Application issues and Comments Summary

Assessment against 20B chair's recommendations

Note: The works approval expires when the works are inspected and verified by the EPA. The ongoing operational procedures are detailed in the EIP which must be submitted to the EPA prior to the completion of the works pursuant to condition 3.1 of the works approval.

No	Issue/Comment	Applicants proposal/Response	EPA Response
1	A communication strategy be employed by the applicant to ensure a more swift process in future proposals or applications	Not a requirement of the works approval application.	EPA supports this recommendation and it is a requirement of the EIP.
2	A site visit should be enabled for all the neighbours.	Willow Creek Vineyard organized a site visit for neighbours on 1/10/2009.	EPA supports this recommendation and notes that the site visit for the community members has already occurred.
3	The application should be further updated to clearly specify the applicant's intents especially with regards to the various options under the proposed Irrigation system.	The applicant provided additional information regarding irrigation requirements and nutrients balance.	The final proposal is acceptable to EPA and Condition 2.2 of the works approval requires that the area used for irrigation is not less than 6ha.
4	The question of whether the alarm system should have internal lights as well as external. It is recommend that it is ensured that the warning lights are visible and if they're not then light should run inside somewhere. It should also	Two high level alarms are proposed to be installed to prevent the dam overflowing. - A yellow alarm will advise of rising wastewater storage level, - a red high level alarm will alert the vineyard manager to the fact that in 24 hours the pump station at the treatment plant will shut down. The high water level alarm signals are to be	The proposed alarms are acceptable to EPA. The high water alarm lights will be visible at the restaurant and an alarm signal will be installed to the kitchen. Maintenance of the alarms is a requirement of the EIP

	be a requirement within the management plan for the lights to be checked appropriately.	located at the highest point on each of the three biological filter housings. The strobe lights will be clearly visible to the view line of the restaurant and to all grounds staff. A combined alarm signal wire to the restaurant kitchen will alert staff immediately if an alarm signal is engaged at the treatment plant.	
5	The irrigation management plan should be part of the condition of the approval.	The applicant provided a site suitability assessment for wastewater irrigation that demonstrates: soil type, a 6 ha irrigation area and proposes very low irrigation rate. They argue that environmental issues such as soil salinity and accumulation of nutrients can be managed sustainably. Due to the use of sub-surface irrigation method, run-off of irrigated wastewater from the irrigation area is practically impossible.	The applicant provides enough information to conclude that the wastewater irrigation can be managed sustainably. The irrigation management plan is a requirement of the EIP.
6	The protection of the existing waterway should be a high priority	The following measure will be employed to protect the unnamed creek that traverses the Willow Creek site (thus water dams, as well) from contamination: <u>Buffer Distances</u> The proposed treatment plant will be situated approximately 26 meters from the banks of the water dams. The plant will be enclosed in a 0.4 meter high clay bund. The nearest irrigation area (block 2) is situated approximately 60 meters away from the water dams. The winter storage dam is located 90 metres away from the water dam.	All protection measures outlined are acceptable to EPA. The protection measures designed to protect the waterway are considered to be robust, resulting in a very low risk of any contamination occurring. Additionally, the works approval requires that: • the bund around the wastewater treatment plant and the chemical storage area must be designed in accordance with EPA *Bunding Guidelines No 347;* and • any environmental issues that result from construction the winter

		<u>Surface Water</u> All treated wastewater will be re-used for irrigation at the Willow Creek site. The subsurface irrigation will be used to distribute treated wastewater to grass between vine rows on blocks 2 and 4. No run-off from irrigation areas is anticipated, due to the type of irrigation and the irrigation rate proposed. The winter storage dam is designed for 90 percentile wet year. A minimum freeboard of 0.5 meters will be maintained on the winter storage dam to prevent overtopping. There are two water level alarms proposed to alert operators of the site to high water level in the dam. If corrective actions (such as irrigation of the reserve land, or eduction by tanker) are not taken within 24 hours the high level alarm is activated; the pump in the pumping well that delivers treated wastewater from the treatment plant to the winter storage dam will automatically be shut down preventing overtopping of the dam. <u>Chemical Storage</u> All liquid chemicals will be stored in the bunded area, enclosed in the shed.	storage dam must be managed in accordance with EPA requirements.
7	It has also been noted that a question was raised about 1 in 100 year floods and whether they might have an effect on Willow	See EPA response	Because the catchments area for the unnamed waterway is very small (below 60 ha), Melbourne Water and SE Water do not have any data regarding 1:100 year flood

	Creek, especially as neighboring property had been asked by SE Water to carry out work on the waterway. It is further recommended that this is checked to determine if it needs to be considered as part of the assessment.		level. The clay bund that will be built around the wastewater treatment plant, will prevent any flood water entering or leaving the wastewater treatment plant. The topography of the site is such (8% slope) that it makes it practically impossible to be ever flooded.

The amended application of works approval provided on 27/09/2009 and 6/10/2009 addressed the majority of environmental issues raised by community. However, below is a summary of main community concerns, along with the company and EPA's responses to them.

SUMMARY OF OTHER RELEVANT COMMUNITY CONCERNS

	Issue/Comment	**Applicant's Proposal/Response**	**EPA Response**
8	Under-estimation of daily wastewater generation, capacity of wastewater treatment plant, capacity of winter storage dam and irrigation area.	<u>Daily flow rate</u> The proposed daily wastewater flow has been re-assessed and increased from 22 kL/day to 30 kL/day.	<u>Daily wastewater flow</u> EPA agreed with the concerns raised by community members' that the daily flow calculation estimate in the original application had been substantially underestimated. Following EPA assessment and subsequent EPA discussion with the applicant, the proposed daily flow rate was reviewed by them and has been increased from 22 kL/day to 30 kL/day. The current daily flow rate proposed by the company is consistent with that calculated

		<u>Treatment plant</u> The company proposes to install three trickling filters in series with maximum hydraulic capacity of 35 kL/day for each stage (maximum daily wastewater flow to be treated is estimated at 30 kl/day). <u>Winter storage and irrigation area</u> The company updated proposal is for installation of a winter storage dam with a capacity of 3.6 ML and irrigation of treated wastewater on 6 ha of vineyards.	by EPA as being reasonable given the used proposed. The proposed treatment plant has sufficient capacity to treat wastewater from Willow Creek Vineyards to class B quality The size of the winter storage dam and irrigation area has been re-calculated in accordance with the revised maximum daily flow. Consequently, the winter storage capacity has been increased from 1.8 ML to 3.6 ML. The winter storage capacity of not less that 3.6 ML is required by condition 2.1 of the works approval. The irrigation area has been increased from 1.69 ha to 6.0 ha. The irrigation area of not less that 6 Ha is required by condition 2.2 of the works approval.
9	Run-off from irrigation area impacting water dams and creek	The company provided a detailed site suitability assessment. The assessment shows that the soil at the site has permeability ranging from 0.122m/day to 0.179 m/day. A 6 ha irrigation area is proposed. A low rated sub-surface irrigation system is proposed for wastewater irrigation. The closest irrigation area is located approximately 60 meters from the water dam	The size and location of irrigation area as well as method of irrigation proposed is consistent with EPA requirements. No run-off to neighbouring property is anticipated from the irrigation area.
10	Measures proposed to deal with power interruption, accidental	The company proposed the following safeguards for the wastewater treatment plant	The proposed safeguards are acceptable to EPA.

	chemical spills, over toping of winter storage dam Safeguards/monitoring in place to prevent any release of treated wastewater from holding dams	and irrigation system: <u>Power interruption</u> Back-up generator will be provided to power essential equipment (such as pumps and blowers). Automatic re-start mechanisms will be fitted to provide power supply once it has been restored. There is sufficient storage capacity within the biological filter to store wastewater during a power interruption (for up 19 hours). <u>Wastewater treatment malfunction</u> There will be three back-up pumps for the transfer of wastewater. The plant has an alarm system to indicate pump failure. <u>Winter storage dam overflow</u> Stormwater from the nearby area will be diverted from the winter storage dam. A freeboard of 0.5 meters will be maintained to prevent any wastewater overflowing. Two high level alarms will be installed to alert site operators of high water levels in the storage dam. <u>Chemical spills</u> All chemicals will be stored and used over	A contingency plan for the site is a requirement of the EIP.

		impervious bunded surfaces. Seepage of wastewater to groundwater Wastewater at all stages is contained in either concrete tanks, poly-tanks or clay lined storage.	
11	EPA to require wastewater treatment to Class A and reuse for toilet flushing and irrigation	The company proposes class B wastewater for irrigation of vineyards only.	Proposed Class B effluent irrigation is in accordance with EPA requirements.
12	Monitoring of the creek should be implemented before and after development and results known to neighbouring properties	There is no discharge to surface water proposed.	All treated wastewater must be irrigated at the site. No discharge to surface water is permitted. Consequently, no monitoring of the creek will be required by EPA.
13	Irrigation system design not credible. Rainfall data normal and wet seasons should be used	The company used rainfall and evaporation data from the nearest Meteorological Station (Devilbend Reservoir). The 90 percentile rainfalls were used to determine the required capacity of winter storage dam and of irrigation area.	The meteorological data used is acceptable to EPA. The data include all rainfalls over 27 years.
14	Chlorine disinfections , manual system , not confident will work EColi level could be high	The company proposes calcium hypo-chloride for disinfections of wastewater. The chlorine dispenser holds enough calcium hypo-chloride tablets suitable for weekly disinfections of wastewater.	The proposed disinfections system is acceptable to EPA. The EIP will require procedures to be in place to monitor number of tablets in the dispenser and their timely addition to the dispenser. Secondary disinfections will take place in the winter storage dam via UV radiation. As below-ground irrigation is proposed to be used, the risk of human contact with wastewater is very low. In comparison, there is no requirement to disinfect wastewater for the smaller

			treatment plant, if a below-ground irrigation is used.
15	Treated wastewater storage dam located on unnamed waterway. Relocation of the winter storage dam to the front of the Willow Creek site	The current winter storage dam is located approximately 90 meters from the unnamed waterway. The current winter storage dam will be extended to capacity of 3.6 ML. The extended winter storage dam will be located approximately 90 meters from the unnamed waterway.	The proposed location of winter storage dam is acceptable to EPA.
16	What long term controls, monitoring, penalties will be put in place to ensure long term maintenance, upkeep	See EPA response	It is an offence pursuant to the requirements of the *Environment Protection Act 1970*. to discharge waste beyond the boundary of a premises. Any discharge of waste beyond the boundary of the premises or into waterways can be reported to EPA on 24-hour pollution report line 96952777. The EIP will require monitoring of the wastewater treatment plant
17	Do the wastewater daily flow and organic loadings take into account of vineyard wastewater?	Winery wastewater from fermentation tanks and barrel washing including lees will not be discharged to the proposed wastewater treatment plant. It will be stored in a tank adjacent to the winery and periodically removed by vacuum tanker.	Measures acceptable to EPA

The following issues are not covered by EP Act 1970.

	Issues/comments	**EPA Response/comments**

18	Treatment plant an eyesore	Not EPA issue
19	Vines need to be removed	This is an issue managed by local council
20	Irrigation of wastewater will impact quality of grapes , thus wine quality	Not EPA issue