Catchment Protection

ATTACHMENT 1 – WaterNSW comments and requested conditions for SSI-8609189

EIS Management Measures

WaterNSW supports the management measures contained within the EIS, and makes the following recommendations to strengthen the protection outcome.

- G06 – CEMP Site Plans: WaterNSW recommends that erosion and sediment controls are included as a requirement on these plans.
- G07 – Risk of brine pipeline failure: WaterNSW recommends that additional controls are included to ensure no air vents, inspection points or release points are located within the WaterNSW Upper Canal corridor.
- GW11: Specifies controls for tunnelling beneath the Warragamba Pipelines but does not include the Upper Canal. WaterNSW requests that the Upper Canal is also included in this mitigation measure.
- NAH07 – Non-Aboriginal Heritage: This management measure does not adequately address the requirements for an unexpected finds protocol for non-Aboriginal heritage. A separate mitigation measure requiring an unexpected finds protocol for non-Aboriginal heritage should be included, that does not rely on AH05.
- NV07 – Vibration impacts to structures: This measure should be strengthened, identifying where the results of the investigation will be included and how they will be implemented.
- U04 – Impacts to WaterNSW assets during construction: It is recommended that all management measures that reduce the impacts on WaterNSW assets are listed here by item number. By only including a reference to controls applied to 'Non-Aboriginal heritage' it limits the application of this measure and diminishes the number of controls already applied to protecting these assets.

Noise and vibration

Construction and operational vibration has the potential to significantly impact on WaterNSW assets. Noise and vibration impacts should be effectively managed to minimise adverse impacts on the structural integrity of our assets and heritage items.

The EIS considers the potential impacts to WaterNSW infrastructure and includes mitigation measures to address vibration and ground settlement impacts. WaterNSW accepts vibration limits in accordance with German Standard DIN 4150-3:2016, line 3 of table 1, and depending on the type and frequency of work the required vibration limits vary.

Requested conditions:

- *During construction and operation, specific mitigation measures must be implemented around WaterNSW infrastructure to achieve agreed vibration limits, determined in accordance with German Standard DIN 4150-3: Structural Vibration- effects of vibration on structures (for structural damage).*
- *Prior to construction and on completion of construction, a dilapidation and/or condition survey must be completed on infrastructure and structures at risk from being damaged by vibration during construction, including heritage items.*

Flooding, hydrology and water quality

Developments, especially major construction projects, have the potential to impact on the integrity of the bulk water supply infrastructure through changes in drainage and stormwater that may increase flooding and waterlogging, water velocity and quantity, and surface erosion. WaterNSW cannot accept any changes to current ground conditions (including channel stability within South Creek) or hydrology at the interface between WaterNSW lands and activities associated with the proposed development.

It is noted that management measure SW02 provides commitment to maintain peak flows from the AWRC site at pre-development levels. WaterNSW requests that the following mitigation

measure be included to ensure that no increase in surface water flows into or across the Warragamba pipelines corridor.

Requested condition:

- *Final levels and design of the proposal must not result in an increase in overland flow water into the Pipeline corridor of either quantity, quality or velocity. The development must be designed, operated and maintained to ensure post-development flows do not exceed pre-development flows into and through the Pipelines Corridor, for each storm event up to and including 1% AEP event.*

Utility Protection Measures – Protection of WaterNSW infrastructure (general)

WaterNSW requires that all practical measures to protect critical water supply infrastructure are incorporated into the design, construction and operation plans for the project.

Requested conditions:

- *Consultation with WaterNSW is to occur during detailed design and construction activities within and adjacent to WaterNSW lands.*
- *Construction planning and approaches to minimise risks of damage to critical water supply infrastructure must be developed in consultation with WaterNSW, and in accordance with the Guideline for Development Adjacent to the Upper Canal and Warragamba Pipelines (WaterNSW, 2021).*
- *Prior to construction, a dilapidation report identifying the condition of all infrastructure within the construction footprint must occur.*
- *WaterNSW must be consulted on the final Construction Environmental Management Plans (CEMP), to allow for assessment of design and related works procedures and revisions as required.*

Utility Protection Measures – Drilling under the Upper Canal for brine pipeline

Requested conditions:

- *To mitigate any impact to the Upper Canal, WaterNSW requires that any underbore (drilling) be, at minimum, five (5) metres under the invert level of the canal.*
- *Entry and exit points of the underbore, must be outside the WaterNSW corridor.*
- *No service, maintenance or inspection pits are allowed within WaterNSW land.*

Heritage

The design, construction and operation of the project must facilitate the long-term protection, conservation and management of items of known heritage significance.

Requested condition:

- *Advise WaterNSW of any unexpected Heritage items found on WaterNSW land.*

WaterNSW access and security

The Warragamba Pipelines corridor, areas surrounding Warragamba Dam and the Upper Canal are all Controlled Areas under the *Water NSW Act 2014* and associated Regulation, and access is prohibited unless written consent is obtained from WaterNSW.

Due to the operational nature of these areas, it is critical that entry is restricted, the site remains secure and that vehicle access is retained in order to maintain and service these sites. All works within the Controlled Areas and adjacent lands must not inhibit WaterNSW from undertaking its function to supply drinking water to Sydney. As such, all development related activities must be designed, constructed and operated in such a way that does not restrict WaterNSW from operating and maintaining our lands.

Requested conditions:

- *24-hour all-weather access to WaterNSW owned and managed lands shall be retained or provided for WaterNSW staff and contractors.*

- *Access to the WaterNSW Pipelines corridor, Upper Canal or Warragamba sites is prohibited unless written consent has been obtained from WaterNSW.*
- *Any damage to the Controlled Area and or associated infrastructure caused at any stage by the development shall be repaired by the proponent, or shall pay all reasonable costs associated with repairing the damaged water supply infrastructure, in a timely manner and to the satisfaction of WaterNSW.*
- *Appropriate and secure boundary identification (such as temporary construction fencing), must be installed prior to works commencing and must be maintained throughout the construction period.*
- *Any existing security fencing that is damaged during the development process shall be repaired or replaced by the proponent at the proponent's expense, in a timely manner and to the satisfaction of WaterNSW.*
- *Any changes to existing fencing must be reinstated on completion of the construction component.*

Erosion and sediment control

It is critically important that the earthworks are designed and undertaken in a manner that does not impact on the environment. Effective erosion and sediment control must be installed prior to construction and maintained until the disturbed areas have been remediated.

Requested Conditions:

- *Appropriate and adequate dust suppression measures must be undertaken to prevent dust leaving the project site.*
- *Effective erosion and sediment controls must be installed prior to construction and be regularly maintained and retained until works have been completed and the ground surface stabilised or groundcover re-established.*
- *Erosion and sediment controls are to be designed, installed and maintained in accordance with the 'Blue Book', Landcom (2004) Managing Urban Stormwater; Soils and Construction.*

Consultation

Given the complexity of the project and the number of interactions this project will have with WaterNSW lands, assets and infrastructure, specific communication and consultation is requested to ensure all impacts are adequately considered and mitigated.

Requested conditions:

- *WaterNSW requests to be involved in the detailed design for all aspects of the development that directly interact with WaterNSW lands, assets and infrastructure.*
- *Consultation with WaterNSW (re: monitoring, access, vibration controls, e-flow discharge) is included in the project communication strategy.*
- *If the proposal significantly changes or changes to directly impact on WaterNSW lands, assets or infrastructure, that WaterNSW be notified and given the opportunity to comment on these changes.*

Notification of incidents

WaterNSW requires notification of any incident such as a vehicle accident, discovery of any heritage items, spill or fire that affects or could affect the WaterNSW Pipelines corridor. Any such incident should be reported to WaterNSW on the incident Notification Number **1800 061 069** (24-hour service) as a matter of urgency.

Requested condition:

- *All incidents that affect or could affect the WaterNSW lands, assets and infrastructure shall be reported to WaterNSW on the 24-hour Incident Notification Number 1800 061 069 as a matter of urgency.*