Council Reference: GT1/51 Kings Forest
Your Reference: D17/24741 Kings Forest

TWEED SHIRE COUNCIL

7 December 2017

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Dear Sir

NWS LICENCE APPLICATION UNDER THE WATER INDUSTRY COMPETITION ACT 2006 (NSW) FOR THE KINGS FOREST DEVELOPMENT - TWEED SHIRE COUNCIL SUBMISSION

I refer to your letter of 17 October 2017 inviting Tweed Shire Council to make comment on the Northern Water Solution's (NWS) network operator's licence and retail supply licence application currently being assessed by the Independent Pricing and Regulatory Tribunal (IPART).

Council has firstly addressed the three specific questions raised by IPART as well as provided general comments, highlighting areas of concern with the Licence Application/REF documentation for IPART's further consideration.

- ***In relation to the activities for which NWS has applied for a network operator's licence (construct, maintain and operate drinking water, recycled water and sewerage infrastructure within the Kings Forest development):***
  - ***what approvals have been obtained under the EP&A Act, and***
  - ***what approvals do you consider to be required under the EP&A Act if network operators licence were to be granted?***

Approval Pathway

Council is of the view that clause 106 of the Infrastructure SEPP (ISEPP) provides for the proposed sewage reticulation system, sewage treatment plant and water recycling facility to be considered as *development permitted without consent*, if a licence is issued by the Independent Pricing and Regulatory Tribunal (IPART) under the Water Industry Competition Act (WICA) 2006.

Council's position is that if an IPART licence is issued, the proposed sewage reticulation system, sewage treatment plant and water recycling facility will still require approval under Part 5 of the EP&A Act.

Council's Environmental Protection Licences (EPL's) for our various systems do not just relate to the treatment plant and its discharge, as noted in the POEO Act for Licensing Guidelines for Sewage Treatment Systems):

> *Sewage treatment systems (including the treatment works, pumping stations, sewage overflow structures and the reticulation system) that have an intended*

processing capacity of more than 2,500 persons equivalent capacity or 750 kilolitres per day and that involve the discharge or likely discharge of wastes or by-products to land or waters.

This does however include the requirement that it involve the discharge or likely discharge of wastes or by-products to land or waters.

It is Council's opinion that an EPL is required in that the size of the system proposed is greater than 2,500 persons and that the proposal includes the application of a by-product to land via irrigation. Council also considers that the size of the reticulation system should be considered significant in this type of development.

It is a concern that if the development is connected to Council's system, the NSW Environment Protection Authority (EPA) may consider any overflows within the private system to be related to Council's licensed system. Accordingly, to remove any uncertainty, Council requests that the obtaining of an EPL, regardless of whether the system is scheduled or not, be a condition of the WIC Act License, if granted.

Given that an EPL would likely be required for the development, it is considered that the EPA would be the most appropriate determining authority for the Part 5 application, which would consider whether an EIS is required for the proposed development.

It is noted and agreed that the proposed water reticulation system (drinking water storage tanks and drinking water reticulation system) requires lodgement of a development application, with Tweed Shire Council being the consent authority.

Existing Consents

The approvals to date for Kings Forest are noted below:

- NSW State Government Concept Plan Approval **MP06_0318** (and its associated adoption of the Kings Forest Development Code) – amended numerous times. Note MOD 7 to accommodate a private water and waste water system not yet determined by the Department.
- NSW State Government Project Application **MP08_0194** (for bulk earthworks across the site, roads, reticulated infrastructure connection and development of Precinct 5 for residential purposes) – amended numerous times. Note Mod 5 to accommodate a private water and waste water system not yet determined by the Department.

All approvals to date have been based on standard gravity system, connecting to Council's reticulated system.

Agreements in Place

The proposed development is reliant upon various agreements with Council in terms of bulk water supply, discharge of excess recycled water to Council's sewerage system and the use of a substantial amount of recycled water for irrigation purposes over public open space and sports fields. It should be noted that there are no agreements in place with regard to any of these matters.

As advised by IPART, Council is under no obligation to agree to the terms being proposed by the Licence Application. Given that there is no certainty that Council will accept the discharge of recycled water for irrigation purposes on public land, the proposed Water Balance for the development is considered to warrant further review, as the end result will be a much higher rate of discharge to Council existing infrastructure at higher costs to the proponent.

- ***Are you aware of any unacceptable risks to the environment posed by the activities to be licensed? If so, what are these risks?***

The proposed development raises a number of concerns with regard to risks to the environment.

As noted in the general comments below, it is considered that the documentation associated with the Licence Application and the Review of Environmental Factors have not adequately demonstrated that sufficient assessment has been undertaken with regard to the potential impacts associated with the proposed development. In this regard, the risk is considered too great for IPART and the determining authority of the Part 5 application to be satisfied that the proposal will not result in unacceptable and significant harm to the environment.

In terms of visual impact, major concerns are raised with regard to the proposed location of the WWTP. It is not considered appropriate to locate such a facility at the entrance to a new residential estate accommodating 10,000 people and within 400m of the town centre and the already approved subdivision of Precinct 5.

From an Environmental Health perspective, the proposal raises a number of questions/potential risks, as noted below:

- Will the proposal meet NSW Health requirements in terms of the standard of the final treated wastewater acceptable for reuse within dwellings and commercial sites (toilets, washing machines etc.)?
- Possible cross connection of potable and recycled water systems to end users;
- Treatment/disposal of the super-saline backwash residue liquid from the filtration membrane devices, in terms of removal and treatment/disposal?
- Overflow of contaminated waters into local waterways, particularly during prolonged rainfall events; and
- Contamination of potable water supply.

Additionally in Council's submission to the NSW Department of Planning & Environment Modification to the Concept Plan and Project Applications to accommodate the proposed private water utilities (MP06_0317 MOD 7 & MP08_0194 MOD 5) concerns were expressed in regards to:

a. Noise
b. Odour
c. General Concerns

A copy of Council's submission to the NSW Department of Planning & Environment Modification to the Concept Plan and Project Applications to accommodate the proposed private water utilities (MP06_0317 MOD 7 & MP08_0194 MOD 5) from July 2017 is **attached** (ECM Reference 4591288) for your reference.

The following were also raised however can be adequately managed by the applicant. Further information to be provided in accordance with existing conditions of consent:

d. Acid Sulfate Soil – Review of Environmental Factors (Planit Consulting) dated May 2017 Section 5.12. Kings Forest is located within Class 2, 3, and 5 acid sulfate soil mapped areas. The applicant has advised that at the site of the proposed WWTP is located within

Class 3 however as the WWTP would be built on a filled pad, works are unlikely to intercept acid sulfate soil.

It is noted however that in relation to the proposed reticulation network, preliminary acid sulfate soil investigations have been undertaken throughout the development site (not submitted to Council) that identified potential acid sulfate soil that will require management during subsequent construction stages. Treatment will also take place if the WWTP intercepts the natural ground level. Noted.

e. Contamination – Review of Environmental Factors (Planit Consulting) dated May 2017 Section 3.1.6. The applicant has outlined previous contaminated land investigations including opportunities for remediation in relation to the historic potentially contaminating activities which included Council landfill, crop/agriculture activities, fuel storage, nursery, cattle dip site, and sand mining activities. There is a condition of consent advising that "Project 28 will undertake Stage 2 contamination investigations to accompany future project applications for areas of known potential contamination, including lands previously used for sugar cane and banana plantations and as a cattle dip. Where required, Remediation Action Plan(s) will be prepared in accordance with NSW State government Requirements". Noted.

f. Groundwater - Review of Environmental Factors (Planit Consulting) dated May 2017 Section 5.6. A groundwater management plan may be required for this proposal. Details regarding depth and potential interception of groundwater/dewatering have not been provided for the WWTP however dewatering has been addressed in the consent. There is sufficient area available for treatment of groundwater where required.

g. Electricity/Powerlines – Easements in relation to powerlines have been provided for by the applicant. Noted.

h. Lighting – Consent conditions are not apparent with respect to lighting and potential amenity impacts, particularly for the proposed treatment plant which was not proposed in the original applications. Given the proposed location and surrounding uses, this can be addressed by the applicant and would not be considered an unacceptable risk.

Council's Recreation Services Unit would require further information to determine the risks and feasibility of receiving treated wastewater from NWS for the purpose of irrigating 20 hectares of Council managed public open space. Concerns raised include:

- *Economic factors*: Details have not been provided regarding water pricing model, infrastructure costs, additional Council infrastructure costs, insurances, impact on the management and maintenance of the green waste stream generated, including transportation costs etc;
- *Risk Management:* In the documentation provided to NWS there is mention of developing an agreement to ensure Council is not disadvantaged. This has not been provided. What are the details of this agreement? Council is unable to assess the feasibility without this fundamental information;
- *Existing policy:* It is the policy of Recreation Services to manage water carefully to conserve the Shire's water supply and to reduce water

costs, while also ensuring our sports fields are kept in good, safe condition.

Under current service levels we currently irrigate sports fields but do not irrigate parks beyond the establishment period (maximum 12 month period and to a level that is 'fit for purpose'). This is a policy currently applied across the shire to ensure equity in the management of open space.

- What controls would be in place to allow Council to monitor its own water use and would there be any cost to Council?
- How will variances in forecast and actual demand be managed?
- *Technical:* Irrigation volume is dependent on many factors e.g. rainfall and evaporation rates, soil type and a well-designed irrigation system. What will be the quality assurance measures in place for infrastructure and water quality? There is no detail regarding the management of technical issues, e.g. change in water quality, effects on soil, ground water e.g. potential issues arising from high salinity levels, possibility of groundwater contamination;
- *Social:* There are no details about managing the supply of recycle waste water through the lifecycle of the development e.g. in the initial phase when houses will not have been built yet, potential changes in property sales etc;
- *Management on contracts/agreements:* Should key stakeholders who established the agreement change, what are the implications for Tweed Shire Council?
- There are limited details on how the recycled water will be distributed to open space.

From a Natural Resource Management perspective, concerns are raised with regard to the risks associated with the runoff of recycled water from irrigation of the Kings Forest development. It is not clear that the Storm Water Management Plan for the overall Kings Forest development has taken into consideration the additional nutrient loads from the proposed irrigation that may impact on the downstream waterways (Cudgen Creek/Cudgen Lake).

Given the high sensitivity of the receiving environment to excess nitrogen it is considered vital that MUSIC modelling be developed for the stormwater management plan to ensure that it takes account of potential additional load of total Nitrogen and total Phosphorous in runoff from any proposed irrigation.

From an overall Planning perspective, it is considered that insufficient detail has been provided with the REF for IPART or the determining authority of the Part 5 application to be satisfied that the proposed development does not pose a significant risk of harm to the surrounding environment.

- ***If granted, should the network operator's or retail supplier's licence contain any specific conditions in relation to protection of the environment? If so, what conditions do you recommend?***

Based on the information provided with the Licence Application and REF, the following matters are considered applicable (but by no means an exhaustive list) for the purposes of conditioning any IPART Licence:

- A requirement that the scheme be licensed by EPA under the Protection of the Environment Operations Act;
- Include the statements in the Application regarding pricing;
- Include all commitments made within the Application, REF and associated Appendices';
- Imported fill for the WWTP site must be from an approved, clean source;
- Proposed mitigation measures within the REF must match all of the recommendations incorporated with the associated Appendices; and

- ***Has Tweed Shire Council instituted any enforcement action against NWS, Leda Holdings Pty Ltd, Project 28 Pty Ltd or Leda Manorstead Pty Ltd for non-compliance with the Protection of tile Environment Operations Act 1997? If so, please provide details of any proceedings.***

  Nil applicable

- ***Has NWS, Leda Holdings Pty Ltd, Leda Manorstead Pty Ltd or Project 28 Pty Ltd been subject to any enforcement action for non-compliance with the EP&A Act including: caution; penalty notice; order; or successful prosecution? If so, please provide details of the enforcement action(s).***

  TSC has not undertaken enforcement action but NSW Department of Planning and Environment Compliance Unit have had and still have ongoing cases with have Leda Manorstead Pty Ltd in regards to the Cobaki proposal.

- ***General comments:***

Network Operator & Retail Supplier Licence Application

There is no agreement yet in place between TSC and NWS on supply of drinking water or on receipt of excess effluent, or raw sewage for the initial stages or for the acceptance of recycled water for irrigation of public open space / sports fields.

Council's assessment of the Licence Application raises questions about the validity of the Water Balance Report details and there appears to be conflict between the REF and the Water Balance Report:

- It assumes every dwelling is 1 ET at 2.8 persons;
- It assumes every ET is a separate Lot;
- It assumes Council agreement to accept 58.5ML of effluent for irrigation of Passive and Active Open Space;
- The water balance assumes that other sites for recycled water will be available. The application refers to concrete plants, and food crops, none of which are likely to be permitted uses within the development area and even if they were the TDS of the recycled water may be too high for these applications; and
- It does not account for the "side stream of drinking water" mentioned in Section 6.2.2 of the Integrated Water Management Plan a method of salinity control. That side stream would appear to be a significant quantity to be able to dilute 700 – 850mg/L to 500mg/L when Council's typical potable water TDS is 100 – 200mg/L. A one to one mix may be required negating any advantage claimed for the use of recycled water.

The NWS proposal to connect the first 500 lots directly to Council's systems has not yet been fully developed with Council and at this stage, there is no agreement between Council and NWS or the developer for this.

NWS proposes that their charges will be identical to Council's charges. If this is agreeable to IPART, this should be a specific condition of the licenses.

Review of Environmental Factors

1 Introduction

1.1 Purpose of the report

The REF states that "*...For the purposes of this REF, NWS is the proponent and the Minister administering the Independent Pricing and Regulatory Tribunal (IPART) is the determining authority under Part 5 of the EP&A Act*".

As noted above, given that there are multiple authorities involved with the issuing of licences for the development, the Minister of Planning is responsible for nominating who the Determining Authority is in relation to the consideration of the Part 5 application, as per the provisions of cl 110A of the EP&A Act.

1.4 Existing Approvals

- NSW State Government Concept Plan Approval **MP06_0318** (and its associated adoption of the Kings Forest Development Code) – amended numerous times. Note MOD 7 to accommodate a private water and waste water system not yet determined by the Department.
- NSW State Government Project Application **MP08_0194** (for bulk earthworks across the site, roads, reticulated infrastructure connection and development of Precinct 5 for residential purposes) – amended numerous times. Note Mod 5 to accommodate a private water and waste water system not yet determined by the Department.

All approvals to date have been based on standard gravity system, connecting to Council's reticulated system.

1.8 Alternatives and Options Considered

The REF incorporates an assessment of alternatives / options in terms of servicing the Kings Forest development. The analysis is considered superficial and does not quantify the many factors involved with servicing a large development such as Kings Forest. The evaluation summary for Option 2 focuses only on perceived negatives and Option 3 focuses only on the perceived positives. The assessment is not considered to be accurate in that it suggests that all treated effluent can be reused on site, where as the water balance relies upon return of a significant portion to Council's sewerage system requiring re-treatment and discharge to the waterway environment using Council's license and infrastructure. It also includes the construction of a 2.5km rising main. Further comments are provided below in relation to the description and evaluation summary for both options provided.

Option 2 - Centralised Business As Usual Connection to TSC Network

- *Gravity sewer networks, some of which would be at considerable depth and located below the water table.*

  With appropriate design there is no requirement for any of the sewer network to be located below the water table, nor should it be.

- *A number of smaller sub-catchment scale sewage pump stations.*

As compared to Option 3 there will be less pump stations. Option 3 involves over 1,000 pump stations plus catchment pump stations and some large pump stations to transfer sewage to the WWTP. Option 2 would only require the sub catchment and a small number of large pump stations.

- *A number of large sewage transfer pump stations.*

  This would also exist with the proposed scheme

- *Treatment of Wastewater.*

  Kingscliff WWTP is a tertiary treatment facility with nutrient removal and disinfection. Some of the treated wastewater is suitable for reuse with some being recycled at the Chinderah golf course.

- *100% of treated effluent discharged to local waterways.*

  This statement is incorrect. Council does not discharge 100% of treated effluent to local waterways as it has in place supply of treated effluent to the Chinderah Golf Club.

- *Potential for wet weather overflows from the gravity sewer network and pump stations;*

  The potential for wet weather overflows is managed by requiring developers to provide adequate infrastructure and management of that infrastructure by Council.

- *Environmental risk associated with failure of the 2.5km sewer rising main*

  The environmental risk associated with the 2.5km rising main is not considered significant, but also exists in the proponent's preferred Option 3.

- *Significant cost associated with constructing the necessary infrastructure to connect the development site to the existing network*

  The proponent's Option 3 still requires a costly connection to Council's existing network for its first 500ET and for ongoing transfer of excess effluent.

- *Issues of septicity due to long detention times in the transfer system, particularly during earlier stages of development.*

  The issues of septicity due to long detention times in the transfer system, particularly in the earlier stages of development equally apply to Option 3. In addition, issues of septicity will be present in the proponent's pumped pressure sewer system.

<u>Option 3 – Onsite Treatment with Water Recycling & Irrigation of Private & Public Land</u>

- *Advanced Water Treatment Plant sized to treat approximately 60% of wastewater flow for recycling at each house;*

  Experience from similar areas such as Pimpama/Coomera in Queensland has shown that 60% reuse has not been consistently achieved.

- *The 47% of surplus effluent managed by irrigation of open space irrigation areas;*

  There is no agreement in place to manage the surplus effluent by irrigation of open space.

- *20 ha irrigation area and 2 ML wet weather storage to manage all surplus water by irrigation with no discharges to waterways.*

There is no agreement with Council to accept the recycled water for irrigation of open space.

- *100% of wastewater generated can be recycled back to each house and used for sustainable effluent irrigation of public spaces.*

  The Water Balance clearly shows that the proposal relies on sending excess effluent to Council's sewerage system to be re-treated and disposed. In addition, for an interim period, waste from the first 500ET is proposed to be treated by Council and hence discharged via Council's licensed discharge to Terranora Creek.

- *No discharges of surplus recycled water to waterways;*

  The assertion that there will be no discharges to waterways is considered to be incorrect in that the disposal of excess recycled water by discharge to Council's sewerage system will result in most of that excess water being discharged through Council's licensed system to the Tweed River.

- *No wet weather overflows from the pressure sewer network;*

  This cannot be guaranteed, just as overflows from gravity networks cannot be guaranteed.

- *Treat wastewater close to its source and avoid long sewage transfer systems;*

  Treating wastewater close to its source avoiding long sewage transfer systems misrepresents the proposal in that:

  i. The first 500 ET is proposed to be transferred to Council's system requiring a long transfer system; and

  ii. Excess recycled water is still to be transferred by a long transfer system.

- *Relatively low energy option.*

  The assertion that it is a relatively low energy option is not supported with any analysis, considering that:

  i. The proposal includes around 1200 sewer pump stations each using energy;

  ii. Reticulation of recycled water using continuous pressure boosting pump systems; and

  iii. Reticulation of drinking water using continuous pressure boosting pump systems having dissipated residual energy that is already in the supplied water if obtained as proposed from Council's system.

- *Can deliver 4903 ET capacity to allow whole subdivision approved under MP06_0318 to proceed.* The purported advantage that Option 3 can deliver 4903 ET capacity to allow the whole subdivision to proceed should be balanced by granting the same advantage to Option 2 which will also be able to deliver the same benefit.

- *More cost effective than Option 2.*

  There is no analysis to support the assertion that Option 3 is more cost effective than Option 2.

2 Description of the Proposal

2.1 The Proposal

The REF states that the "*...proposed WWTP and reticulation network is needed to facilitate urban services for the Kings Forest Estate development approved under Project Approval MP06_0318*". It is not considered that there is a strategic "need" for the proposal. The current approvals / applications are capable of facilitating the Kings Forest Estate as approved under the "*Concept*" Approval MP06_0318 by way of connection to Council's standard infrastructure.

2.2.1 Drinking Water Supply

The REF refers to a volumetric supply agreement under the Water Management Act and that TSC have agreed to supply the daily volumetric requirement. Any agreement will be under s68 of the Local Government Act and at this time no agreement is in place.

2.2.4 Effluent Irrigation

There is no agreement with Council to discharge through irrigation 58.5ML/a. In general Council does not irrigate except for establishment of grass as it increases maintenance costs.

2.2.5 Offsite Discharge

There is no agreement to irrigate open space and sports field in Precincts 4 & 5.

The REF makes reference to a trade waste agreement with Tweed Shire Council for the discharge of excess treated Class A permeate. As noted previously, there is currently no trade waste discharge agreement in place.

2.3.3 Waste Management

Membrane Bioreactor Screenings and Grit - The REF notes that the waste material would be removed at approximately fortnightly intervals, the waste material would be taken off site for disposal at an approved land fill facility. Further detail is required in terms of what facility is proposed for the waste disposal.

Membrane Bioreactor Waste Activated Sludge - The REF states that "*...Waste sludge will be stored in a sealed tank until it is removed from the site at approximately weekly intervals by a licensed liquid waste transport contractor and disposed of to the nearest approved municipal wastewater treatment plant*". Concerns are raised in terms of the proposed weekly removal of sludge, when only two days storage is available.

Membrane Bioreactor Chemical Cleaning Annual Soak Process – The REF notes that the cleaning "...waste water will be removed from site by a fully qualified liquid waste cartage contractor for disposal at the nearest approved facility". Further detail is required in terms of what facility is proposed for the waste disposal.

Irrigation Area Green Waste – The REF states that "*...Irrigation as part of the proposal will generate a green waste stream. The irrigation areas are to be mowed and maintained to ensure ongoing plant growth and nutrient uptake. Biomass harvesting from the irrigation area will occur to export nutrients from the irrigation area. The green waste stream will be transported to nearest composting facility for disposal*". Further detail is required in this regard, noting that no agreement is place for the proposed irrigation or management requirements associated with the irrigation.

MBR Cleaning Water should be reprocessed on site for recycling.

2.3.5 Water Quality

The WWTP Stormwater Management Plan (Appendix E) only relates to the site of the treatment plant itself. Further consideration needs to be given to the potential impact from nutrients associated with the irrigation of recycled water entering the stormwater system within the Kings Forest development and ultimately ending up in the adjacent wetlands, Cudgen Creek and Cudgen Lake. It is considered that the potential impact of nutrients in the natural waterways has not been fully addressed.

2.3.6 Noise

A Noise Assessment for Kings Forest WWTP prepared by Vipac Engineers and Scientists Limited dated 13 April 2017 (Document No: 70Q-17-0005-TRP-541306-0) has been submitted. The following is noted:

- The newly proposed water & waste water facility site is primarily agricultural area with some forested areas, residential and farm buildings.
- Existing and future noise sensitive receivers (NSRs) have been considered.
- Noise readings were taken in the areas of those residences closer to Tweed Coast Road and those further west.
- Use of NSW EPA Industrial Noise Policy.
- Noise management levels have been provided for each of the areas for day, evening and night.
- Two modelling scenarios – neutral weather and worst case for both day and evening/night.
  - Construction – all equipment running simultaneously
  - Operational – all equipment running simultaneously for 24 hours/7 days except for trucks limited to 4 movements per day.
- Noise levels calculated on levels from similar operations, guidelines, and manufacture's specifications.
- Majority of pumps located within the building. Sound transmission loss of the building (0.42mm thick Colorbond) has been applied.
- Construction phase
  - o Standard construction hours proposed.
  - o Compliance for existing dwellings but not for future community facility land, neighbourhood centre and future residences at Kings Forest (12 db(A) over). Note daytime operation only (as per standard hours). Where future uses are constructed prior to the construction of this facility, a Site Management Plan would be required.
  - o Where future sites are constructed prior to completion of this development (note that the WWTP is staged), a Construction Noise Management Plan would be required.
  - o Noise levels are exceeded at the sports field. Consultant considers that this will not impact its use for sporting purposes - 61dB(A).
- Operational phase
  - o 24 hours/7 day
  - o Compliance for existing and future noise sensitive receivers. Consultant has advised that NSR Neighbourhood Centre is not applicable

as it would not be occupied during the night time. Sports centre predicted at 40 dB(A) which has been advised would not impact sporting fields.

Concerns:

- Table 3-3: Project Specific Operational Noise Levels at NSR's identifies amenity criteria levels that do not appear consistent with NSW EPA's Industrial Noise Policy Table 2.2 Modification to acceptable noise level (ANL) to account for existing level of industrial noise. The background is relatively low in these areas and evening and night criteria for both locations would be lower than the project specific noise levels provided. It is noted however that based on Table 6-2

  Operational Phase Predicted Noise Impact, criteria would still be met (based on their assumptions in the report).

- The Kings Forest Development Code outlines development applicable to each zone. Predicted noise levels for the Community Facilities/Education zoned land have not been considered which are in immediate proximity to the proposed WWTP. The future Neighbourhood Centre may also include residential development (shop top) and retail premises would likely be open during the evening/night and compliance with operational noise levels would be required.

- Modelled sound power levels do not appear to have taken into consideration the need for possible generators within the WWTP site in the event that there is a power failure.

- The consultant has advised that the majority of pumps are to be located within a building and the sound transmission loss of the building has been determined based on typical single panel Colorbond construction of 0.42mm thickness steel. This proponent has applied this to the noise model. It is unclear from the detail provided how this has been applied in modelling as there will be external pumps and possibly generators.

- The report considers likely noise impacts that have been predicted for both construction and operational phases using assumptions based on sound power levels calculated by manufacturers of the proposed system and a level of attenuation provided by the proposed building. Re-assessment would be required when final designs are provided of the WWTP and building proposed to house equipment to ensure adequate noise attenuation is achieved, including any recommendations.

- Assessment post construction (or after each stage is completed) would be required to confirm that noise criteria has been met.

- Proposed ongoing monitoring would be required to ensure criteria is being met.

- Complaint handling – Note Council is not the Appropriate Regulatory Authority (ARA). The WIC Act allows for the Minister to appoint Inspectors and Authorised Officers with respect to compliance.

- Proposed Maintenance and Site Management Plan for construction and operational phases.

- Possible land parcels closer than the nearest noise sensitive receivers that have a dwelling entitlement.

2.3.8 Chemicals Management

The REF makes reference to the chemical storage area being "*...appropriately lined and bunded*". The development plans indicate external bunds, however no roofing over the bunded areas are shown. It is unclear as to where the bunded areas are drained to (i.e. are they linked back to the WWTP?) as opposed to going into the stormwater system or Council trade waste system without appropriate treatment.

2.3.9 Utilities

The REF states that "*...No potable water would be used in the treatment process*", however the appended Integrated Water Management Plan and its Risk Analysis appendices indicate the use of a side stream of drinking water to maintain salt concentrations around 500mg/L TDS. This has the potential to change the Water Balance Report which does not appear to have considered this consumption.

2.4.2 Operation Environmental Management Plan

Integrated Water Management Plan (IWMP) (Appendix K of the REF)

Section 1 *Introduction* of the IWMP makes reference to the IWMP is "*...being submitted for the Part 5 Part 5 approval under the Environmental Planning and Assessment (EP&A) Act (NSW Government, 1979) to IPART and for an approval for an Environmental Protection License (EPL) from NSW Environmental Protection Authority (EPA)".* The Minister of Planning is yet to nominate the determining authority for the Part 5 application. This role may go to IPART, EPA or DPI Water. Council considers that the EPA is best suited to consider the environmental impacts associated with the proposal and as such should determine the Part 5 application (assuming an IPART licence is issued). In saying that, IPART must also be satisfied that the proposal will not pose a significant risk of harm to the environment.

Section 2.3 *Environmental Assessment* of the IWMP notes that the original Part 3A Concept Planning Approval is being amended by the developer. As noted previously, the Concept Plan Mod 7 is yet to be approved by DoPE.

Section 2.4 *Previous Water & Wastewater Investigations* makes reference to the irrigation of 94.9ha of public open space and sports fields, as well as the emergency discharge of treated effluent to TSC under a trade waste agreement. As noted previously, there is no agreement in place in terms of irrigation being accepted on public open space / sports fields that will ultimately be TSC assets. Additionally, there is no agreement in place in terms of a trade waste agreement. If irrigation is not accepted by TSC, the proposed water balance of the proposal will need review, as this will result in increased levels of discharge of treated effluent to TSC existing network.

Section 3 *Drinking Water Supply* of the IWMP states that drinking water is being sourced from TSC under a volumetric supply agreement. Whilst discussions have been held with regard to this matter, there is no agreement in place at this moment in time.

Further any such agreement would not be under the Water Management Act but though a s68 Application to Council and would be at Councils discretion.

Section 4.4 *Class A+ Recycled Water Demand* makes reference to a number of non-potable uses for recycled water. As noted previously, uses such as, turf farms and nurseries are unlikely to occur within the Kings Forest Estate and therefore should not be made reference to.

Section 4.5 *Surplus MBR Treated Effluent (Permeate)* makes reference a trade waste agreement with TSC in relation to surplus MBR permeate water being discharged off site. As noted previously, no trade waste agreement is in place. The issue of irrigation of public open space / sports fields must be addressed, as this will have an impact upon the level of surplus MBR permeate water that NWS will need to discharge off site.

Section 6.2 *Stage B - The Advanced Water Treatment Plant* states that a Recycled Water Management Plan for the AWTP will be documented once the scheme is approved and during detail design. It is considered appropriate that the management plan be required now to identify any risks associated with the AWTP, as opposed to waiting for the development being approved without knowing such risks.

Section 6.2 makes reference to a number of uses for Class A+ recycled water. As noted previously, uses such as industrial uses, concrete production, and nurseries are unlikely to occur within the Kings Forest Estate and therefore should not be made reference to.

Table 10 with regard to residual chlorination, Table 10 *Overview of AWTP Unit Processes* states that "*...The free chlorine CCP will be continuously monitored with alarms and automatic shutdown if the critical limits are reached*". Has consideration been given to the implications associated with the development if it is shut down?

Section 6.3 *Waste Products generated by the processes at the WWTP Site* incorporates the treatment of waste associated with the MBR process. As noted previously, the proponent has not provided information with regard to who and where the waste will be transported to. In addition, the rate of waste sludge removal requires revision, with only 2 days on-site storage available.

Section 7.2.2 *Kings Forest Ultimate Scheme – Offsite Discharge* states that "*...The temporary irrigation scheme servicing up to the first 500ET, with excess Class A permeate from the MBR WWTP will be used to irrigate the open space areas & sports fields around precincts 4 & 5 via controlled irrigation system installed in Stage A*". It should be noted that there is only approval for Precinct 5 under the Project Approval, which does not incorporate sports fields. No approval has been granted for Precinct 4. The area of structural open space (sports fields) to be provided with Precincts 4 and 5 is yet to be finalised. Has consideration been given to the amount of open space / sports fields being available for irrigation purposes in Stage A? As noted previously, no agreements are in place with Council in relation to discharge or irrigation.

As highlighted above, the determining authority for the required Part 5 approvals is yet to be nominated by the Minister of Planning, as per the requirements of cl 110A of the EP&A Act.

Section 8 *Environmental & Public Health Risk Assessment Any licencing authority would need to review this document.* **Appendix L of the REF *Hazard Analysis and Risk Assessment*** *Any licencing authority would need to review this document.*

Appendix K of the IWMP – Kings Forest Open Space & Sports Field Irrigation Management Plan

Section 2.3 of Appendix K states that "*...This report provides sufficient information to demonstrate that irrigation of the proposed restricted access irrigation areas with recycled water in Stage A and beyond will not result in significant environmental impacts*". It is not considered that sufficient information has been provided to demonstrate that there will be no significant impacts resulting from the proposed irrigation of recycled water.

Section 4.3 *Surplus Recycled Water Supply that can be used for Irrigation Purposes* states that "...*All surplus recycled water that is not recycled back to each house is managed by land irrigation or offsite uses or discharge to the existing TSC sewerage network*". As previously advised, there is no agreement in place with Council in terms of irrigation or discharge to Council's infrastructure. Acceptance of the recycled water for irrigation purposes on Council owned land needs to be addressed, as this will have serious implications to the overall water balance for the development and may well result in high levels of discharge to Council.

Section 4.4 *Irrigation Areas Required Buffers* makes reference to the 20ha of irrigation areas on plans in Appendix C of the Assessment. This is inconsistent with the previously advised areas of irrigation. The plans do not clearly identify the irrigation areas and do not identify the buffer areas noted within the document.

Section 4.5 *Site and Soil Assessment* makes reference to a site and soil assessment of the open space and sports fields in "Appendix M" of the REF. There is no corresponding document and Appendix M relates to the Hazard and Risk Analysis Assessment. It is however noted that Appendix L of the REF incorporates the site and soil assessment for the open space / sports fields areas.

Table 4.1 notes that in terms of vegetation, "...*All irrigation areas are located inside the footprint of the approved subdivision*". As noted previously approval has only been granted for the subdivision of Precinct 5 under the Project Approval. Mod 5 of the Project Approval has not yet been determined by the DoPE. The Table also notes that "...*Vegetation in the irrigation areas shall be established by a landscape specialist using a dense deep rooted turf species, e.g. kikuyu pasture*". An Open Space Masterplan or Landscape Strategy associated with DA16/0056 Kings Forest has not been developed. As such vegetation types have not been considered at this stage. It is not yet known as to whether the proposed vegetation type would be acceptable.

The SEPP 14 Wetlands assessment within Table 4.2 notes that "...*there is no potential for effluent irrigation activities to impact the wetland*". As highlighted below, there is potential for indirect impact upon the nearby SEPP 14 Wetlands. Further consideration is considered warranted in this regard.

Section 5 *Effluent Quality Hazard Assessment* incorporates a preliminary assessment in terms of effluent quality hazards for the first 500 lots only. It is considered that a more detailed assessment for the overall development (4,500 lots should be undertaken to be satisfied that proposal does not pose any significant risks of harm to the environment. The documentation is heavily relying upon management plans that are to be prepared later in the development of the WWTP (i.e. after approval has been granted), as opposed to identifying all risks associated with the entire development (rather than only the first 500 lots).

The *Nutrients – Nitrogen and Phosphorus* assessment within Section 5 states that "...*Appropriate irrigation management and stormwater management practices to reduce the potential for surface runoff of nutrients to waterways will be employed*". This assessment acknowledges the potential for impact from nutrients in surface runoff. It is not clear within the documentation what these mitigation measures are.

The *Salts* assessment within Section 5 states "...*Appropriate selection of vegetation species in effluent irrigation areas that can tolerate salt concentrations*". The proposed vegetation species must accord with the provisions of the yet to be approved Open Space Masterplan and Landscape Masterplan Strategy associated with the relevant DA.

The *Sodium Absorption Ratio* assessment within Section 5 recommends the application of gypsum to irrigation areas as a control measure. Who will be responsible for the monitoring and application of gypsum? Agreement must be in place with Council with regard to acceptance of irrigation and must clearly define who is responsible for the monitoring / application of such control measures.

Section 6.1 *Introduction* (Effluent Irrigation Scheme Water Balance Modelling) notes that "*...The water balance has also been designed to remove the risk of overflow from the wet weather storage by providing an emergency discharge system to the TSC existing sewerage network in wet weather events or when excess treated effluent is produced and with low average irrigation rates*". Again, it needs to be highlighted that without a formal agreement with regard to the acceptance of recycled water for irrigation purposes, the Water Balance of the entire project is unknown. If irrigation is not supported, the level of discharge to TSC's existing infrastructure will increase dramatically.

Section 7 *Environmental & Public Health Risk Assessment* notes that the "*...Risk assessment for the urban recycled water supply system that supplies "Class A+" recycled water to individual dwellings in the scheme is included in the Recycled Water Management Plan to be developed for the scheme prior to Stage B when the AWTP is constructed and commissioned*". It is not considered acceptable that a risk assessment for the majority of the proposed irrigation of the development be undertaken at a later stage. It is considered appropriate that such risk assessment be undertaken prior to any decision being made on the proposed development.

2.5.3 Environmental Monitoring of the Irrigation Scheme

The REF notes that "*...Environmental monitoring of the irrigation scheme would be undertaken to ensure there are no significant environmental or public health impacts caused as a result of irrigation activities*". Insufficient investigation has been undertaken in terms of the potential impact upon the downstream environment (in particular the wetlands, Cudgen Creek and Cudgen Lake), particularly in relation to impacts arising from the proposed irrigation of the public open space / sports fields within the development. It is not considered acceptable to simply rely upon future monitoring as a safeguard for significant environmental / public health impacts. Further information is considered to be required in order for IPART and the determining authority of the Part 5 application to be satisfied that there isn't going to be an impact upon the surrounding locality. As such, it is considered that an EIS is required to fully consider the potential risks to the environment.

3 Statutory and planning framework

3.1.1 State Environmental Planning Policy (Infrastructure) 2007

The REF notes that the "*...proposed water reticulation network is subject to approvals already granted in the Kings Forest Development (under the development code and Concept Approval and also the approvals listed earlier in the REF), however the Water Supply infrastructure at the WWTP site (storage tanks and pipes under Kings Forest Parkway/Pine Ridge Road in particular), will be subject to the need for separate development consent under Part 4 of the EP&A Act, 1979*".

The Concept Plan Approval provides a conceptual layout for the development site and incorporates a Development Code for future development. Applications have been made with regard to amending the Concept Plan and Development Code and Project Application so as to allow for an alternate water/sewer provider. It should be noted that these Mod's are yet to be granted approval. The existing subdivision approval (Project Application - Precinct 5) will require further amendment if an IPART

licence is issued. Council agrees that the proposed Water Supply infrastructure on the WWTP site will require development consent from Council under Part 4 of the EP&A Act.

3.1.2 State Environmental Planning Policy No.14 – Coastal Wetlands

The REF makes reference to a Stormwater Management Plan (SWMP) under the Concept Plan to minimise any indirect impacts upon the SEPP 14 Wetlands within / adjacent to the Kings Forest development.

Although the WWTP site is well removed from the SEPP 14 area, it is unclear as to whether the SWMP associated with the overall Kings Forest development has taken into considerations any potential impacts from the WWTP (e.g. nutrients from the irrigation of public open space / sports fields / stormwater runoff from residential properties) being directed through the stormwater system into the adjacent waterways. It is considered that further information is required in this regard for IPART / EPA / DPI Water to be satisfied that the proposed WWTP will not have any direct / indirect impacts upon the local waterways.

3.1.4 State Environmental Planning Policy No. 33 – Hazardous and Offensive Development (SEPP 33)

Any licencing authority would need to review this document.

3.1.5 Koala

The site's Koala Plan of Management is currently under review by both the NSW Department of Planning & Environment and the Federal Environment & Heritage in terms of satisfying conditions of the development consent. The Koala Plan of Management anticipated tree removal in the location of the WWTP for filling and future development purposes.

3.1.6 State Environmental Planning Policy No. 55 - Remediation of Land

Previous comments by Council and a review of the historic aerial photography raised potentially contaminating activities across the Kings Forest site and surrounding areas including Duranbah Cattle Dip site (not located near the proposed WWTP area), crops, former banana plantations, neighbouring landfill with potential leachate (end of Depot Road), and possible sandmining (heavy mineral sands mining paths (Sept 2004) identified in mapping at end of Depot Road).

A review of Council's contamination data identified possible asbestos contamination at the end of Depot Road in the vicinity of the proposed WWTP on Council land (100/1192162 formerly 1//397082). Correspondence from NSW Environmental Protection Authority (EPA) on 19/10/15 advised that "*the assessment addressed concerns regarding potential soil contamination issues at this site and I am pleased that the report concluded that the site is fit for the intended purpose of public recreation, and poses no risk to public health and safety with regard to the material that was used as fill*". There are some notations with regard to potential acid sulfate soil on the site.

The Consolidated Consent Kings Forest Statement of Commitments advises:

> *"5.4 Contamination*
>
> > *7. Project 28 will undertake Stage 2 contamination investigations to accompany future project applications for areas of known potential contamination, including lands previously used for sugar cane and banana plantations and as a cattle dip. Where required, Remediation Action*

Plan(s) will be prepared in accordance with NSW State government Requirements".

A contaminated land investigation would be required for this proposal. No details have been provided.

3.3.1 Protection of the Environment Operations Act, 1997

It is considered that an EPL is required – EPA can be a determining authority for the Part 5 application. Minister of Planning is yet to nominate the determining authority. It is considered appropriate that the EPA is the determining authority, given their experience in assessment impacts upon the environment.

3.3.9 Roads Act, 1993

It is acknowledged that any proposed trenching works (and any new driveways) associated with the WWTP within the Council's road reserves will require an approval under Section 138 of the Roads Act from Council prior to the commencement of such works.

4 Stakeholder and Community Consultation

4.1 Community involvement

The REF notes that "*...Community involvement and consultation has been limited for the proposed WWTP and reticulation network. The proposal is such that it will not have undue adverse impact on the residential allotments it will adjoin within the Kings Forest Estate development and would not impact upon the existing Kings Forest or Cudgen villages*".

Council is not aware of any community consultation. Based on feedback from the local community, it is considered that the existing Kings Forest or Cudgen villages disagree with the proponent's statement that there would be no impact upon them.

4.2 Aboriginal community involvement

The REF notes that a "*...copy of the Cultural Heritage Impact Assessment report for the proposed WWTP (refer Appendix Q) is to be tabled at the Aboriginal Advisory Committee meeting scheduled for the 5 May 2017*". It is noted that the Cultural Heritage Impact Assessment report was again tabled with the AAC in September 2017.

4.3 ISEPP consultation

The proponent has stated that formal consultation with TSC has occurred, largely in relation to "*...potential direct impact to public authority's assets*". Whilst several meeting have taken place, they have been limited to discussions Council Water / Wastewater Unit in relation to terms of a possible agreement for supply of bulk water and receipt of excess recycled water. No agreements are in place in this regard. No formal discussions have been held with Council's Recreation Services Unit in terms of the proposed irrigation of public open space / sports fields etc and as noted previously, no agreement is in place with regard to the proposed irrigation of recycled water. As advised by IPART, Council will be under no obligation to accept the recycled water for Council owned assets.

Section 4.3 of the REF is considered to not adequately acknowledge Council's position in relation to s68 approval of works carried out prior to grant of a WIC Act license. Whilst it is acknowledged that Council may be able to process s68 applications, Council's position is that anything approved by Council would have to be for a system that Council would be willing to take over should the license not be granted. To this end, Council is unlikely to provide s68 approval for the proposed

pressure sewer system or the recycled water system. It would only approve drinking water infrastructure if it complied with Council's requirement for ductile iron cement lined pipes and if sizes were adequate for a single water distribution system.

5 Environmental Assessment

5.1.1 Safeguards and management measures (Biodiversity)

Provided the site boundaries are clearly fenced to ensure environmental areas are protected the subject area was always anticipated to be cleared.

5.2.2 Potential impacts (Soil)

The site earthworks for this location have already been approved as part of MP08/0194.

5.2.3 Safeguards and management measures (Soil)

This is to be checked by IPART against the Erosion and Sediment Control Plan for consistency.

5.4.2 Potential impacts (Waterways & Water Quality)

As mentioned previously the REF does not take into consideration the potential impacts to the wetlands and waterways adjoining the site (Cudgen Lake, Cudgen Creek).

5.5.2 Potential impacts (Noise)

See detailed noise comments from section 2.3.6 of this memo.

5.6.2 Potential Impacts (Groundwater)

The REF notes that "...*The operational use of the proposed WWTP is also identified as having the potential to impact upon groundwater at the site through the use of effluent irrigation*".

As noted previously, it is considered that insufficient investigation has been undertaken in terms of the potential impact upon the downstream environment, particularly in relation to impacts arising from the proposed irrigation of the public open space / sports fields within the development. It is not considered acceptable to simply rely upon future monitoring as a safeguard for significant environmental / public health impacts. Further information is considered to be required in order for IPART and the determining authority of the Part 5 application to be satisfied that there isn't going to be an impact upon the surrounding locality. As such, it is considered that an EIS is required to fully consider the potential risks to the environment.

5.8 Odour

An Odour Assessment for Kings Forest WWTP prepared by Vipac Engineers and Scientists Limited dated 13 April 2017 (Document No: 70Q-17-0005-TRP-541352-0) has been provided. The following is noted:

- Potential odour impacts associated with the proposed WWTP on Depot Road in the Kings Forest development.
- Use of Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (EPA 2005).
- Compiled using data supplied by Planit and information derived from published maximum specific odour emission rates (SOERs) from Sydney Water for individual activities. Assumes the plant is operating

continuously with carbon filtration mitigation – 3 stages of membrane bio reactor (MBR) with UV disinfection, a 2ML permeate storage tank (storage of excess permeates during wet weather events) for Class A treated effluent to provide feed water to an advanced water treatment plan (AWTP). The AWTP includes an ultra-filtration membrane system, UV disinfection, and chlorine tank with transfer pumps to transfer the treated effluent to the storage reservoirs. There are also three 2ML tanks for drinking water (4 day supply).

- Coolangatta data used including the meteorological component of The Air Pollution Model (TAPM) to provide wind fields over the local area.
- Estimation of odour emissions from the proposed WWTP were developed for an emissions scenario with all stages of the WWTP completed (representing a worst case scenario) using maximum values and conservative constant emission for all odour sources for the duration of the year.
- CALPUFF model used to predict impacts from one hour to years. As the human noise can respond in the one second range, peak to mean ratios (scaling factors for one hour odour emission rates to one second values) were determined as per EPA guideline.
- WWTP will be located within a passively ventilated shed. Building ventilation modelling has been made with construction assumptions (carbon filters, passive ventilation, stack dimensions).
- Area sources are the highest odour sources - redundancy tank, truck loading, and specifically the activated sludge (highest and not covered).
- Operational phase
  - Model predicts that the odour impact from the proposed WWTP is well below the 2 OU 99th percentile criterion for all existing and future sensitive receptors (max 0.184 OU), with the nearest existing residence experiencing 0.014 OU and future sporting field 0.05 OU.
  - Results indicate the proposed WWTP would meet the odour performance criteria at the modelled existing and future sensitive receptors.

Concerns:

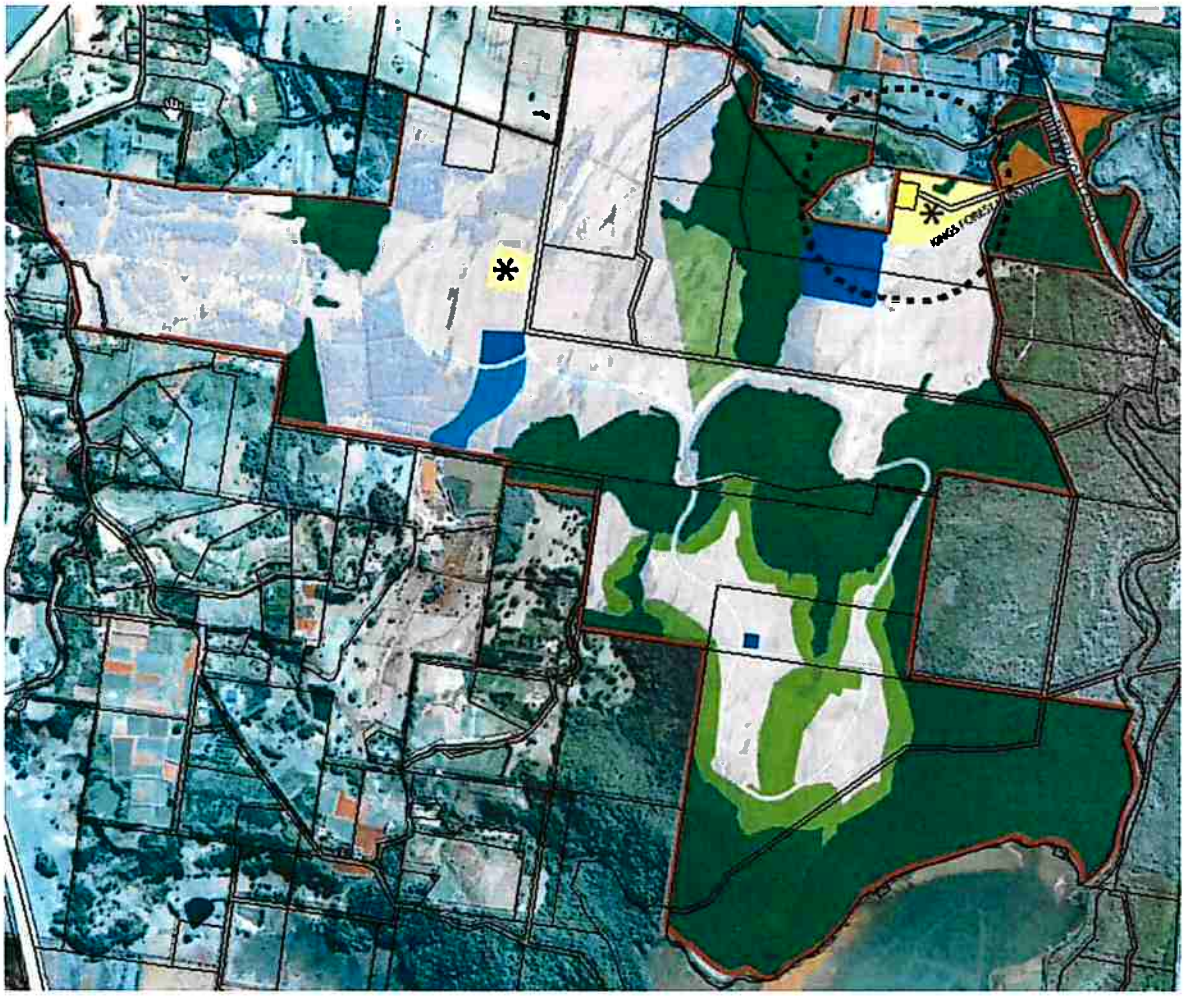
- The consultant has used a repealed version of the NSW EPA's Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales. The latest version should be used.
- Consultant may consider the draft NSW Best Practice Odour Guideline (NSW Department of Planning, April 2010).
- Confirmation that odour management includes aerosols or potentially toxic air pollutants.
- Predicted odour levels for the Community Facilities/Education zoned land have not been considered which are in immediate proximity to the proposed WWTP.
- Location of the WWTP appears to be closer to the existing receivers in Secret Lane (250m) as shown within the Odour Report compared to the Supporting Document by Planit.

- The entire WWTP will not be located within the proposed shed. It is unclear whether this has been considered in the modelling.
- The system relies on ongoing maintenance and replacement of filters as per manufacturer's recommendations.
- Proposed Maintenance and Site Management Plan for construction and operational phases. The consultant should provide recommendations on options to reduce or eliminate odour impacts.
- Re-assessment would be required when final designs are provided of the WWTP and building proposed to house equipment to ensure adequate noise attenuation is achieved, including any recommendations.
- Assessment post construction (or after each stage is completed) would be required to confirm that odour criteria has been met.
- Proposed ongoing monitoring would be required to ensure criteria is being met.
- Complaint handling – Note Council is not the Appropriate Regulatory Authority (ARA). The WIC Act allows for the Minister to appoint Inspectors and Authorised Officers with respect to compliance.
- Are there any land parcels closer than the nearest noise sensitive receivers that have a dwelling entitlement?
- Consideration of relevant buffers with respect to EIS Guideline – Sewerage Systems (Department of Urban Affairs and Planning, Sept 1996) to be made by Council's Water and Wastewater Unit.
- Depot Road has been labelled Pine Ridge Road.

5.13 Visual Impact

The REF states that it would be unlikely that any visual amenity impacts in the short to medium term will occur. Medium to long term the REF states that vegetation screening will be used to reduce any potential loss of visual amenity.

This aspect of the proposal need to be reviewed in detail. The proposed WWTP is proposed at the entry of the estate and within 400m of a Town Centre and already approved subdivided residential land.



400m buffer to proposed SP2 Land

Given reticulated services are already catered for in this location the visual implications of the proposed need serious review.

5.14.1 Potential impacts (Waste Management)

The REF notes a number of management measures with regard to the removal of waste products from the WWTP.

Council has concerns that the redundancy for inflow and for sludge storage is inadequate. The plant is designed on average dry weather flow plus ten percent and has two 330kL "redundancy tanks" for primary treatment. It is questioned as to whether this is adequate and places a high reliance of control on incoming pumps to maximise storage in the field rather than balance tanks at the plant.

Council also has concerns that sludge production is estimated at 40 kL/day and storage of 80kL is provided. This means that sludge removal will be vital to keep up as any break of more than a day could lead to potential overloading of the storage tanks once the development has reached maturity.

There are no agreements in place for the removal of grit and screenings, receipt of Waste Activated Sludge etc.

5.15 Cumulative Impacts

The REF states that "*...In comparison to the previously approved business as usual model, the proposal has significantly less impacts in its construction and operation. The proposal provides benefits through reduced energy consumption, reduced potable water demand, increased use of recycled water and no overflows into the*

receiving environment". There appears however to have been no definitive analysis and assessment to support the purported benefits as being real.

The REF has incorporated an assessment of the cumulative impacts associated with the proposed WWTP (Appendix A of the REF), as required under Clause 228 (2) of the EP&A Act. As noted throughout this submission, it is considered that insufficient assessment has been undertaken to confidently conclude that the proposal complies with the provisions of Clause 228(2). Based on the information provided with the REF, it is considered that an EIS is required.

6 Environmental management

6.1 Summary of safeguards and management measures

As noted above, should a Licence be granted for the proposed development, it is considered warranted that all commitments associated with the application and REF be conditioned as part of the Licence.

7 Conclusion

7.3 Social / Community Effects

The REF's claimed benefits are not considered to be benefits, as the alternative of using TSC services will have the same benefits. The existing Council system has been developed over many years to include the development of Kings Forest Estate.

7.4 Economic Context

The REF's claimed beneficial effects are not considered to be any different to the development of the estate using Council's conventional system to develop the community. There is no substantial analysis to demonstrate that proposed benefits are real.

7.5 Ecologically Sustainable Development

Council agrees that the principles of ecologically sustainable development are important and govern Council's activities in the area of water supply and sewerage services.

For the REF to claim that the proposed development is superior is difficult to accept in the absence of accurate modelling that includes the energy consumption and embedded greenhouse gas emissions associated with the proposed collection system, advanced water treatment and distribution of recycled water. Such a proposal will still have the need to dispose a portion to the environment through a system that will necessitate its further treatment. It is not considered that the proposed development is more sustainable than the conventional system, which returns water to the environment in accordance with licence conditions and has the economy of scale to reduce treatment and energy costs.

The REF's (inter-generational equity) statement that "...*The proposed development responds in the positive to inter-generational equity providing a modern alternative to traditional sewerage treatment systems, an alternative source of water and does not require typical discharges of sewerage into the environment*", is considered to be a misrepresentation of Council's existing system.

Council's sewerage treatment systems do not discharge "sewerage" (sic) into the environment. Only treated effluent is discharged into the environment in accordance with environmental licences. In addition, the use of treated effluent by the proposed development for irrigation is considered to be a discharge to the environment.

Public Interest

Public interest needs to be taken into consideration when assessing the proposed development. Is the proposed site for the WWTP appropriate in terms of impact upon the surrounding locality? The WWTP serves no benefit for the surrounding community, with only the Kings Forest Estate being serviced by the proposal.

Alternatively, it is considered appropriate that the Kings Forest Estate development be serviced by way of standard connection with Council's infrastructure, as approved under Concept Plan Approval MP06_0318 and Project Approval MP08_0194 for the residential subdivision of Precinct 5.

Broader concerns

It should also be noted that Council has previously made submissions to the Department of Planning and Environment advising of Council's preference for a gravity sewer system as opposed to pressure sewer which has been proposed by the proponent. Additionally Council would have concerns if it was to be nominated as the 'operator of last resort' for the water supply and sewerage system proposed by the proponent. It is considered that these systems are unconventional in nature and will ultimately provide a lower level of service to this development.

For further information regarding any of the matters raised above, please contact Denise Galle on [redacted].

Yours faithfully

[redacted]

Iain Lonsdale
ACTING DIRECTOR PLANNING AND REGULATION