

Aoyuan Moss Vale
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Water and Sewer Expert Advice for Subdivision DA – Final Report

Department of Planning and Environment




Chelsea Gardens, Moss Vale NSW 2577

28/04/2022

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Acknowledgement

DWA acknowledges the Traditional Custodians throughout Australia and their continuing connection to land, water, culture and community, and pays respect to their Elders past, present and future.

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Executive Summary

This Report has been prepared by Decentralised Water Australia (DWA) for the Department of Planning and Environment (DPE) at the request of the Southern Regional Planning Panel as noted in their record of briefing for this matter from 25 October 2021. The report summarises the outcomes of an assessment of the water and sewer infrastructure and planning pathway for a proposed residential subdivision in Moss Vale NSW 2577.

A regionally significant development application for a proposed residential subdivision is currently before the Southern Regional Planning Panel. The application, PPSSTH-7 (Wingecarribee Shire Council DA 20/0227) is proposed for Lot 3 DP 706194 'Coomungie' 141 Yarrowa Road and Lot 12 DP 866036 "Chelsea Gardens" 32 Lovelle Street, Moss Vale. The DA is for an integrated and concept residential subdivision of 1200 lots including Stage 1 subdivision of 177 lots (173 residential lots, 2 reserve lots, 1 residue lot and 1 residue business lot).

Sewer Servicing

Sewer servicing arrangements for Stage 1 of the development involves the construction and operation of an Interim Wastewater Treatment System (IWTS). Development consent for the IWTS has been granted by Wingecarribee Council under Development Application 21/0772 subject to conditions and future additional approvals. Proposed sewer servicing arrangements for stages 2 – 5 of the subdivision involves construction of reticulation and pumping infrastructure and connection into the Moss Vale Sewerage Treatment Plant (MVSTP). Connection to the STP will be dependent on capacity and future plant upgrades by Council.

The outcomes from a review of the IWTS consent and associated documentation suggests that there remains some uncertainty around the feasibility and likelihood of approval under the *Water Industry Competition Act 2006* (WICA). The WICA licencing regime and associated application process is the suggested regulatory pathway during which adequate assessment and review will be undertaken.

DWA believe that the most expedient path forward currently would be include a condition(s) of development consent requiring the applicant to obtain all necessary WICA licences prior to issuance of the Stage 1 Subdivision Works Certificate. This is commensurate with standard practice for conventional water, stormwater and sewerage infrastructure that require *Local Government Act 1993* Section 68 approval of sewerage works.

To ensure the IWTS meets regulatory requirements and is constructed and commissioned in accordance with WICA licences, DWA suggest that a consent condition could be included that requires the applicant to demonstrate that the appropriate approvals to commence commercial operation of the IWTS under WICA have been

obtained. The timing for such a requirement could be prior to issuance of the Subdivision Certificate for the 1st lot. DWA also recommend that a condition of consent be included that clearly requires connection to the WSC network within a fixed timeframe once MVSTP capacity is made available (regardless of development stage). It is noted that WSC expressed a strong preference not to extend the operation of the IWTS beyond Stage 1, and that Water NSW has indicated it does not support the use of the IWTS beyond Stage 1. Based on the outcomes of this review, DWA would also recommend that conditions associated with future development applications for other stages be required to connect to the WSC network (and MVSTP).

A review of the sewer servicing for the (future) Concept Development, has found that, based on the available information reviewed to date, a suitable future pathway is available for connection to the MVSTP for the lots from stages 2 – 5. To clarify the arrangements, DWA suggests that:

- The Draft Agreement letter be re-titled and re-emphasised to a 'Water and Sewer Infrastructure Staging Plan' or similar for inclusion as a stamped document under the Subdivision consent in conjunction with the UWS Servicing Strategy.
- A condition of consent be included for the concept stages that requires connection to the WSC network and capacity at MVSTP to be confirmed prior to issue of any development consent for a detailed Development Application for Stage 2 onwards.
- Whilst Council has confirmed they have conducted their infrastructure assessments based on a total of 1,200 lots, the Sewer Servicing Strategy prepared by the consultant (UWS) appears to have adopted the 1,073 lots that is mentioned in the staging plans. The UWS report should be amended to reflect the 1,200 lots.

Further detail regarding the IWTS and Concept Development reviews are provided in Section 3.

Water Supply Servicing

DWA have conducted a broad review of the information and documentation associated with the Development Application. DWA performed spot checks of hydraulic parameters, pipe sizing and pressure at a small number of locations which do indicate that proposed demands and impacts on the network are within expected outcomes. Overall, the various reports provided to date verify that general alignment exists between WSC's short- and longer-term water supply upgrade strategies and the water servicing strategy documents and reports for Stage 1 and whole of development.

The water supply servicing strategy for Stage 1 involves connection of the development to the existing water network in the vicinity of the Hill Road Low Level Reservoir. Both WSC and the applicant agree that Stage 1 of the development does not require augmentation of the existing WSC network. WSC have been identified several matters that need to be addressed as part of LGA Section 68 approval process (for Stage 1). WSC requires that:

- The final connection point to the network immediately adjacent to the Hill Road Low Level Reservoir must be determined and the modelling revised as part of the detailed design and Section 68 process for Stage 1, and
- The detailed design and modelling for the development supply mains (to be performed during Section 68 process) needs to consider the potential for water quality impacts due to residence time in the DN450 main due to lower demands from early development. Additionally, consideration must be given to gradual upsizing if deemed necessary by the modelling outcomes.

A review of the water servicing for the (future) Concept Development, has found that there appears to be alignment between the infrastructure upgrades and timing documented in the 23 February 2022 Terms of Agreement letter (see Appendix B of that letter) and the information provided by Council (Ian Burrows report and 5 April 2022 Memorandum).

Whilst the 2020 UWS modelling did not consider the short-term water supply strategies required to enable development prior to completion of the B2MV main duplication, Council has advised that modelling undertaken to inform the Ian Burrows report has addressed this gap.

DWA consider the proposed water supply servicing strategy and staging plan to be adequate to enable approval of a concept development. This would be subject to standard conditions requiring detailed design and revised network modelling prior to issuance of a Subdivision Works Certificate for future stages. Several specific matters have been identified by DWA or Council as requiring clarification or modification. These are:

- It is recommended that the Draft Agreement letter be re-titled and re-emphasised to a 'Water and Sewer Infrastructure Staging Plan' or similar and included as a stamped document under this consent along with the Stage 1 and Full Development UWS Servicing Strategies.
- Amend the trigger for Item 4 in Appendix B of the Agreement to "Work is to be completed and commissioned prior to the issuance of the Subdivision Certificate which creates the 961st residential lot.
- Seek confirmation from Council that the developer is not required to design or construct any works associated with the Short-term Option 04 water supply augmentation strategy discussed by WSC as required to service up to 480 residential lots.

Further detail regarding the Stage 1 and Concept Development reviews are provided in Section 4.

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1 Introduction

This Report has been prepared by Decentralised Water Australia (DWA) for the Department of Planning and Environment (DPE) at the request of the Southern Regional Planning Panel as noted in their record of briefing for this matter from 25 October 2021. The report summarises the outcomes of an assessment of the water and sewer infrastructure and planning pathway for a proposed residential subdivision in Moss Vale NSW 2577.

A regionally significant development application for a proposed residential subdivision is currently before the Southern Regional Planning Panel. The application, PPSSTH-7 (Wingecarribee Shire Council DA 20/0227) is proposed for Lot 3 DP 706194 'Coomungie' 141 Yarrowa Road and Lot 12 DP 866036 "Chelsea Gardens" 32 Lovelle Street, Moss Vale. Following a public meeting on 4 August 2021 the panel deferred the determination pending further information.

The DA is for an integrated and concept residential subdivision of 1200 lots including Stage 1 subdivision of 177 lots (173 residential lots, 2 reserve lots, 1 residue lot and 1 residue business lot). The site is approximately 124 hectares of rezoned land from RU2 Rural Landscape to mostly R2 Low Density Residential, part R5 Large Lots, RE1 Public Recreation and B1 Neighbourhood Centre. The Department (DPIE) has endorsed a State voluntary planning agreement (VPA) for the purposes of contributing to the provision of designated State public infrastructure in relation to each lot. The VPA has been executed on 17 July 2021.

One of the key issues in the assessment and consideration of this matter is the potential impact the development will have on the capacity of sewerage and water supply for the whole site. Council's Water and Sewer Engineer advised that currently Moss Vale Sewerage Treatment Plant does not have the capacity to service the proposed development and only Stage 1, 177 subdivision lots can be serviced by reticulated water.

The DA is supported by a suite of documents which includes a Statement of Environmental Effects (SEE) (Urbis, 23 July 2019) and further supported by Integrated Water Cycle Management Plan (Orion Consulting, July 2019, Revision A), Potable Water Development Impact Assessment (Cardno, 12 July 2019) and Sewer Network Report (Cardno, 12 July 2019).

The SEE concludes that sewerage and water supply have been considered for the entirety of the site however, this application proposes to deliver the infrastructure for Stage 1 development only. It should be noted that since the SEE was completed, a separate development application was lodged with Council for an Interim Water Treatment System (IWTS). This land use component for this system operates under its own consent

conditions. These consent conditions will need to be consistent with any consent issued for the Chelsea Gardens development as they relate to the same land.

Council's assessment report states that water and sewer modelling need to be undertaken for the 1200 lot concept subdivision for each subdivision development stage and subsequently submitted for subdivision development application for each lot.

The Panel deferred the matter on 13 August 2021 and requested the applicant to provide the following information to Council for further assessment:

- A staging plan for the provision of reticulated water, sewerage and local road infrastructure (outside the site) which indicates who is responsible (applicant or council) for such provision and timing relative to the development stages shown in the indicative staging plan. This plan should clearly demonstrate what work will be required before each stage and who will be responsible for such works enabling the development to proceed in a logical and transparent manner. This document must reflect current advice from Council on progress with projects to upgrade Council owned infrastructure and may require further sewer and water modelling.

1.1 Project Objectives

DPE commissioned DWA as an appropriately qualified consultant/s to peer review all relevant documentation associated with the Development Application, including Council's report to the Panel, the SEE and other relevant supporting information, independent report to Council, and submissions, and provide independent advice to the Panel regarding the development application, specifically in relation to:

- The adequacy of the SEE and whether the conclusions are supported, or otherwise.
- Council's assessment and associated documents including supplementary reports and their contrasting advice.
- The adequacy of applicant's response to the Panel's request in the Record of Deferral.
- Recommendation and conclusion.
- Details of the applicable statutory framework and whether the statutory and policy framework that is required to be addressed in order for the Panel to determine the matter has been satisfied.

1.2 Reference Documents

This review has been prepared with reference to the following documents:

Document Ref. No & Date	Revision No.	Title/Description
SA7462 SEE 23.7.19 FINAL 23 July 2019	-	Statement of Environmental Effects 141 Yarrowa Rd & 32 Lovelle St, Moss Vale 'Chelsea Gardens and Coomungie Lands'
11 July 2019	Revision A	Lot 3, DP 706194 & Lot 12, DP 866036 32 Lovelle St & 141 Yarrowa Rd, Moss Vale Stage 1A, 1B & 1C Integrated Water Cycle Management Report Part 2 – Water Quantity IWCM_Report_Pt_2_WBN Model Summary_PPSSTH-7
Moss Vale Sewer DIA_Draft 12 July 2019	01	Sewer Network – Development Assessment Report Moss Vale Project
Moss Vale Portable Water DIA_Draft 12 July 2019	01	Potable Water Development Impact Assessment Moss Vale Project
30 July 2021		Council Assessment Report Report to SRPP Chelsea Coomungie PPSSTH-7 – WINGECARRIBEE – 20.0227_SWF_PPSSTH-7
18 August 2021		Southern Regional Planning Panel Record of Deferral
18001 18 August 2021		Letter from JMD Development Consultants – Staging Plan for the Provision of External Water, Sewerage and Local Road Infrastructure – PPSSTH-7 – Wingecarribee – DA 20/0227 Chelsea Gardens Development Site, 141 Yarrowa Rd and 32 Lovelle St, Moss Vale
14 October 2021		Supplementary Council Assessment Report
14 October 2021		Attachment A Revised Draft conditions
7 October 2021		Email from the Applicant's Planning Consultant to Council containing summary of water issues 321196: Council's response regarding deferral item 2(b) re water, sewer & local road infrastructure matters - DA 20/0227 Chelsea Gardens / Coomungie subdivision
14/10/2021 21/10/2021		Supplementary update report Director's addendum
December 2021	3	Moss Vale Short Term Water Supply Planning (Ian Burrows for WSC)
February 2022		Draft Terms of Agreement for Delivery of Water and Sewer Infrastructure
April 2022		Letter in response to RFI regarding Water Industry Competition Act licencing
April 2022		Introductory letter from Truewater provided by applicant
April 2022		Memoranda from WSC – dated 5 April and 8 April

2 Background and Context

2.1 Subdivision

Development Application for a proposed 2-stage residential subdivision known as Chelsea Gardens and Coomungie Lands was submitted with Wingecarribee Council on 27/8/2019. The DA reference is 20/0227. The properties subject of the DA are:

- 141 Yarrawa Road, Moss Vale, and
- 32 Lovelle Street, Moss Vale.

The application is proposed in 2-parts with Stage 1 of Part A for 182 Residential Lots, 2 Open Space / Drainage Lots and 4 Residue Lots. Part B is a proposed concept subdivision including approximately 1200 Lots.

The DA was referred to the Southern Regional Planning Panel (SRPP) on 5/9/2019. The planning panel reference number is PPSSTH-7.

On 31/8/2021, a record of deferral was issued by the SRPP for the following (summarised) reasons:

- The Panel to undertake a site visit
- Provision of a revised concept plan showing various features and elements
- Provision of a staging plan for the reticulated water, sewerage and road infrastructure. The plan is to include who is responsible for provision and timing, must clearly demonstrate what work will be required before each stage, and who will be responsible for such works enabling the development to proceed.
- Confirmation of proposed arrangements for ownership and ongoing maintenance of reserves
- Provision of further RFS advice and timing of achieving landscaping for each stage.
- Council to consider revised plans and other information and determine whether additional technical studies are required.
- Council to assess the additional information relating to the proposed concept plan, assess stage 1 against the requirements of the Moss Vale Township DCP, and prepare a supplementary report and revised draft consent clarifying that stage 1 is the first stage/reordering conditions.

Several SRPP briefings have taken place subsequent to the record of deferral where water and sewer or associated matters have been raised as agenda items. Meeting dates and discussion points:

- 14/9/2021 – Staging plan for the provision of reticulated infrastructure

- 8/10/2021 – Water supply and sewerage arrangements proposed for stage 1 and subsequent stages
- 25/10/2021:
- Council to be requested to upload to the portal:
- The Stage 1 Water Servicing Strategy Urban Water Solutions report of 25/5/2020.
- Sewer Servicing Strategy Urban Water Solution report of 8/11/2019
- Full development water servicing strategy Urban Water Solutions report of 11/8/2020
- Council to be requested for further clarification on whether they are satisfied that the water and sewer servicing strategy for the full extent of the concept plan development and stage 1 strategy aligns with the Moss Vale Township DCP (S2.11 of S21). Also, Council's expectations in relation to timing of provision of satisfactory Scheme Plans required under C2.11 and Council's approval of those plans.
- Commissioning of an independent consultant to:
- Asses the adequacy of proposed water and sewerage arrangements
- Identify any plans which will require amendment as a result of the updates provided in response to the Panels deferral conditions.
- Review the recommended DA consent conditions to ensure the proposed conditions appropriately address water, sewer and road infrastructure, are appropriately linked to either the concept plan, Stage 1 or both, are internally consistent, and reference all relevant plans and documents.

2.2 Interim Wastewater Treatment System (IWTS)

Development Application for a proposed wastewater treatment system was submitted with Wingecarribee Council on 10/11/2020. The DA reference is 21/0772. The property subject of the DA is 32 Lovelle Street, Moss Vale (Lot 3 of DP 706194 and Lot 12 DP 866036). The DA was approved on 3/3/2021.

Construction and operation of the IWTS is proposed for Stage 1 of the subdivision.

2.2.1 Review of consent

The following conditions of DA 21/0772 consent are important with respect to this review.

- Schedule 1, Condition 1: Requires that the consent is unable to operate until an operational development consent for DA20/0227 has been granted for the residential development of the land (i.e Lot 3 in DP 706194). The purpose for the condition is to ensure that the IWTS remains ancillary to the residential use of the land.

- Schedule 2, Condition 10: Section 68 *Local Government Act 1993* Approvals. Prior to issue of a Construction Certificate, an application under S68 of the LGA shall be made to, and issued by Council for stormwater, water, wastewater treatment plant construction, wastewater treatment plan decommissioning.
- Schedule 2, Condition 31: IPART Consideration. Documentary evidence must be provided to the effect that a Licence has been granted under the Water Industry Competition Act (WCAT) 2006 for the design, installation and operation of the IWTS prior to the issue of any Occupation Certificate, or alternatively, evidence that a Licence is not required must be provided to the Certifier by the Independent Pricing and Regulatory Tribunal (IPART).
- Schedule 2, Condition 32: Section 68 *Local Government Act 1993* Final: The applicant is to ensure that the works associated with the Section 68 approval for this development be completed and inspected by Council prior to the issue of any Occupation Certificate.
- Schedule 2, Condition 35: Section 68 *Local Government Act 1993* Final: The applicant is to ensure that the works associated with the Section 68 approval for the decommissioning of the wastewater treatment plant is completed and inspected by Council. This is a condition is to be satisfied Post Temporary Use / Decommissioning.

3 Review of Wastewater Servicing

A review of the wastewater servicing strategies for the development has been completed based on legislative requirements, WSC, state and national guidelines, standards and codes in addition to good industry practice. The review has examined the adequacy of proposed servicing in the context of essential services provisions of the *Wingecarribee Local Environmental Plan (WLEP) 2010* and associated Development Control Plans. The review is separated into two sections relating to the Stage 1 detailed development consent (176 lots) and the concept development for up to 1,200 lots indicatively developed as Stages 2-7.

The following table summarises the documentation used in this review with respect to wastewater servicing. Documents have been listed in chronological order.

Table 1 Wastewater Servicing Documentation Summary

Time Period	Document	Content/Purpose	Source
July 2019	Sewer Network Development Assessment Report	Original sewer network modelling report submitted with DA (superseded).	Applicant (Cardno)
November 2019	Aoyuan Moss Vale Subdivision Sewer Servicing Strategy	Final submitted wastewater servicing strategy. Basis for infrastructure requirements and staging.	Applicant (UWS)
November 2020	Land Capability Assessment for Recycled Water Application	LCA and recycled water irrigation strategy for interim STP.	Applicant (SEEC)
	Packaged Wastewater Treatment System Assessment Report	Basis of design and summary of proposed Interim STP treatment process. (Possibly superseded?)	Applicant (Aerofloat)
	Context Plan for Temporary Wastewater Treatment Plant	Depicts overall layout and location of key interim wastewater servicing infrastructure.	Applicant (JMD)
	Statement of Environmental Effects: Proposed Interim Wastewater Treatment System, Chelsea Gardens, Moss Vale	Stamped SEE for DA 21/0772 (Interim Wastewater Treatment System)	Applicant (Premise)
	Interim STP Consent	Land use consent for construction and operation of an interim Sewage Treatment Plant (ISTP).	WSC
July 2021	First Council Development Assessment Report		WSC
August 2021	SRPP Record of Deferral	Documents the Request for Information (RFI) requirements for wastewater staging.	SRPP

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Time Period	Document	Content/Purpose	Source
	Staging Plan for the Provision of External Water, Sewerage and Local Road Infrastructure	Documents the applicant's proposed staging plan (since superseded).	Applicant (JMD)
September 2021	Email from Applicant requesting that WSC reconsider its position	Outlines the Applicant's position and understanding of WSC's sequence of feedback and interaction on servicing	Applicant (Premise)
October 2021	Supplementary Council Report	Council report submitted following deferral of the SRPP determination. Documents WSC position on RFI submittals as of October 2021	WSC
	Revised Draft Development Conditions of Consent	Review of draft conditions of consent.	WSC
February 2022	Draft Terms of Agreement for Delivery of Water and Sewer Infrastructure.	Letter and attachments with a slightly amended staging and infrastructure delivery plan. Includes WSC comments / inputs.	Applicant (Premise with WSC input)
April 2022	Confirmation of Sewer Licence Arrangements	Letter in response to RFI regarding Water Industry Competition Act licencing arrangements for the Interim STP.	Applicant (Premise)
	Moss Vale Treatment Plant – Interim WWTP Update	Introductory letter from a different service provider to that included in the Interim STP Development Consent.	Applicant (Truewater)
	Memorandum from WSC dated 5 April 2022	Provides WSC clarification and confirmation on key water and wastewater servicing matters.	WSC
	Memorandum from WSC dated 8 April 2022	Confirmation that the "Draft Terms of Agreement for Delivery of Water and Sewer Infrastructure". Represents the position of both parties (final version was attached).	WSC and Applicant (Premise)

3.1 Stage 1 Development

Initial wastewater servicing information (2019 to early 2020) was prepared on the conventional assumption that all development stages would connect to the WSC sewerage network for treatment and effluent management at the Moss Vale Sewage Treatment Plant (MVSTP). It appears from the content of subsequent documentation (noting that no formal confirmation from WSC appears in DA documentation until the first report to the Panel from WSC on the development in July 2021) that sometime in late 2020 WSC informed the applicant that MVSTP would in fact not have capacity to serve the development until approximately 2024.

In response (as summarised in Section 2.2 of this review), the applicant developed a proposal to construct and operate an interim wastewater management system within development lands identified as part of Stage 5 of the development. The intention being that this system would service Stage 1 of the development until such time as capacity at MVSTP was available.

3.1.1 Regulatory Framework for Interim Wastewater System

The most significant issue identified as part of this review relating to water and wastewater servicing relates to approval and licencing requirements for the Interim Wastewater Treatment System (IWTS) and wastewater servicing for Stage 1. It is our opinion that approval to construct, operate and provide sewerage services to property owners can only be undertaken by an entity holding licences under the *Water Industry Competition Act 2006* (WICA). More background on this position is provided in Appendix A.

The ability of the proponent to provide a wastewater service to Stage 1 of the development is critically dependent on this licence being issued and the requirements of WICA being met. DWA do not believe adequate information has been submitted to provide confidence that the proposed IWTS is consistent with WICA requirements. There also does not appear to be any draft conditions of consent for the development that require the developer to obtain a licence prior to commencement of construction of infrastructure. Furthermore, there are no draft conditions requiring commencement of commercial operation of a WICA licenced entity prior to issue of a subdivision certificate. DWA consider the degree of uncertainty around wastewater servicing of Stage 1 to be significant and warrant further consideration.

Wingecarribee Shire Council DA 21/0772 (Lot 12 DP 866036) only provides *land use* approval for construction and operation of the IWTS. It does not provide authority to physically construct and operate the infrastructure, which can only be undertaken by the holder of a WICA Network Operators Licence (NOL). It is also noted that DA21/0772 makes dual reference to both the Section 68 (specifically relating to the IWTS) approval process

under the *Local Government Act 1993* and WICA. As outlined in Appendix A, in our opinion, Section 68 of the *Local Government Act 1993* does not cater for approval of the IWTS as proposed.

We also note that condition 31 of that consent does not require provision of evidence of WICA licences being in place until an occupation certificate for the IWTS is sought. This is not consistent with the WICA licencing process which requires licences to be approved prior to construction of any infrastructure in addition to a comprehensive audit process prior to commissioning.

In addition to the IWTS, sewerage reticulation within the development itself can only be operated by a private entity via a WICA NOL (regardless of any approvals for construction issued under the *Local Government Act*). The only exception to this would be if the reticulation is wholly located on a single property owned by a single entity.

This in turn leads into consideration of the provision of sewerage services to the individual property owners prior to ownership transferring to WSC. For Stage 1 of the development where WSC will not be the asset owner and water utility for these properties, retail sewerage services can only be conducted by a holder of a Retail Supplier Licence holder. DWA consider this to be an important element of wastewater servicing feasibility.

Premise Letter dated 5 April 2022: Confirmation of Sewer Licencing Arrangements

A series of questions were asked of the applicant in a letter from DPE dated 1 April 2022 regarding wastewater servicing and regulatory arrangements. The applicant's consultant (Premise) provided a response on the 5 April. The following responses are provided to key points raised in this letter.

Confirmation that Aoyuan will initiate the WICA application process upon issue of an operational development consent for DA 20/0227.

DWA recognise the applicant's wish to not initiate this process until an operational consent for DA 20/0227 is in place. However, based on our assessment of the proposed IWTS effluent management strategy (refer to 3.1.2 below) DWA consider there to be some risk associated with the feasibility of the current proposal which have a direct influence on feasibility of servicing for Stage 1. Resolution of the IWTS via the WICA application process can take 6-12 months to resolve based on IPARTs typical assessment guidelines.

Typical practice for developments reliant on servicing by a WICA scheme is to include conditions of consent on the development itself that are commensurate with those applied to the construction of conventional sewerage infrastructure (in this case) under Section 68 of the *Local Government Act 1993*. Namely,

- Require evidence that necessary WICA licences have been obtained prior to issue of a Subdivision Works certificate: and
- Require evidence that approval has been granted by the relevant Minister to commence commercial operation prior to issue of a Subdivision Certificate.

This approach avoids developers committing resources to the WICA process prior to having development consent whilst ensuring the necessary licencing is in place. It also ensures that infrastructure has been built in accordance with licence provisions and a retail supplier of sewerage services is established prior to Subdivision Certificate release.

Aoyuan response indicating the majority of sewerage reticulation pipes will be on private property and covered by easements which has been accepted by Council.

Regardless of whether reticulation is located in public road reserves or private land, this infrastructure can only be operated by WSC or the holder of a Network Operator Licence under WICA. Whilst the letter makes reference to previously submitted information confirming True Water Australia will be the licence holder, DWA were not able to find any reference to this in the information available to the Panel. Previous information submitted and stamped as part of the IWTS DA consent was prepared by Aerofloat and proposed use of their proprietary packaged treatment plant.

Reference to acceptance by Council of this arrangement does not provide the Panel with adequate assurances given Council are not the approval authority for WICA licences. The statement that most reticulation would be located on private land and subject to easements is not recommended practice unless unavoidable (WSAA 02 Gravity Sewerage Code).

3.1.2 Technical Review of Stage 1 Servicing Strategy

DWA has also completed a technical review of the IWTS reports to obtain an understanding of their suitability for servicing of Stage 1. The Land Capability Assessment (SEEC, 2020) is the primary document detailing the requirements to meet human health and environmental protection standards for the IWTS and recycled water irrigation scheme.

It is noted that the Package Wastewater Treatment System Assessment Report (Aerofloat, 2020) attached to the IWTS DA may not be applicable based on advice from the applicant recently (5 April 2022). A letter has been provided by a different wastewater service provider (True Water Australia) which did not include any engineering or technical detail on the IWTS. It is normal practice to undertake some level of evaluation of a proposed wastewater treatment process prior to issue of a development consent. This has not been possible at this stage.

The Land Capability Assessment (LCA) has used a NSW guideline (DLG, 1998) and Australian Standard (AS1547:2012) that apply to individual on-site systems that are predominantly domestic in nature. The design approach and recycled water irrigation philosophy adopted in these guidelines is not consistent with normal practice for a small community scale recycled water scheme. Under WICA, NSW agencies normally require such proposals to be consistent with the following.

- NSW DEC (EPA) 2004 Effluent Reuse by Irrigation Guidelines
- Australian Guidelines for Water Recycling (NHMRC, 2006)
- Interim NSW Guidelines for Management of Private Recycled Water Schemes (sometimes).
- Protection of Environment Operations Act Environment Protection Licencing (EPL - where triggered).

The primary issue relates to the recycled water irrigation approach. The approach adopted in the SEEC report is an effluent land application strategy that involves applying effluent beyond plant water requirements which is not recognised as beneficial reuse under the NSW EPA Effluent Reuse Guidelines. It will result in reasonable proportions of the treated effluent draining through the soil profile during cooler months.

Adoption of a beneficial reuse irrigation strategy consistent with the above listed guidelines typically requires significantly greater land and wet weather storage requirements. By way of example, wet weather storage for a beneficial reuse scheme would typically equate to 180-300 days of flow rather than the 17 days proposed by SEEC. Recent DWA experience in preparing a Sewage Management Plan for a WICA licensee for a very similar development was consistent with a beneficial reuse (sometimes called deficit irrigation) approach. Where this cannot be achieved, applicants may have to consider applying for an Environment Protection Licence (EPL) to discharge excess recycled water to the environment or have the excess recycled water removed by tanker.

There may be opportunities for an innovative or interim approach to be proposed. However, this would require a more rigorous design and impact assessment process to justify that would form part of the WICA licence application.

It is also noted that the IWTS has been designed to manage wastewater from up to 385 lots which would theoretically include Stage 2. The previous draft conditions of consent for this development do not appear to prevent this from occurring should the availability of capacity at MVSTP be delayed. However, it is understood that WaterNSW will not permit the use of the IWTS beyond Stage 1. Based on the concerns raised above relating to recycled water irrigation capacity of the IWTS, DWA consider this to be a significant risk

and further justification for both the residential subdivision DA and the IWTS DA to be conditioned to be dependent on the developer obtaining necessary WICA licences.

The following table summarises the key observation of the Land Capability Assessment (SEEC, 2020). Whilst a detailed review of this LCA and recycled water irrigation proposal will be the focus of any WICA licence application, the sustainability of the proposal relates directly to the feasibility of servicing for Stage 1.

Table 2 Key Outcomes of LCA and Recycled Water Irrigation Review

Element	Review Outcome
Overall irrigation strategy (reuse vs 'disposal')	<p>The LCA makes reference to disposal of treated effluent in a number of places and utilises Design Loading Rates (DLRs) that result in the application of water above plant water requirements for extended periods.</p> <p>This approach (typically referred to as land application) is not typically accepted at the scale of this discharge. Irrigation is normally required to limit application to closely match plant water requirements and minimise deep drainage of recycled water.</p>
Design flows and capacity	<p>LCA adopts a design basis that is not consistent with the sewerage servicing strategies (namely use of 180 L/EP/day versus 230 L/EP/day) which results in design flows that are ~22% lower.</p> <p>UWS calculated daily flows for Stage 1 to be ~140 kL/day.</p>
Site hydrology, hydrogeology and drainage	<p>Whilst we agree that the subject soils are well suited to the irrigation of recycled water, the LCA outcomes for site hydrology and groundwater do not align with the previously completed Capability Assessment by Harvest Scientific Services (2006) which identified high groundwater value and the presence of both intermittent and perennial seeps. Two intermittent seeps were identified by Harvest within and immediately downslope of the proposed irrigation areas.</p> <p>When combined with the high irrigation rates (and high risk of increase deep drainage), there is potential for the proposal to increase the frequency size and duration of these seeps, potentially creating a pollutant export risk.</p>
Water balance modelling and wet weather controls	<p>The monthly water balance approach used in the LCA is designed for domestic and small commercial on-site wastewater management system design. It includes a number of assumptions and limitations that are not consistent with DEC (2004) or WICA requirements for sewage management.</p> <p>The calculations undertaken are essentially an assessment of the maximum volume of effluent that can be disposed on the site without saturating the soil. This is not beneficial reuse as defined in DEC (2004). Table 6 from SEEC (2020) proposes long-term (average annual) loading rates of 2.5mm/day. However, subtracting annual rainfall from annual evaporation would suggest an optimistic average annual loading rate of 0.8mm/day is required to meet plant water requirements. This does not account for the fact that Evapo-transpiration is typically 0.4-0.8 of pan evaporation.</p>

Element	Review Outcome
	Long-term continuous, daily water balance modelling is recommended for a proposal of this scale.
Wet weather storage sizing	As discussed above, beneficial reuse (normally required for a WICA licenced recycled water system) requires significantly larger storage volume to prevent uncontrolled overflow during wet periods whilst limiting irrigation to plant water requirements.

3.1.3 Timing and Availability of Capacity at Moss Vale Sewage Treatment Plant

All of the above then makes the timing and availability of treatment capacity at the Moss Vale Sewage Treatment Plant (MVSTP) a critical consideration in the viability and staging of wastewater servicing. Whilst WSC’s Integrated Water Cycle Management Strategy did identify the need for capacity upgrade at MVSTP, their analysis was based largely on the Moss Vale Enterprise Corridor (now referred to as the Southern Highlands Innovation Precinct (SHIP) with limited discussion or quantitative allowance for residential EP increases.

WSC has now confirmed in their Memorandum dated 5 April 2022 that the 10,000 EP capacity increase currently in the detailed design phase does include capacity for the subject development. The Memorandum confirms the targeted completion date for the upgrade to be the 2024/25 financial year. Notwithstanding, WSC flag in their 8 April Memorandum that the exact timing of this capacity cannot be guaranteed and expressed a preference to structure staging for water and sewer infrastructure based on the maximum number of lots that can be created for each capacity upgrade.

3.1.4 Stage 1 Sewerage Infrastructure

It is reasonable to say that until WSC’s Memorandum’s dated 5 and 8 April 2022 were provided to the Panel, there was no single document that aligned WSC and the applicant’s interim (Stage 1) and concept water and sewer servicing strategy. In particular, a Stage 1 sewerage servicing solution that implied connection to the WSC network was presented in parallel with the IWTS strategy within multiple documents (e.g. letter titled “*Staging Plan for the Provision of External Water, Sewerage and Local Road Infrastructure – PPSSTH-7 – Wingecarribee – DA 20/0227...*”).

More recently, the *Terms of Agreement for Delivery of Water and Sewer Infrastructure* letter prepared by Premise (dated 23 February 2022) makes no mention of the need to rely upon the IWTS to service Stage 1 until at least 2024/25, or the requirement for Stage 1 to be connected to the MVSTP once upgraded resulting in the decommissioning of the IWTS. Appendix C of that Agreement proposes construction of all external infrastructure required to convey sewage from the development to MVSTP prior to issuance of a

Subdivision Certificate for the 1st lot that will provide capacity up to 771 lots (up to Stage 4). This is logical from an infrastructure delivery perspective but requires suitable conditions of consent to ensure the establishment and operation of the IWTS and subsequent transition to the WSC network takes place appropriately.

We have reviewed the most recent Stage 1 servicing strategy which remains the report prepared by Urban Water Solutions (UWS – November 2019). DWA conducted a small number of ‘spot checks’ of hydraulic model calculations (DWA do not have access to the model) based on WSC’s design standards and could not identify any significant irregularities in engineering design that could not be adequately addressed through Section 68 approval for Stage 1 infrastructure. Receipt of the agreed Sewer Infrastructure Staging (Appendix C from the 23 February Terms of Agreement Letter – Premise 2022) in early April in conjunction with the Memorandums from WSC have enabled DWA to check proposed infrastructure staging and capacity against the UWS report. The following observations are made in relation to Stage 1 sewerage reticulation.

- At WSC’s recommendation, the full 248 kL of emergency storage will be constructed prior to issuance of the first Subdivision Certificate. This is a logical action.
- The new 960m gravity main connecting MH GH01102 to SPS MV17 has been upsized to DN450 in comparison to the DN300 recommended by UWS in 2019. This may relate to ensuring the 1200 concept lots can be adequately serviced.

All other proposed works are consistent with the UWS servicing strategy modelling. Based on the information provided the Stage 1 sewer servicing strategy and staging plan will enable servicing up to the 772nd residential lot (approximately Stage 4).

3.1.5 Stage 1 Wastewater Review Outcomes

Outcome

Whilst *land use* consent for the Interim Wastewater Treatment System (IWTS) has been obtained (21/0772) there remains uncertainty around the feasibility and likelihood of approval under the *Water Industry Competition Act 2006* (WICA).

The WICA licencing regime and application process is the appropriate mechanism for addressing these issues. [WICA Licence Application Guide](#) and [WICA Audit Framework Summary](#) provide some guidance on the process.

DWA believe the most expedient way forward would be include a condition(s) of development consent that require the applicant to obtain all necessary WICA licences prior to issuance of the Stage 1 Subdivision Works Certificate. This is commensurate with standard practice for conventional water, stormwater and sewerage infrastructure (e.g. requiring Section 68 approval of sewerage works).

In order to ensure the IWTS meets regulatory requirements and is constructed and commissioned in accordance with WICA licences, a condition could be included that requires the applicant to provide evidence of approval by the relevant Minister to commence commercial operation of the IWTS under WICA prior to issuance of the Subdivision Certificate for the 1st lot.

All aspects of sewerage service provision must be audited against WICA licence conditions, relevant codes and guidelines before Ministerial approval to commence operation will be issued. This enables the Panel to ensure the IWTS is safe and sustainable whilst providing the applicant with an opportunity to resolve the finer detail and enable commencement of the broader development.

DWA also recommend that a condition of consent be included that clearly requires connection to the WSC network within a fixed timeframe once MVSTP capacity is made available (regardless of development stage).

It is noted that WSC expressed a strong preference not to extend the operation of the IWTS beyond Stage 1 (Appendix A of Terms of Agreement, Premise 2022), and Water NSW will not permit the operation of the IWTS beyond Stage 1. Based on the outcomes of this review, DWA would also recommend that conditions associated with future development applications for other stages be required to connect to the WSC network (and MVSTP).

3.2 Concept Development Application (Future Stages)

We have reviewed the most recent servicing strategy which remains the report prepared by Urban Water Solutions (UWS – November 2019). DWA conducted a small number of 'spot checks' of hydraulic model calculations (DWA do not have access to the model) based on WSC's design standards and could not identify any significant irregularities in engineering design that could not be adequately addressed through Section 68 approval or conditioning of future Development Applications for subsequent development stages.

Staging has been consolidated in Appendix C the Terms of Agreement letter (Premise February 2022). WSC has confirmed their acceptance of this staging plan and Appendix A included their comments and feedback to assist in understanding the basis for the documented outcomes. On the basis that the full 248 kL of emergency storage will be constructed from the outset (for new SPSI servicing the development), additional infrastructure and capacity is not triggered again until 771 residential lots (indicatively Stage 4).

Given the uncertainty associated with capacity availability at MVSTP (in addition to uncertainty in preferred water supply upgrade strategies) the applicant and Council have agreed to use the number of residential lots as the trigger for each water and sewer infrastructure stage. Tying either party to current staging and/or specific dates carries significant risk and limits adaptability. DWA support the proposed triggers.

It was noted in both WSC's Memorandum dated 8 April 2022 and the Draft Agreement (Premise 2022) that both parties agree the most appropriate way to implement the servicing strategies and staging plan is via conditions of consent rather than separate agreement. This appears reasonable as it allows the opportunity for adaptive planning of infrastructure at each detailed DA for subsequent stages of development.

To provide some confidence in the 'proof of concept' modelling undertaken for this DA, it is recommended that the Draft Agreement letter be re-titled and re-emphasised to a 'Water and Sewer Infrastructure Staging Plan' or similar. This would enable the Premise document to be included as a stamped document to accompany the consent.

In addition, based on the outcomes of the IWTS review, it is also recommended that appropriate conditions of consent be included for the concept stages that require connection to the WSC network and confirmation of MVSTP capacity prior to issue of consent for all development stages other than Stage 1.

3.2.1 Concept Development Wastewater Review Outcomes

Outcome

As of April 2022, the Panel have been provided with confirmation from the applicant and Council of an agreed wastewater servicing strategy (UWS report November 2019) and staging plan (Appendix B and C of the Draft Agreement prepared by Premise dated 23 February 2022).

- It is recommended that the Draft Agreement letter be re-titled and re-emphasised to a 'Water and Sewer Infrastructure Staging Plan' or similar and included as a stamped document under this consent along with the UWS Servicing Strategy.
- It is recommended that it be a condition of consent for the concept stages that connection to the WSC network and capacity at MVSTP be confirmed prior to issue of any development consent for a detailed Development Application for Stage 2 onwards.
- Whilst Council has confirmed they have conducted their infrastructure assessments based on a total 1,200 lots, the UWS Sewer Servicing Strategy appears to have adopted the 1,073 lots from the staging plans. It is recommended that the UWS report be amended to reflect the 1,200 lots.

4 Water Supply Servicing

The water supply strategy for the development has been reviewed with respect to proposed infrastructure and staging alignment with WSC’s infrastructure upgrade program. Like the wastewater modelling, spot checks of hydraulic parameters, pipe sizing and pressure at a small number of locations do indicate proposed demands and impacts on the network are within expected outcomes.

DWA were provided with a report from WSC (titled *Moss Vale Short Term Water Supply Planning Rev 3*) on the 1st April that does provide some consistent capacities and intended upgrade program to the UWS Water Supply reports (Stage 1 and Total Development). The Memorandum from WSC dated 5 and 8 April 2022 then also provided additional information that assisted in verifying alignment between WSC’s short- and longer-term water supply upgrade strategies and the water servicing strategy documented in the UWS reports (Stage 1 and whole of development).

The following table summarises the development documentation that formed the basis for the water supply review.

Table 3 Water Servicing Documentation Summary

Time Period	Document	Content/Purpose	Source
July 2019	Potable Water Development Assessment Report	Original water network modelling report submitted with DA.	Applicant (Cardno)
May 2020	Aoyuan Moss Vale Subdivision Stage 1 Water Servicing Strategy	Final submitted water servicing strategy for Stage 1. Basis for infrastructure requirements and staging.	Applicant (UWS)
August 2020	Aoyuan Moss Vale Subdivision Full Development Water Servicing Strategy	Final submitted water servicing strategy for Concept stages. Basis for infrastructure requirements and staging.	
July 2021	First Council Development Assessment Report		WSC
August 2021	SRPP Record of Deferral	Documents the Request for Information (RFI) requirements for wastewater staging.	SRPP
	Staging Plan for the Provision of External Water, Sewerage and Local Road Infrastructure	Documents the applicant’s proposed staging plan (since superseded).	Applicant (JMD)
September 2021	Email from Applicant requesting that WSC reconsider its position	Outlines the Applicant’s position and understanding of WSC’s sequence of feedback and interaction on servicing	Applicant (Premise)
October 2021	Supplementary Council Report	Council report submitted following deferral of the SRPP determination. Documents WSC	WSC

Time Period	Document	Content/Purpose	Source
		position on RFI submittals as of October 2021	
	Revised Draft Development Conditions of Consent	Review of draft conditions of consent.	WSC
December 2021	Moss Vale Short Term Water Supply Planning Rev 3	Documents network modelling outcomes and options for catering for growth in demand.	WSC (Ian Burrows)
February 2022	Draft Terms of Agreement for Delivery of Water and Sewer Infrastructure.	Letter and attachments with a slightly amended staging and infrastructure delivery plan. Includes WSC comments / inputs.	Applicant (Premise with WSC input)
April 2022	Memorandum from WSC dated 5 April 2022	Provides WSC clarification and confirmation on key water and wastewater servicing matters.	WSC
	Memorandum from WSC dated 8 April 2022	Confirmation that the “Draft Terms of Agreement for Delivery of Water and Sewer Infrastructure”. Represents the position of both parties (final version was attached).	WSC and Applicant (Premise)

Most of the proposed development (up to 1,185 lots) will be supplied via the Hill Road Low Level Reservoir due to capacity constraints within Blakes Hill and Hill Road High Level Reservoirs / systems. Up to 15 proposed lots within Stage 3b will be supplied via the Hill Road High Level Reservoir due to elevation.

4.1 Stage 1 Development

The Stage 1 water servicing strategy involves connection of the development to the existing water network in the vicinity of the Hill Road Low Level Reservoir. Both WSC and the applicant agree that Stage 1 of the development does not require augmentation of the existing WSC network.

WSC’s comments within Appendix A of the Terms of Agreement letter (Premise, February 2022) indicate that modelling has to date assumed connection directly to the reservoir or to a 525mm Arthur Street trunk main. It has been noted in the water infrastructure staging plan in Appendix B of the same document that the final connection point will need to be agreed upon as part of detailed design and Section 68 approval and modelling updated to reflect the agreed decision. This is standard practice and unlikely to be a significant risk.

Appendix A of the Terms of Agreement also indicates that WSC consider there to be some potential for the DN450 main supplying the development (gradually reduces to DN150) to be temporarily oversized for early stages of the development with respect to maintenance of water quality. WSC have requested that modelling undertaken as part of

detailed design of Stage 1 consider water quality and confirm the required pipe size to best meet all objectives. This may require gradual upsizing of part of the development water main as flow increase. This can be addressed during the Section 68 application and approval process.

4.1.1 Stage 1 Water Supply Review Outcomes

Outcome

The Stage 1 water servicing strategy involves connection of the development to the existing water network in the vicinity of the Hill Road Low Level Reservoir. Both WSC and the applicant agree that Stage 1 of the development does not require augmentation of the existing WSC network. The following outstanding matters have been identified by WSC to be addressed as part of Section 68 approval process for Stage 1.

- Final connection point to the network immediately adjacent to the Hill Road Low Level Reservoir to be determined and modelling revised to reflect as part of detailed design and Section 68 process for Stage 1.
- Detailed design and modelling of development supply mains (during Section 68) to consider the potential for water quality impacts due to residence time in the DN450 main due to lower demands from early development. Consideration to be given to gradual upsizing if deemed necessary by modelling.

4.2 Concept Development Application (Future Stages)

The *Aoyuan Moss Vale Subdivision Full Development Water Servicing Strategy* report (UWS report dated 11 August 2020) contains the adopted water modelling for the ultimate development of 1,200 lots. WSC has confirmed in their Memorandum dated 5 April 2022 that all infrastructure assessments have been based on 1200 lots.

The UWS report states that modelling for the total development used the 2031 WSC water supply network which included the Bowral to Moss Vale (B2MV) water main duplication currently under detailed design. There was previously some uncertainty around the timing of this capacity availability that had not been clearly communicated in documents submitted to the Panel. Documents provided in early April have allowed DWA to gain a better understanding of how demand for development stages will be met.

WSC's 5 April Memorandum confirms that the B2MV water main duplication is currently scheduled for completion between 2024 and 2026. WSC provided a report recently commissioned titled *Moss Vale Short Term Water Supply Planning Revision 03* (WSC December 2021 – referred to as the Ian Burrows report in WSC correspondence) that

identified a preferred option to meet the staged demands from the proposed development through interim and/or short-term strategies.

Option 04 from this report has been included in WSC's capital works program for 2022/23. This option includes a number of minor infrastructure and treatment plant / pump / valve control modifications to optimise supply to Hill Road Moss Vale. The Ian Burrows report states that modelling has been undertaken that confirms implementation of Option 04 will enable servicing of up to 480 residential lots within the proposed development (roughly equivalent to Stage 1 and 2). WSC's Memorandum indicates construction will commence from July 2022 and will be completed as soon as possible within the 2022/23 financial year.

It is noted that works associated with Option 04 from the Ian Burrows report have not been documented in the UWS Water Supply Servicing Strategy or Appendix B of the Terms of Agreement from February 2022 from Premise. DWA assume that the applicant is not required to design or construct anything associated with this short-term option. This should be confirmed with WSC. Given Stage 2 of the development is unlikely to proceed until capacity is available at MVSTP in 2024/25, it is unlikely implementation of this short-term Option 04 will prevent water servicing of the development.

Modelling undertaken by UWS in 2020 identified the need for an additional 2.2 ML of reservoir storage at the Hill Road Low Level Reservoir to enable Chelsea Gardens to be serviced. WSC's preference is to construct a new 10ML storage at the site to assist in managing growth in demand in the southern villages. The applicant has agreed to construct this reservoir under a joint funding and delivery arrangement with Council.

The water infrastructure staging plan contained in Appendix B of the Terms of Agreement letter (23 February 2022) has proposed a trigger for this work to be completed prior to issuance of the Subdivision Certificate which creates the 382nd residential lot (Stage 2A) which is within the maximum number of serviceable lots under this scenario in WSC's Memorandum of 5 April 2022 for the previous stage of water infrastructure delivery.

Item 3 in Appendix B of the Terms of Agreement letter relates to additional short-term augmentation upgrade options identified in the Ian Burrows report that will be required should the applicant wish to proceed with Stage 3 of the development prior to commissioning of the B2MV water main duplication (2024-26). The report suggests there are four (4) potential short-term options available.

- Construct Stage 1 of the B2MV main duplication.
- Construct Stage 2 of the B2MV main duplication.
- Construct Stage 1 and 2 of the B2MV main duplication.

- Construct a new booster Water Pump Station (WPS) on the existing DN375 B2MV trunk main.

The preferred option is dependent on a number of factors including final design of the B2MV duplication main (still underway), timing of availability of MVSTP and timing of commissioning of the new duplication B2MV main. WSC have noted in their 5 April 2022 Memorandum that construction of Stage 1 and/or 2 of the B2MV main may no longer be a viable option due to a potential change in alignment.

Given the range of variables yet to influence his short-term option, DWA do consider it appropriate to determine the final option through future modelling undertaken in consultation with Council as proposed in Appendix B of the Terms of Agreement. Depending on timing, the applicant and Council may determine that acceleration of full construction of the B2MV water main duplication is the most appropriate option. This options assessment would logically form part of the scope of detailed design and Section 68 approval of water supply infrastructure for Stage 3 of the development.

Appendix B of the Terms of Agreement proposes a that the preferred option be implemented prior to the issuance of the Subdivision Certificate which creates the 471st residential lot. This is within the 480 serviceable lot thresholds advised by WSC in their 5 April 2022 Memorandum for the previous stage of water infrastructure delivery.

Based on the Ian Burrows report and as documented in Council's 5 April 2022 Memorandum, creation of the 961st residential lot should then not be permitted until the full B2MV water main duplication is completed. The water infrastructure staging plan in Appendix B of the Terms of Agreement letter states that the full duplication is not required until issuance of the Subdivision Certificate for the 991st lot (up to Stages 4 and 5 of the development). However, WSC has clarified in their 5 April 2022 Memorandum that this is not the case (was the result of missing additional text in Appendix A of the Terms of Agreement letter). WSC has confirmed the correct trigger for Item 4 in Appendix B is prior to issuance of a Subdivision Certificate which creates the 961st residential lot. This will need to be amended in Appendix B.

As discussed in relation to wastewater servicing, both Council and the applicant have stated a preference to deal with water and sewer infrastructure delivery and staging through conditions of development consent rather than a separate agreement. Given the Panel has now been provided with verification of required water and wastewater infrastructure and a staging / delivery plan that is largely aligned (subject to some minor adjustments), it would be logical to rename and rephrase the Terms of Agreement letter from February 2022 to a 'Water and Sewer Staging Plan' or similar. The UWS water and sewer servicing strategy reports along with this renamed Staging Plan would provide

adequate information for approval subject to standard conditions requiring Section 68 approval prior to issue of the Subdivision Works Certificate for each development stage.

4.2.1 Concept Development Water Supply Review Outcomes

Outcome

There appears to be alignment between the infrastructure upgrades and timing documented in the 23 February Terms of Agreement letter (Appendix B) and the information provided by Council (namely the Ian Burrows report and 5 April 2022 Memorandum).

Whilst the 2020 UWS modelling did not consider the short-term water supply strategies required to enable development prior to completion of the B2MV main duplication, Council has advised that modelling undertaken to inform the Ian Burrows report has addressed this gap.

DWA consider the proposed water supply servicing strategy and staging plan to be adequate to enable approval of a concept development. This would be subject to standard conditions requiring detailed design and revised network modelling prior to issuance of a Subdivision Works Certificate for future stages.

The following specific matters were identified by DWA or Council as requiring clarification or modification.

- It is recommended that the Draft Agreement letter be re-titled and re-emphasised to a 'Water and Sewer Infrastructure Staging Plan' or similar and included as a stamped document under this consent along with the Stage 1 and Full Development UWS Servicing Strategies.
- Amend the trigger for Item 4 in Appendix B of the Agreement to "Work is to be completed and commissioned prior to the issuance of the Subdivision Certificate which creates the 961st residential lot.
- Seek confirmation from Council that the developer is not required to design or construct any works associated with the Short-term Option 04 water supply augmentation strategy discussed by WSC as required to service up to 480 residential lots.

Appendix A Review of Regulatory Requirements for Interim Wastewater Treatment System

This appendix provides an overview of the regulatory and legislative requirements relevant to the construction and operation of the Interim Wastewater Treatment System (IWTS) currently proposed for management of wastewater generated by Stage 1 of this development.

Local Government Act and Regulation

The *NSW local Government Act* provides a pathway for various activities for which the prior approval of the Local Authority is required. These activities are captured under Chapter 7, Part 1 of the Act with Part C of Section 68 relating to the Management of Waste.

The installation and operation of a system of sewage management is an activity that requires the approval under S68 Part C(C5).

- Section 68 lists the activities for which an approval is required.
- S68, Part B relates to water supply, sewerage and stormwater drainage works.
- S68, Part C relates to the management of waste for which C(5) addresses activities that involve 'Install, construct or alter a waste treatment device or a human waste storage facility or a drain connected to any such device or facility' with C(6) - Operate a system of sewage management (within the meaning of section 68A)
- In this Part, *operate a system of sewage management* means hold or process, or re-use or discharge, sewage or by-products of sewage (whether or not the sewage is generated on the premises on which the system of sewage management is operated) 68A(1).
- An application may be made by the person seeking to carry out the activity or a person who has the consent of the owner. 78(1)
- If the application applies to particular land, the applicant must be the owner of the land or a person who has the consent of the owner. 78(2)
- There is no definition of land in the dictionary but the definition of a parcel of land, in relation to rateable land, means a portion or parcel of land separately valued under the [Valuation of Land Act 1916](#).
- *premises* means any of the following, (a) a building of any description or any part of it and the appurtenances to it, (b) land, whether built on or not, (c) a shed or other structure, (d) a tent, (e) a swimming pool, (f) a ship or vessel of any description (including a houseboat), (g) a van.

- *Sewage management facility* means (a) a human waste storage facility, or (b) a waste treatment device intended to process sewage, and includes a drain connected to such a facility or device.

Local Government (General) Regulation

The *Regulation* prescribes further requirements and guidance. A Council must not approve an application for an approval relating to sewerage work unless it is satisfied that the activity as proposed to be carried out will comply with applicable standards and any applicable requirement of the Regulation. This applies to the installation of a new, or upgrade of an existing Wastewater Management System as well as the ongoing operation of these systems.

Division 4 Approvals relates to the management of waste, specifically:

- S26 - Matters to accompany applications for approval to install or construct sewage management facilities
- S26(2) Plan The application must be accompanied by a plan, to scale, showing the location of (a) the sewage management facility proposed to be installed or constructed on the premises,
- S26(3) Specifications The application must be accompanied by full specifications of the sewage management facility proposed to be installed or constructed on the premises concerned.
- S26(5) Statement The application must be accompanied by a statement of (a) the number of persons residing, or probable number of persons to reside, on the premises, and (b) such other factors as are relevant to the capacity of the proposed sewage management facility.

Subdivision 8 Exemptions

- Activities for which approval is not required - The following activities may be carried out without the prior approval of the council subject to such conditions as are specified (in part only)
- 48(e) Install, construct or alter a waste treatment device The installation, construction or alteration of a waste treatment device, if that installation, construction or alteration is done (i) under the authority of a licence in force under the [Protection of the Environment Operations Act 1997](#), or (ii) in a vessel used for navigation, or (iii) in a motor vehicle that is registered within the meaning of the [Road Transport Act 2013](#) and is used primarily for road transport.
- 48(f) Operate a system of sewage management So much of the operation of a system of sewage management as is limited to an action carried out (i) under the authority

of a licence in force under the [Protection of the Environment Operations Act 1997](#), or (ii) in a vessel used for navigation, or (iii) in a motor vehicle that is registered within the meaning of the [Road Transport Act 2013](#) and is used primarily for road transport.

- 48(g) Activities authorised by licence under [Water Industry Competition Act 2006](#) An activity referred to in Part B or C of the Table to section 68 of the Act if it is carried out under the authority of a licence in force under the [Water Industry Competition Act 2006](#).

Intention

While the Act and Regulation are not clear in the precise application of S68 Approval Activities, it appears that the intention of approvals sought under S68(C5) (and the Regulation) is to capture the installation of waste treatment devices or human waste storage facilities servicing single 'premises' whether domestic or non-domestic. Also unclear is the application of S68A, Approval to Operate, where s68A(1) introduces the statement 'whether or not the sewage is generated on the premises on which the system of sewage management is operated'. This appears to leave the door open to the concept that the system can receive sewage from other premises however this could be in contradiction to S68C(5)

Water Industry Competition Act 2006 (WICA)

The WIC Act establishes a licencing scheme for the private sector seeking to access existing water industry infrastructure, or construct or operate new water industry infrastructure.

Water industry infrastructure in the context of WICA refers to both water and sewerage infrastructure.

Water infrastructure means any infrastructure used for treatment, conveyance or reticulation of water that is:

- Downstream of a customer's connection point to the water main, or
- Upstream of a customer's connection point into a stormwater drain.

Sewerage infrastructure means any infrastructure used for treatment, storage, conveyance or reticulation of sewage including any outfall pipe or other work that stores or conveys water leaving the infrastructure. It excludes any pipe, fitting or apparatus that is situated upstream if a customer's connection point to a sewer main.

Licensing

Unless an exemption is available a licence is required to:

- Construct, maintain or operate any water industry infrastructure – this is a network operators' licence, or
- Supply potable or non-potable water or provide sewerage services by means of water industry infrastructure – this is a retail suppliers licence.

If both activities are proposed, then both licences are required.

IPART administer applications and licences.

Exemptions

Section 5 of the Act addresses 'Prohibition of unlicensed network operation and water supply'. It states that a person must not construct, maintain or operate any water industry infrastructure, or supply water or provide a sewerage service unless otherwise under a licence. Section 5(4) list where this section does not apply part (b) being such other water industry infrastructure as prescribed by the regulations.

Exemptions to licencing are detailed in Division 4 where it introduces the infrastructure listed in Schedule 3 of the Regulation as being exempt. It includes where the water industry infrastructure is:

- Constructed, maintained or operated by a public water utility in its area of operation,
- Constructed, maintained or operated for or on behalf of a licenced network operator or public utility
- Comprises water management work under the Water Management Act
- Water supply work within the meaning of the Water Management Act
- Work to which Part 2 of the Water Act applies
- Is only stormwater work
- Water or sewerage infrastructure that is wholly situated on premises owned by the one person or controlled by the person owning the premises (transitional arrangement). This can apply to infrastructure used or to be used for supplying water or providing sewerage services to 30 or more premises, including each separate premises within a community land scheme, company title scheme or strata scheme, that are used or to be used for residential or small business purposes

Intention

It appears that the intention of WICA is to capture water and sewerage infrastructure designed to service domestic and non-domestic developments on more than single premises. This would apply to the Chelsea Gardens subdivision development where stage 1 includes ~170 Torrens titled allotments.

SMARTER ADAPTIVE SOLUTIONS