Appendix A – Public Comment and Proponent Response to EPA Submission

Submission Details	Comment	Proponent response	Page of Amendment/Document
Flora and Vegetation			
Public Submission 3	A detailed vegetation, flora, and fauna survey be conducted in the study area during the spring period according to the Environmental Protection Act (WA) Ten Clearing Principles	The flora and vegetation surveys undertaken within the MDE are listed in section 453 of the Environmental Referral Additional Information Document (December 2018). Talison engaged Onshore Environmental to undertake a two-season survey (Autumn and Spring 2018) the results of which have been discussed in section 5.3.8 of the Environmental Referral Additional Information Document (December 2018). The survey report is included in Appendix B of this document. The survey was undertaken in accordance with EPA Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment 2016.	Section 5.3 Appendix A - Onshore Flora and Vegetation Studies
Public Submission 3	Avoid clearing and expansion actions that will affect the aforementioned threatened and vulnerable flora, wetland vegetation, and indigenous fauna habitat vegetation as required under the Environment Protection and Biodiversity Protection Act	As per discussion in section 5.3.8 and 5.5.1 (Conservation significant flora) of the Environmental Referral Additional Information Document (December 2018) there is no threatened or declared rare flora within the MDE. No direct or indirect impacts to the known location of *Caladenia harringtoniae* (which is associated with a winter wet dampland) located 560m south west of the MDE boundary are predicted in association with the proposal (as discussed in section 5.5.1 (Conservation significant flora).	Section 5.5.1 Section 5.3.8 Appendix A - Onshore Flora and Vegetation Studies
Terrestrial Fauna			
Public Submission 3	A detailed fauna survey be conducted in the study area according to the Environmental Protection Act (WA) Ten Clearing Principles. It is recommended that further independent surveys of the area are completed due to the amount of terrestrial fauna in the area, especially the number of vulnerable and endangered species, so the impact of the expansion is known.	Talison have undertaken both Targeted and Level 1 Fauna surveys over the Talison Greenbushes mining leases. A list of surveys undertaken is included in section 6.3 of the Environmental Referral Additional Information Document (December 2018). The Biologic 2018 study was undertaken in accordance with the EPA Technical Guidance Terrestrial Fauna Surveys 2016. The key measures to avoid potential impacts to terrestrial fauna associated with the Proposal can be found in Section 5 of the ARI. The fauna surveys completed have all been led by trained and experience zoologists. The impacts of the expansion have been assessed in section 6.5 of the Environmental Referral Additional Information Document (December 2018) and key mitigation measures to avoid and minimise impact are described in section 6.6.	Section 6.3, 6.5 and 6.6 Appendix C- Fauna Studies Biologic Appendix D - Black Cockatoo Reports 2018 Appendix E - Western Ringtail Possum Reports 2018
Public Submission 3	Given the status of Black Cockatoos as vulnerable and endangered, the likelihood of the three species being in the expansion area, and the impact habitat destruction will have on breeding and overall species success, it is recommended that the expansion does not go ahead	Talison has described measures which will be or have been implemented to avoid and minimise impact to black cockatoos and their habitat in section 6.6 of the Environmental Referral Additional Information Document (December 2018). Talison is proposing to minimise the impact on breeding hollows and offset the impact. Talison has developed an offset proposal, as described in Chapter 10 and Appendix N of the Environmental Referral Additional Information	Section 6.3.5 and 6.5.1 (Black Cockatoo) Appendix D - Black Cockatoo Reports 2018 Appendix N - Talison Offset Proposal 2018

		Document (December 2018) to address the significant residual impact of the Project to threatened Black Cockatoo species. The number of suitable breeding hollows which will be lost as a result of the proposal is 14. A field assessment of potential breeding trees undertaken by Onshore Environmental (2018) found that there is a higher density of potential breeding trees outside the MDE than within, and potential breeding trees outside the MDE had a higher incidence of breeding hollows (7-34%, average 21%) when compared with the potential breeding trees within the MDE (0-12%, average 2%) . This indicates habitat outside the MDE has greater capacity to support breeding than the area which will be impacted.	
Public Submission 3	As Western Ringtail Possums are critically endangered and there is a lack of knowledge regarding their population status in the proposed expansion area, it is recommended that further independent surveys over a greater period of time are completed to determine if the Western Ringtail Possum species will be impacted.	A small area of the MDE (18 ha) is considered poor to marginal habitat (but not critical for survival due to anthropogenic impacts) for the WRP (refer to section 6.3.6 of **Environmental Referral Additional Information Document (December 2018)** for further details). **Survey of the MDE by Harwood (2018) and Onshore Environmental (2018) has not identified any evidence of the species utilising the habitat, dreys or suitable hollows for the species (refer to section 6.3.6 for further details and consultant reports in Appendix D). The only potential evidence of WRP use of the MDE was two records of scats which could not be confirmed as WRP due to their similarity with those of the Common Brushtail Possum.** Talison has submitted a Conservation Significant Fauna Management Plan in Appendix F of the **Environmental Referral Additional Information Document (December 2018)** to be assessed by the EPA and will implement the plan inclusive of any recommended changes.	Section 5.3.6 Appendix E - Western Ringtail Possum Reports 2018 Appendix F - Talison Management Plans
Public Submission 3	It is recommended that mitigation measures are addressed and assessed to lessen the impact the expansion will have on terrestrial fauna.	The key measures to mitigate potential impacts to terrestrial fauna associated with the Proposal are outlined in Section 6.6.2 of the **Environmental Referral Additional Information Document (December 2018) which is under assessment by the EPA.** Talison has submitted a Conservation Significant Fauna Management Plan with for assessment by the EPA and will implement the plan and any recommended changes.	Section 6.6.2 Appendix F - Talison Management Plans
Terrestrial Environmental Quality			
Public Submission 3	Potential dangers regarding the quality of the soil are imminent and are underestimated. Hence, The Wilderness Society recommends evaluating more deeply the potential risks and consequences regarding the terrestrial quality of the area.	**Talison currently undertake all of the activities which could result in these impacts (waste rock and tailings storage, chemical and hydrocarbon storage, land clearing and rehabilitation) without significant impact to the terrestrial environmental quality through implementation of appropriate procedures (part of an ISO 14001 certified EMS) and will continue to do so. Management plans and procedures will be reviewed as part of expansion to ensure they are appropriate to the expanded operation and activities.** Due to historical disturbance of the site, the existing soil profile has in some areas	Appendix F - Talison Management Plans

		already been subject to significant disturbance and the native soil profile has been replaced with dredge material in areas. Talison has undertaken numerous material characterisation studies over the history of the mine to understand the risk of acid and metalliferous drainage (AMD) and has established procedures in place for handling and placement of any material considered potentially a risk of AMD. Design and management of waste storage landforms is currently regulated through the site operating licence (TSF only) (L4247/1991/13), various mining proposals and the mine closure plan. Modern mining activity inclusive of waste rock and tailings storage in landforms has been occurring for over 30 years at the Mine with no evidence of significant impact to terrestrial environmental quality to date. A weed and hygiene management plan has also been submitted in Appendix F of the **Environmental Referral Additional Information Document (December 2018) describing management measures which will be undertaken to mitigate the risk of weed and dieback impact to terrestrial environmental quality.**	
Inland Waters			
Public Submission 2	I am concerned that there is no historical data in relation to water flows (quantity and quality) into Salt Water Gully, which is an important water source for properties around mine.	Monitoring of water quality at locations on the boundary of the Mine site has occurred since 1997 which has established baseline data ahead of the expansion. Water quality and flow volumes are reported to DWER on a quarterly basis when these streams flow as per the requirements of the site operating licence L4247/1991/13. Seepage from the existing waste land form has been periodically monitored over this time and continuous monitoring of all flow paths now occurs and is reported annually to the DWER as per conditions of the site operating licence L4247/1991/13. Talison manages surface water in accordance with a Surface Water Management Plan (SWMP), which considers impacts to surrounding catchments. The MDE is not a significant part of the Salt Water Gully catchment so does not have a significant impact on the total flows.	DWER Part V licence L4247/1991/13
Public Submission 2	I assume that Salt Water Gully has a connection to ground water supplies and quality, and, if so, that increases the importance of maintaining the flow and quality of water to it. My property relies on a shallow well for water supply (including for stock watering, irrigation and personal use – although some rainwater is used for personal use also).	Talison have installed an additional four (4) monitoring bores at the base of the Floyd's WRL to monitor for potential impacts to groundwater. These bores are located up gradient of the Saltwater Gully and therefore monitoring of the bores can be used to detect any impact to groundwater which may flow through to Salt Water Gully. Talison has conducted Surface Water and Hydrogeological studies for the Proposal which indicate there is potential areas of groundwater discharge to the Salt Water Gully. The studies also considered water quality monitoring results from the Mine (collected since 1997 as per operating licence L4247/1991/13 requirements) to establish baseline water quality ahead of the expansion. Future monitoring of the bores, with comparison to baseline data, will be used to identify if impact to	DWER Part V licence L4247/1991/13

		groundwater quality is occurring. The Hydrogeological and Surface Water assessments will inform future applications for the mine expansion under the Mining Act 1978 and Part V of the EP Act 1986 which will be submitted in early 2019 for assessment.	
Public Submission 2	I would also like to see measurements taken of the current capacity and quality of water in the shallow well on my property, to ensure that there is no degradation of quantity or quality of water drawn from it.	Regular groundwater monitoring has been undertaken since 1997 and water levels have remained relatively stable during the period of monitoring. The results show seasonal fluctuations whereby water levels reach a maximum at the end of winter in October, then decline to the lowest point at the end of summer in April. Talison conducts groundwater level and quality monitoring at locations described in the site operating licence L4247/1991/13, with the results reported to the DWER annually. Groundwater monitoring will continue as per the licence requirements, including any additional requirements included for the mine expansion. Talison has installed additional monitoring bores on the eastern boundary of the MDE to monitor for any ground water impacts from the Floyds WRL. These are located in close proximity to, and downgradient of the WRL so if impacts occur, they are identified early and **can be investigated and mitigation to address developed. Talison has previously and will continue to test water quality for surrounding neighbours upon request.**	DWER Part V licence L4247/1991/13
Public Submission 2	I would like to see some historical data collected against which future samples can be compared, for future management of water runoff to Salt Water Gully. This will ensure the ongoing quality and quantity of that water source. I would also like to see investigation of the contribution of water run-off in the Floyds catchment to ground water supplies, and ongoing monitoring to ensure that the contribution of groundwater (quantity and quality) is not detrimentally affected.	Talison has been undertaking surface and groundwater monitoring at the site since 1997. Monitoring data is reported annually to the DWER as per licence L4247/1991/13 requirements. The data obtained from this monitoring has been used to build and calibrate a Water Balance Model using GoldSim. Talison has implemented a number of improvements to its water circuit to reduce loss, improve utilisation and water quality These changes will enable Talison to continue to manage any water related aspects at the site as per existing licence conditions, these changes will be captured in an updated Surface Water Management Plan to be submitted to DWER. Talison has undertaken a Surface Water Assessment and Hydrogeological study in preparation for the mine expansion in order to establish baseline water levels, quality, catchments and flows prior to commencing expansion works. These reports will inform the *Mining Act 1978* and EP Act, Part V applications which will be submitted in early 2019 to the DMIRS and DWER respectively for the expansion Proposal.	DWER Part V licence L4247/1991/13
Public Submission 3	TWS recommends to not approve the construction of the TSF4 until the quality of the water within the development does not exceed the ADWG limits, or new limits have been established to maintain the water resources healthily and in good quality or at least in their original conditions. Also, it is	No Public Drinking Water Source Areas exist immediately downstream of the Mine. The Hester Brook, Woljenup Creek, Salt Water Gully, and Blackwood River catchments downstream of the Site are located within State Forest, Crown Reserve and Freehold land. Land-use generally consist of agricultural uses including grazing, perennial horticulture and	DWER Part V licence L4247/1991/13

	recommended to provide the specific impacts and the mitigation plan for the Woljenup creek and other waterways that may be affected with the mining activity and an evaluation of the impact in the drinking sources of the area.	rural residential. These waterways are unlikely to be used for human consumption given their elevated salinity levels, which have been observed prior to Talison operations. These waters may be used for livestock and irrigation. Talison has an existing surface water management plan. This plan will be updated to include changes associated with the Proposal. This plan ensures supply of sufficient water to the Mine while maintaining flows in the surrounding areas. Surface water impacts from vegetation clearing and infrastructure / landforms are likely to be minor and localised. Talison has undertaken a Surface Water Assessment and Hydrogeological study in preparation for the mine expansion in order to establish baseline water levels, quality, catchments and flows prior to commencing expansion works. These reports will inform the *Mining Act 1978* and EP Act, Part V applications which will be submitted in early 2019 to the DMIRS and DWER respectively for the expansion Proposal.	
Public Submission 4	Development of a comprehensive pre-proposal, surface water quality dataset for my property to establish the current surface water quality and quantity as a baseline for any future measure of environmental impact, together with ongoing monthly monitoring with results being made publicly available each month.	Talison has undertaken surface water quality monitoring since 1997. The results indicate that surface water quality is generally good and provides a good baseline to monitor impacts of the expansion. The existing site licence requires the reporting of water quality monitoring results in an Annual Report submitted to the DWER. Talison is willing to provide the relevant results to the landowner upon request. Talison has undertaken a Surface Water Assessment and Hydrogeological study in preparation for the mine expansion in order to establish baseline water levels, quality, catchments and flows prior to commencing expansion works. These reports will inform the *Mining Act 1978* and EP Act, Part V applications which will be submitted in early 2019 to the DMIRS and DWER respectively for the expansion Proposal.	DWER Part V licence L4247/1991/13
Public Submission 4	Development of a mutually agreeable water management strategy designed to specifically ensure; (a) The quantity of water entering my property is not negatively affected by the mining operations. (b) The quality of water entering my property is not negatively affected by the mining operations.	Talison will continue to manage surface water flows within the expanded MDE and install facilities to collect potentially impacted flows. The Surface Water Management Plan will be refined to minimise (and monitor) potential impact to water quality and availability. Talison, will increase water monitoring activities based on the expanded MDE and implement additional updates with respect to proposed infrastructure and associated operating rules, monitoring and maintenance requirements. These changes will be captured in an updated Surface Water Management Plan which will be submitted to DWER as part of applications for the Mine Expansion, under Part V of the EP Act.	DWER Part V licence L4247/1991/13

Public Submission 4	Development of a mutually agreeable groundwater management strategy designed to specifically ensure that he quality of groundwater on my property is not negatively affected by the mining operations and an agreed approached to intervention should the results indicate a declining trend in water quality. A commitment to continue monitoring of groundwater in the long-term, for example 20 + years.	Talison have installed an additional four (4) monitoring bores at the base of the Floyds WRL to monitor to identify potential impacts to groundwater. These are located in close proximity to, and downgradient of the WRL so if impacts occur, they are identified early and can be investigated and mitigation to address developed. Groundwater monitoring is undertaken in accordance with the requirements of the site operating licence L4247/1991/13 and it is anticipated that additional monitoring may be included in the licence to assess for impacts to groundwater associated with mine expansion activities.	DWER Part V licence L4247/1991/13
Air Quality			
Public Submission 2	Given the proximity of my property to Floyds, I expect some dust impacts. I would like to see a dust monitoring station (regularly calibrated) on my property, so that I am not in a position where I have to make complaints to have dust testing conducted and mitigation measures imposed.	Talison contracted an independent consultant to develop a predictive dust model. The resultant Dust Impact Assessment report was peer reviewed and amended based on the recommendations of the peer review. It is highlighted that model predictions are based on a single modelling scenario using worst case meteorological conditions and the operational year predicted to have the highest dust emissions therefore the predicted dust levels are not representative of typical operating conditions. As per section 7.6 of the **Environmental Referral Additional Information Document (December 2018) Talison proposes to establish** additional real-time monitoring of dust levels and meteorological conditions, and implementation of additional dust controls or modified activities at set trigger levels in order to reduce the risk of dust emission impacting on sensitive receptors. Monitoring locations have been proposed based on locations which are predicted to have the highest risk of being impacted by dust emissions, rather than specific properties. The ultimate location of the dust monitors will be dependent on availability of services and the suitability of the site with reference to the requirements of the relevant Australian Standard (AS 3580.1.1:2007). As per the Talison Dust Management Plan and monitoring procedures, and requirements of the site operating licence L4247/1991/13, the existing High-Volume Dust sampler is visited and/or serviced on a two-monthly basis. Calibration records are maintained. The existing Tapered Element Oscillation Microbalance Dust Monitor (TEOM) is also visited & serviced by Compliance Monitoring on a two-monthly basis. Talison will continue to undertake dust monitoring in compliance with licence conditions and the internal Dust Management Plan and monitoring procedures.	Section 7.6 Appendix G - Talison Dust Impact Assessment Peer Review and Revised Assessment2

Public Submission 3	Amidst a lack of thorough assessment of the impact of existing air pollution on surrounding sensitive receptors, the proposal for expansion must be rejected.	Talison contracted an independent consultant to develop a predictive dust model. The resultant Dust Impact Assessment report was peer reviewed and amended based on the recommendations of the peer review. Subsequent to receipt of public comments on the Proposal in January 2019, Talison identified an error in the distance to sensitive receptors from the mine boundary detailed in table 5-2 of the Dust Impact Assessment Report. The errors have been corrected in R5 of the Report. An error was also identified in table 7-1 whereby the production for the life of mine was stated in Mtpa but should have read ktpa. This has also been corrected in R5 of the Report. The errors were transcription errors when developing the report and have not altered the dust model or its predictions in any way. As per section 7.5.1 of the **Environmental Referral Additional Information Document (December 2018), Talison recognise that p**redicting air pollution is a complex application and there are limitations with advanced dispersion models used to undertake predictions, due to the variability and limited predictability of modelling inputs. Real air quality concentrations are likely to be highly variable depending on emission levels and the persistence of particular meteorological conditions. The predicted results are therefore not representative of the typical level of impact which would be expected in the surrounding area, and rather are a conservative prediction of the maximum level of impact which could potentially occur. Talison has proposed (section 7.6) to undertake an expanded monitoring program prior to commencing the Proposal activities and throughout the operation of the mine, together with trigger levels which initiate additional dust control or reduced activity, in order to minimise impact to surrounding sensitive receptors.	Section 7.6 Appendix G - Talison Dust Impact Assessment Peer Review and Revised Assessment (Tables 5-2 and 7-1)
Public Submission 3	Similarly, on-site employee exposure to diesel and petrol fumes, and combustion emissions in their day's shift must be monitored to fully grasp the degree of impact the pollutants have been having on the employees. A recent study claims a persistently substantial exposure to diesel exhaust, as such they cannot be dismissed as insignificant (Peters et. al. 2018).	Referring to Peters et. al. 2018. the study found that exposure rates related predominately to underground mining activity. Although exposure to risk could be limited by regular maintenance of equipment or improved driving habits), transmission controls (e.g. ventilation) and exposure controls (e.g. enclosed working cabins or respiratory protective equipment where necessary). Employee information and training are also important for controlling exposure which is all part of Talison's current work procedures.	NA
Public Submission 4	The EPA require a dust management plan be developed and implemented that: Recognises dust as an impact on sensitive receptors; • Contains dust impact detection that does not rely solely on feedback (such as complaints) from the sensitive receptors;	Talison will continue to refine the current monitoring program and Dust Management Plan for the duration of the Proposal in accordance with these requirements. Talison proposes to establish additional dust monitoring in accordance with the recommendations of the Revised Dust Impact Assessment (GHD 2018a).	Section 7.6.1 Section 3.2

	• Dust monitoring that includes properties to the east of the mine and closest to the waste rock dump; • Includes a water balance to substantiate there is sufficient water supply for dust mitigation; • Contains pragmatic dust mitigation strategies that are proven to work; • Allows for monitoring data to be made publicly available if requested; & • Requires regular calibration, testing, maintenance and certification of the monitoring equipment; • Allows for stakeholder input, including that of sensitive receptors; • Require independent verification or peer review of monitoring results	Details of the key requirements of the Dust Management Plan are included in section 7.6.1 of the **Environmental Referral Additional Information Document (December 2018)**. Dust suppression with water is only of the dust controls implemented by Talison as per the Dust Management Plan and measures described in section 7.6.1 of the **Environmental Referral Additional Information Document (December 2018)**. Other key mitigation measures in the Plan include: • Application of binding agents (such as Gluon or RT5), • Progressive clearing of areas, so there is limited opportunity for dust generation from open areas, • Progressive rehabilitation of disturbed areas (which are at their final state) to minimise wind erosion from open areas, • Topsoil stripping and spreading activities will be restricted during high winds if dust cannot be adequately controlled. • Dust extraction units within the process plant and crushers. • Road sweeping. • Vegetated cover on the TSF. Further measures are outlined in section 7.6.1. The Dust Management Plan is adaptive and will be updated as required as activities change over time and alternative suitable dust controls are identified. As per the Talison Dust Management Plan and monitoring procedures, and requirements of the site operating licence L4247/1991/13, the existing High-Volume Dust sampler is visited and/or serviced on a two-monthly basis. Calibration records are maintained. The existing TEOM is also visited and serviced by Compliance Monitoring on a two-monthly basis. Talison will continue to undertake dust monitoring in compliance with licence conditions and the internal Dust Management Plan and monitoring procedures. Talison will also continue to engage with stakeholders and maintain open lines of communication as outlined in section 3.2 of the **Environmental Referral Additional Information Document (December 2018)**.	
Human Health			
Public Submission 1	Omission of the 'Human Health aspect' appears in its submission which I find most disturbing as lithium is highly toxic and poisonous.	Human Heath was not considered to be a key factor associated with the Proposal as impacts to human health associated with the Proposal are not expected to occur. There will be no direct emission of lithium from the mine. Talison mines spodumene ore (2-3% Li_2O, lithium oxide) which is processed to produce a spodumene concentrate which is only 6% Li_2O. The spodumene and spodumene concentrate have little risk of impact to health as the concentrate is chemically inert and has no, or very	Section 7.5 Appendix G - Talison Dust Impact Assessment Peer Review and Revised Assessment MSDS

		little, toxicity other than its direct physical effects within dust. Lithium within Li_2O is tightly bound to the crystal structure and therefore alone does not pose a toxicological problem. Noting that spodumene ore concentrate and tailings are inert, nontoxic materials. While dust emissions are predicted to occur from the mine, these are not expected to impact on human health. The Dust Impact Assessment predicts emissions from the mine (and cumulative impact with existing sources) will comply with the National Environment Protection (Ambient Air Quality) Measure of 50 µg/m3 over 24 hours.	
Public Submission 1	I also looked at the health problems related to lithium dust, as prevailing winds carry it across town and when and if those trucks run down into the valley, it will cause it to plume and billow and settle in the lowest area, which is the Greenbushes pool and wetlands area.	Talison mines spodumene ore (2-3% Li_2O, lithium oxide) which is processed to produce a spodumene concentrate which is only 6% Li_2O. The spodumene and spodumene concentrate have little risk of impact to health as the concentrate is chemically inert and has no, or very little, toxicity other than its direct physical effects within dust. Lithium within Li_2O is tightly bound to the crystal structure and therefore alone does not pose a toxicological problem. Noting that spodumene ore concentrate and tailings are inert, nontoxic materials. While dust emissions are predicted to occur from the mine, these are not expected to impact on human health. The Dust Impact Assessment predicts emissions from the mine (and cumulative impact with existing sources) will comply with the National Environment Protection (Ambient Air Quality) Measure of 50 µg/m3 over 24 hours. In 2014 Talison commission Tarah Hagen, MSc Environmental Toxicology ToxConsult Pty Ltd to prepare a report with respect to the Classification of spodumene concentrate with respect to MARPOL Annex V criteria during the analysis of this report it was found that: Conditions 1 & 2: Aquatic Toxicity The spodumene concentrate is not classifiable as a Class 9 Miscellaneous Dangerous Good (i.e. it is not an environmentally hazardous substance) (see Section 4.2). Therefore, with respect to the product's aquatic toxicity, it does not meet the conditions to be considered 'harmful to the marine environment' under the revised MARPOL Annex V (IMO 2012). Conditions 3-6: Human/animal toxicity From the composition information for the product (SGS 2014, Talison Lithium 2014), together with the particle size distribution results for the product (SGS 2014), ToxConsult determined the correct hazardous substance classification for the material according to the criteria of the GHS (UN 2013b). From the information provided, the concentrate is not classified as hazardous to human health.	Section 7.5 Appendix G - Talison Dust Impact Assessment Peer Review and Revised Assessment

		Talison along with their haulage contractor Qube have dedicated procedures in place to ensure all spodumene concentrate is covered when transported from the site. Containers and trailers must always be covered even when empty. Talison currently transport its product via road and has done so since commencement of spodumene mining in the mid 1980's.	
Public Submission 1	Breathing lithium dust or alkaline lithium compounds irritates respiratory tracts. Prolonged exposure to lithium can cause fluid to build-up in the lungs, leading to pulmonary edema.	Talison mines spodumene ore (2-3% Li_2O, lithium oxide) which is processed to produce a spodumene concentrate which is only 6% Li_2O. The spodumene and spodumene concentrate have little risk of impact to health as the concentrate is chemically inert and has no, or very little, toxicity other than its direct physical effects within dust. Lithium within Li_2O is tightly bound to the crystal structure and therefore alone does not pose a toxicological problem. Noting that spodumene ore concentrate and tailings are inert, nontoxic materials. While dust emissions are predicted to occur from the mine, these are not expected to impact on human health. The Dust Impact Assessment predicts emissions from the mine (and cumulative impact with existing sources) will comply with the National Environment Protection (Ambient Air Quality) Measure of 50 µg/m3 over 24 hours.	Section 7.5 Appendix G - Talison Dust Impact Assessment Peer Review and Revised Assessment
Public Submission 1	The metal itself is a handling hazard because of the caustic hydroxide produced when it is in contact with water causing an explosion. Also, prolonged exposure to lithium can cause nervous system disorders.	Talison mines spodumene ore (2-3% Li_2O, lithium oxide) which is processed to produce a spodumene concentrate which is only 6% Li_2O. Spodumene concentrate can be either sold for direct application in the manufacture of glass and ceramics or chemically processed to create lithium carbonate or lithium hydroxide, noting that this a downstream process and does not occur at the Mine.	Section 1
Public Submission 1	Use of Aerial Spraying	Talison uses aerial spraying to both eradicate and stop the spread of weeds on site so as not to impact the surrounding State Forrest and Landholders. Talison also uses aerial spraying for dust suppression to minimise its impacts. All aerial applications comply with the *Biosecurity and Agriculture Management (Aerial Application) Regulations 2018*. All persons are qualified to apply chemical products as per the regulation. To ensure awareness of the need to use chemicals safely and responsibly and users are competent in the aerial application of agricultural chemicals. To maintain protection of community and environment surrounding Talison's operations. Talison has a well-established Weed and Hygiene management plan.	Appendix F - Talison Management Plans
Social Surroundings			

Public Submission 1	Transport of lithium mineral concentrate, Trucking capacity/configuration	Talison along with their haulage contractor Qube have dedicated procedure in place to ensure all spodumene concentrate is covered when transported from the site. Containers and trailers must always be covered even when empty. Talison currently transports its product via road and has done so since commencement of spodumene mining in the mid 1980's Talison's Concentrate haulage contractor obtains approvals and complies with the permits issued by Main Roads WA for the transport of product.	Section 8.3.5, Section 7.6.1
Public Submission 1	Talison's Impact and Opportunity in Australia	The Proposal will have a sustained investment in the Australian economy. More than 85% of Talison's ongoing operational expenditure is expected to be spent within the Australian economy. Talison will continue to support the local economy through locally sourced goods, utilities and services creating economic value and supporting job growth within WA and the broader Australian economy. Locally and regionally the Proposal is expected to have positive social and economic impacts as outlined in Section 2.3 of the **Environmental Referral Additional Information Document (December 2018)**.	Section 2.3
Public Submission 1	In relation to the school, it appears the school is more important than the recreation areas, so whilst the children will be able to go to school, they will have nowhere to go after school as the areas will be a toxic poisonous waste land.	Talison see both education and recreation facilities as equally important to the community and injects considerable time and funds into both with the immediate Greenbushes Community and surrounding communities as outline in the Environmental Referral Additional Information Document (December 2018) (Section 2.3) Talison's proposal to locate the mine access road using the northern route will pass between the Greenbushes Pool and the Schwenkes water bird project, however, will be located to minimise impact on these recreational areas. Talison has supported the development of these areas in partnership with the shire and local groups and has made a commitment to continue these partnerships so many generations can enjoy the area. Mining activity has been occurring within the Greenbushes region since the late 1800's with modern mining methods being employed for over 30 years. There is no evidence of toxic or poisonous impacts occurring as a result of mining activities to date and as outlined in the **Environmental Referral Additional Information Document (December 2018)** will implement mitigation measures to ensure environmental impacts associated with the mine are minimised.	Section 2.3

		Talison mines spodumene ore (2-3% Li_2O, lithium oxide) which is processed to produce a spodumene concentrate which is only 6% Li_2O. The spodumene and spodumene concentrate have little risk of impact to health as the concentrate is chemically inert and has no, or very little, toxicity other than its direct physical effects within dust. Lithium within Li_2O is tightly bound to the crystal structure and therefore alone does not pose a toxicological problem. Noting that spodumene ore concentrate and tailings are inert, nontoxic materials. All containers and trailers used to transport spodumene concentrate must always be covered even when empty to prevent dust release. Talison is proposing to develop a mine access road in order to reduce truck traffic associated with the mine through the town centre which is significantly closer to the school the proposed route for the road.	
Public Submission 1	Lithium haulage also may dominate night-time traffic in the highway corridor, representing a much higher percentage of total traffic than the daily average cited by Talison management using Main Roads data.	Traffic data as cited by Talison is extracted from a Traffic Impact Assessment as prepared by GHD (May 2018) on the Greenbushes Expansion Project. Talison operations, including concentrate haulage, are continuous. Therefore, the quoted traffic numbers are representative over the 24-hour period. 24 hours operation decreases the intensity through towns and built up areas during the day.	NA
Public Submission 2	The increased height and proximity of the east wall of Floyds to South Western Highway also increases traffic noise on my property, as a result of the noise not being able to dissipate to the west.	Talison has updated the Noise Assessment for the mine expansion to ensure all sensitive receptors are identified in the report. The updated assessment identified that management zones will be required where there is a risk of noise exceeding Regulation 17 approved levels (night). Activities will be restricted within management zone/s where there is a risk of approved noise levels being exceeded. This will require Talison to implement additional noise monitoring to the east of the site. Additional monitoring will be included in the Noise management plan which will be submitted to DWER (Noise Branch) for approval under the Regulation 17 requirements. Talison as per its Noise Management Plan and Regulation 17 approval is also required to communicate identifiable mine site noise events to the DWER. All noise monitoring equipment are required to calibrated and serviced as scheduled by a suitably qualified person.	Section 8.5.3 Appendix L - Noise Assessment and Management Plan
Public Submission 2	I am concerned that there is no noise monitoring from my property or even from the east face of Floyds, given that it can be expected from Talison's own noise modelling that my property will be affected by noise.	Noise modelling predicts that Talison can comply with their current Regulation 17 Noise Approval under worst case conditions with the implementation of additional noise mitigation as outlined in Section 8.6 of the Environmental Referral Additional Information Document and Appendix M - Noise Assessment and Management Plan.	Section 8.5.3 Appendix L - Noise Assessment and Management Plan
Public Submission 2	The EPA should monitor noise on a continuous basis from or near to the east face of Floyds and my property and should place conditions on the operation of Floyds during times of	Monitoring and management of noise emissions is currently undertaken in accordance with a Noise Management Plan to prevent exceedance of the Regulation 17 Approval Limits. Talison	Section 8.5.3 Appendix L - Noise Assessment and Management Plan

	noise exceedances (especially weather related) and at night and early morning.	and GAMG implement the joint Noise Management Plan which is approved by the DWER CEO (Appendix L). Talison will submit the updated Noise Management Plan to DWER for approval. The plan also specifies continuous monitoring of noise by Talison.	
Public Submission 2	Ideally, the surface of the landform would undulate and mimic the surrounding landscape so that it blends into the surrounding landscape when viewed from my property. I am also concerned with the shading effect late in the afternoon as a result of the height of Floyds obscuring the natural horizon behind, thereby reducing the amount of sunlight over my property.	Achieving an optimum level of visual amenity is one of the key drivers of Talison's rehabilitation activities at the site. To achieve this Talison will continue to liaise with relevant government agencies including DBCA, DMIRS and DWER regarding Closure Planning and Rehabilitation of the Mine and continue implementation of the Mine Closure Plan and rehabilitation strategies as outlined in 8.6.2. The distance of receptors from Floyds WRL and the existing land profile will result in no measurable change to the light obtained at the residents. The proposed height of the waste dump has previously being approved through DMIRS Mining Approval.	Section 8.6.2 Appendix K - Talison Visual Impact Assessment 2018
Public Submission 2	Floyds is visible from my property. The expansion of Floyds, across a consistent height, will create a landform which is not in character with the natural form of the surrounding landscape. Once cleared, the cleared area will be visible for a substantial period of time until rehabilitated. The best mitigation factor to minimise the effect of land clearing on the amenity of my property is for the EPA to require progressive rehabilitation, and to minimise the portion of Floyds which is in operation at any one time. Land clearing should be limited so that clearing does not occur in advance of land requirements.	The waste dump is designed to follow an existing ridgeline, thereby minimising the change to the natural surrounds. Talison implement a Mine Closure Plan which is required to be updated on a three yearly basis in accordance with tenement conditions. The Plan will also be updated and submitted with the *Mining Act 1978* Mining Proposal application for the expansion. The Mine Closure Plan (and Rehabilitation Plans) include consideration of visual amenity and aim to minimise the long-term visual impact of the operation. It is acknowledged however that there will be an impact on visual amenity while landforms are being constructed and vegetation is being re-established on the landforms. Clearing for landform development will be undertaken progressively, only as new areas are required to expand the WRL (refer to section 12.1.6 of the Environmental Referral Additional Information Document (December 2018). Progressive rehabilitation will be undertaken (section 6.6.3) and will	Section 12.1.5 and 12.1.6 Section 6.6.3
Public Submission 2	Consider other mitigation, e.g. double-glazing insulation	**Noise modelling predicts that Talison can comply with their current Regulation 17 Noise Approval under worst case conditions with the implementation of additional noise mitigation and the Updated Noise Management Plan as outlined in Section 8.6 of the Environmental Referral Additional Information Document ARI and Appendix J - Noise Assessment and Management Plan. Noise mitigation measures are described in section 8.6.1 of the** Environmental Referral Additional Information Document (December 2018) and the Noise Management Plan in Appendix L.	Section 8.6.1 Appendix L - Noise Assessment and Management Plan

Public Submission 2	Impact of light Spill on properties to the east of the Greenbushes site	Talison has developed a light management plan to ensure activities are appropriately managed to limit light overspill. The plan is currently implemented as part of the Mine's ISO certified EMS. An updated plan for the expansion will be developed and will supersede the existing plan when required. The primary aim of the Light management plan is to ensure that "Lights on towers shall be orientated to safely illuminate the work area whist minimising impacts on other receptors. Care will be exercised in the location of lighting plant, especially when located on the WRL, to ensure that the direction of illumination is away from public roads and from residences".	Section 8.5.2 Section 8.6.1
Public Submission 2	Land clearing should be limited so it does not occur in advance of land requirements	Talison has a series of management plans for the site including a Rehabilitation Strategy, Conservation Significant Fauna, Conservation Significant Flora and Vegetation, and Dust Management Plan. These plans require progressive clearing of areas, so there is limited open areas at any one time. Commitment has also been made to progressive clearing in section 5.6.3 of the Environmental Referral Additional Information Document (December 2018).	Section 5.6.3 Appendix F - Talison Management Plans
Public Submission 3	The Wilderness Society is concerned that the national park, and subsequently the local tourism sector, will be affected by the mine's expansion. Additionally, several municipal heritage sites identified by the Shire of Bridgetown-Greenbushes (N.D.) appear to not have been considered regarding the effects of the mining expansion. The mine is surrounded by state forests and the Dalgarup National Park, the biological significance of which are discussed in the Section 2. Terrestrial Fauna. An estimated 70% of international tourists visited national parks as one of their top five activities when traveling in Western Australia's south-west. Any impact to these extremely popular tourist draws would likely impact the local economy of Greenbushes and surrounding townships	The closest National Park to the Mine is the Dalgarup National Park approximately 16km to the South West of the site (direct line path). The Park will not be impacted by the Proposal. Talison has supported the shire in the listing of municipal heritage sites and where appropriate has provided assistance with their upkeep. The South Cornwall Pit (inherit place No. 06639) is listed to recognise the significance of Greenbushes as the longest continually operated mine in WA. Talison maintains a Public Mine Lookout overlooking the Cornwall Pit. The portal to the former underground mining operations is situated at the base of the Cornwall Pit. The Central area, south of the Cornwall Pit, is now the focus of surface mining activities, displays at the lookout showcase. There were approx. 14,000 visitors to the lookout in 2018. There are no other municipal sites within the MDE that will be impacted by the Proposal. As part of its commitment to the community and the industry, Talison offers tours of the Greenbushes lithium operations for schools, tertiary institutions, special interest groups and seniors in Western Australia. Up to 1,000 students visit the Greenbushes lithium operations each year as part of this organised programme.	Section 2.1 Section 2.4 Section 10

		Talison is actively aiding in tourism in the region and is a strong supporter of tourism and actively supports the local and regional community. Talison has recognised that the mine expansion will result in the removal of State Forest however this will be counterbalanced through the offset proposal described in Section 10 of the Environmental Referral Additional Information Document (December 2018) in addition to payment of compensation as per tenement condition requirements for the area of State Forest removed.	
Public Submission 4	Recognises noise as an impact on all sensitive receptors (including my property)	Talison has noted that not all sensitive receptors were included within the Noise Assessment which has since been updated. The updated predictive noise modelling shows that noise levels for the expansion of the mine, have the potential to exceed the Regulation 17 criteria however, with the installation of the additional noise bunding and management zones, compliance with the approved Regulation 17 noise levels can be achieved for all future operations. Talison has submitted an updated Noise Management Plan along with the Environmental Referral Additional Information Document which has been adapted to manage the predicted increases in noise.	Section 8.5.3 Appendix L - Noise Assessment and Management Plan
Public Submission 4	Clearly define the location and type and noise monitoring equipment to be used, a permanent noise monitoring station should be located between my property and the WRL	Talison has committed to establishing an additional permanent noise monitoring station (potentially to the east of Floyd's WRL). The location of the noise monitor will be dependent on a suitable site being identified which access can be gained to and services (power) are available at.	Section 8.6.1
Public Submission 4	Requires regular calibration, testing, maintenance and certification of the monitoring equipment in accordance with the Noise Regulations, allows for stakeholder input, particularly that of sensitive receptors', Require independent verification or peer review of monitoring results annually (as a minimum)	Talison as per its Noise Management Plan and Regulation 17 approval requirements is required to communicate identifiable mine site noise events to the DWER. The NMP requires all noise monitoring equipment are to be calibrated and serviced as scheduled by a suitably qualified person.	Appendix L - Noise Assessment and Management Plan
Public Submission 4	Noise strategies should contain pragmatic noise mitigation strategies that are proven to work.	Noise will be limited to comply with the Environmental Protection (Talison Lithium Australia Greenbushes Operation Noise Emissions) Approval 2015, which was granted by the Minister under the Environmental Protection (noise) Regulations 1997 regulation 18B. Talison has developed and uses its Noise Management Plan to document management measures which will be implemented to minimise noise within the approved levels. The plan also details how compliance with the approved levels will be monitored and measures. Talison has been operating and successfully managing noise within close proximity to the Greenbushes townsite for 30 years.	Section 8.6.2
Public Submission 4	The EPA require an updated light management plan that: • Recognises light as an impact on sensitive receptors;	Talison has developed a light management plan to ensure activities are appropriately managed to limit light overspill. The plan is currently implemented as part of the Mine's ISO certified EMS. An updated plan	Section 3.2 Section 8.5.2

	• Contains pragmatic light mitigation strategies; and • Allows for stakeholder input, including that of sensitive receptors.	for the expansion will be developed and will supersede the existing plan when required. The primary aim of the Light management plan is to ensure that "Lights on towers shall be orientated to safely illuminate the work area whist minimising impacts on other receptors. Care will be exercised in the location of lighting plant, especially when located on the WRL, to ensure that the direction of illumination is away from public roads and from residences".. Care will be exercised in the location of lighting plant, especially when located on the WRL, to ensure that the direction of illumination is away from public roads and from residences". Talison continues to engage with all Stakeholders and maintains open lines of communication as outlined in the Environmental Referral Additional Information Document (December 2018) (see section 3.2)	
Offsets			
DWER	Provision of information relating to detailed site assessments from the proponent as alluded to in the documents (please confirm timing of this with the proponent as it is unclear when this will be provided) and clarification of site specific on ground management actions	The offset management plan will be provided within a year of gaining approval for the Proposal. This plan will clearly outline in brief the following: 1.The offset area management objectives and outcomes 2. Any restrictions imposed on the use of the offset area 3. The activities that will be undertaken to achieve the objectives and outcomes 4. Monitoring requirements 5. An analysis of the risks to achieve the management objectives and outcomes 6. A map that shows spatially the areas subject to the management plan 7. A reporting program 8. Consent between the landowner and the delegate	Section 10 Appendix N
DWER	Additional information (maps and values) on proposed offset properties from DBCA.	Talison has provided with and updated Appendix N – Offset Proposal a Level 1 Fauna Survey and vegetation survey of remnant vegetation at each of the proposed offset lots site to describe and map the vegetation types present, and rate and map associated vegetation condition.	Section 10 Appendix N
DWER	Confirmation of the impacts and proposed offsets should be confirmed, and a detailed review of figures should be included	The Offset Proposal has been revised based on the outcomes of the Fauna survey and included in Appendix N- Talison Offset Proposal.	Section 10 Section 11 Appendix N
Other			
Public Submission 1	Use of Conveyor /Rail options	Rail/ Conveyor transport is not the subject of this referral.	N/a
Public Submission 1	Northern Mine Access Road - the comments in relation to the road are plausible, however whilst it was 15 years ago it was a haul road, the area has been rehabilitated heavily, especially the pool area with installation of amenities for	The Northern access road is considered a suitable Mine Access Road as an alternative concentrate haulage truck route access onto South Western Highway could not be safely designed to meet MRWA standards and the Austroads Design Guidelines. The Northern Mine Access Route alignment achieves safe design within predominantly	Section 8.5.5

	camping, playgrounds, barbecues and jetties, also the rehabilitated wetlands area just adjacent	previously cleared or disturbed and rehabilitated areas. The alignment reduces the distance that trucks are required to travel on the South Western Highway. The Northern access road is near Community facilities (Greenbushes Pool & Sports Ground), therefore additional works, to manage traffic and pedestrian interactions, are proposed to improve safety and usability in these areas and minimise community impacts.	
Public Submission 1	In relation to your comments on the road route, Talison has been buying land in the south of town, areas that were deemed unusable for a road but now appear to be suitable. The very fact you can sit at a distance and devalue these recreation areas is most disturbing, and your oversight most wanting on this project, leading me to believe litigation is possible due to your incompetence on the dust issues.	The southern access road is considered not suitable as an alternative concentrate haulage truck route to the Mine due to poor sight distances at the intersection with South Western Highway which did not meet the required standards set by MRWA and the Austroads Design Guidelines for vehicles of this size. Additionally, the southern route originally proposed would result in banking up truck traffic on the hilly section of South Western Highway between Forest Park Road and Stannifer Street.	Section 8.3.5 Section 8.5.5

A. Public Submission 1 (Community Concerns in Talison Lithium Project
B. Public Submission 2 (Adjacent to the mine site/sensitive receptor)
C. Public Submission 3 (Wilderness Society)
D. Public Submission 4 [redacted]

Submission Details	Comment	Proponent response	Page of Amendment/Document
Flora and Vegetation			
Public Submission 1	A detailed vegetation, flora, and fauna survey be conducted in the study area during the spring period according to the Environmental Protection Act (WA) Ten Clearing Principles	The flora and vegetation surveys undertaken within the MDE are listed in section 5.3 of the Environmental Referral Additional Information Document (December 2018). Talison engaged Onshore Environmental to undertake a two-season survey (Autumn and Spring 2018) the results of which have been discussed in section 5.3.8 of the Environmental Referral Additional Information Document (December 2018). The survey report is included in Appendix B of this document. The survey was undertaken in accordance with EPA Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment 2016.	Section 5.3 Appendix B - Onshore Flora and Vegetation Studies
Public Submission 1	Avoid clearing and expansion actions that will affect the aforementioned threatened and vulnerable flora, wetland vegetation, and indigenous fauna habitat vegetation as required under the Environment Protection and Biodiversity Protection Act	As per discussion in section 5.3.8 and 5.5.1 (Conservation significant flora) of the Environmental Referral Additional Information Document (December 2018) there is no threatened or declared rare flora within the MDE. No direct or indirect impacts to the known location of *Caladenia harringtoniae* (which is associated with a winter wet dampland) located 560m south west of the MDE boundary are predicted in association with the proposal (as discussed in section 5.5.1 (Conservation significant flora).	Section 5.5.1 Section 5.3.8 Appendix B - Onshore Flora and Vegetation Studies
Terrestrial Fauna			
Public Submission 1	A detailed fauna survey be conducted in the study area according to the Environmental Protection Act (WA) Ten Clearing Principles. It is recommended that further independent surveys of the area are completed due to the amount of terrestrial fauna in the area, especially the number of vulnerable and endangered species, so the impact of the expansion is known.	Talison have undertaken both Targeted and Level 1 Fauna surveys over the Talison Greenbushes mining leases. A list of surveys undertaken is included in section 6.3 of the Environmental Referral Additional Information Document (December 2018). The Biologic 2018 study was undertaken in accordance with the EPA Technical Guidance Terrestrial Fauna Surveys 2016. The key measures to avoid potential impacts to terrestrial fauna associated with the Proposal can be found in Section 5 of the ARI. The fauna surveys completed have all been led by trained and experience zoologists. The impacts of the expansion have been assessed in section 6.5 of the Environmental Referral Additional Information Document (December 2018) and key mitigation measures to avoid and minimise impact are described in section 6.6.	Section 6.3, 6.5 an 6.6 Appendix C - Fauna Studies Biologic Appendix D - Black Cockatoo Reports 2018 Appendix E - Western Ringtail Possum Reports 2018
Public Submission 1	Given the status of Black Cockatoos as vulnerable and endangered, the likelihood of the three species being in the expansion area, and the impact habitat destruction will have on breeding and overall species success, it is recommended that the expansion does not go ahead	Talison has described measures which will be or have been implemented to avoid and minimise impact to black cockatoos and their habitat in section 6.6 of the Environmental Referral Additional Information Document (December 2018). Talison is proposing to minimise the impact on breeding hollows and offset the impact. Talison has developed an offset proposal, as described in Section 10 and Appendix N of the Environmental Referral Additional Information	Section 6.3.5 and 6.5.1 (Black Cockatoo) Appendix D - Black Cockatoo Reports 2018 Appendix N - Talison Offset Proposal 2018

		Document (December 2018) to address the significant residual impact of the Project to threatened Black Cockatoo species. The number of suitable breeding hollows which will be lost as a result of the proposal is 14. A field assessment of potential breeding trees undertaken by Onshore Environmental (2018) found that there is a higher density of potential breeding trees outside the MDE than within, and potential breeding trees outside the MDE had a higher incidence of breeding hollows (7-34%, average 21%) when compared with the potential breeding trees within the MDE (0-12%, average 2%) . This indicates habitat outside the MDE has greater capacity to support breeding than the area which will be impacted.	
Public Submission 1	As Western Ringtail Possums are critically endangered and there is a lack of knowledge regarding their population status in the proposed expansion area, it is recommended that further independent surveys over a greater period of time are completed to determine if the Western Ringtail Possum species will be impacted.	A small area of the MDE (18 ha) is considered poor to marginal habitat (but not critical for survival due to anthropogenic impacts) for the WRP (refer to section 6.3.6 of **Environmental Referral Additional Information Document (December 2018)** for further details). **Survey of the MDE by Harwood (2018) and Onshore Environmental (2018) has not identified any evidence of the species utilising the habitat, dreys or suitable hollows for the species (refer to section 6.3.6 for further details and consultant reports in Appendix E). The only potential evidence of WRP use of the MDE was two records of scats which could not be confirmed as WRP due to their similarity with those of the Common Brushtail Possum.** Talison has submitted a Conservation Significant Fauna Management Plan in Appendix F of the **Environmental Referral Additional Information Document (December 2018)** to be assessed by the EPA and will implement the plan inclusive of any recommended changes.	Section 6.3.6 Appendix E - Western Ringtail Possum Reports 2018 Appendix F - Talison Management Plans
Public Submission 1	It is recommended that mitigation measures are addressed and assessed to lessen the impact the expansion will have on terrestrial fauna.	The key measures to mitigate potential impacts to terrestrial fauna associated with the Proposal are outlined in Section 6.6.2 of the **Environmental Referral Additional Information Document (December 2018) which is under assessment by the EPA.** Talison has submitted a Conservation Significant Fauna Management Plan with for assessment by the EPA and will implement the plan and any recommended changes.	Section 6.6.2 Appendix F - Talison Management Plans
Terrestrial Environmental Quality			
Public Submission 1	Potential dangers regarding the quality of the soil are imminent and are underestimated. Hence, The Wilderness Society recommends evaluating more deeply the potential risks and consequences regarding the terrestrial quality of the area.	**Talison currently undertake all of the activities which could result in these impacts (waste rock and tailings storage, chemical and hydrocarbon storage, land clearing and rehabilitation) without significant impact to the terrestrial environmental quality through implementation of appropriate procedures (part of an ISO 14001 certified EMS) and will continue to do so. Management plans and procedures will be reviewed as part of expansion to ensure they are appropriate to the expanded operation and activities.** Due to historical disturbance of the site, the existing soil profile has in some areas	Appendix F - Talison Management Plans

		already been subject to significant disturbance and the native soil profile has been replaced with dredge material in areas. Talison has undertaken numerous material characterisation studies over the history of the mine to understand the risk of acid and metalliferous drainage (AMD) and has established procedures in place for handling and placement of any material considered potentially a risk of AMD. Design and management of waste storage landforms is currently regulated through the site operating licence (TSF only) (L4247/1991/13), various mining proposals and the mine closure plan. Modern mining activity inclusive of waste rock and tailings storage in landforms has been occurring for over 30 years at the Mine with no evidence of significant impact to terrestrial environmental quality to date. A weed and hygiene management plan has also been submitted in Appendix F of the **Environmental Referral Additional Information Document (December 2018) describing management measures which will be undertaken to mitigate the risk of weed and dieback impact to terrestrial environmental quality.**	
Inland Waters			
Public Submission 1	TWS recommends to not approve the construction of the TSF4 until the quality of the water within the development does not exceed the ADWG limits, or new limits have been established to maintain the water resources healthily and in good quality or at least in their original conditions. Also, it is recommended to provide the specific impacts and the mitigation plan for the Woljenup creek and other waterways that may be affected with the mining activity and an evaluation of the impact in the drinking sources of the area.	No Public Drinking Water Source Areas exist immediately downstream of the Mine. The Hester Brook, Woljenup Creek, Salt Water Gully, and Blackwood River catchments downstream of the Site are located within State Forest, Crown Reserve and Freehold land. Land-use generally consist of agricultural uses including grazing, perennial horticulture and rural residential. These waterways are unlikely to be used for human consumption given their elevated salinity levels, which have been observed prior to Talison operations. These waters may be used for livestock and irrigation. Talison has an existing surface water management plan. This plan will be updated to include changes associated with the Proposal. This plan ensures supply of sufficient water to the Mine while maintaining flows in the surrounding areas. Surface water impacts from vegetation clearing and infrastructure / landforms are likely to be minor and localised. Talison has undertaken a Surface Water Assessment and Hydrogeological study in preparation for the mine expansion in order to establish baseline water levels, quality, catchments and flows prior to commencing expansion works. These reports will inform the *Mining Act 1978* and EP Act, Part V applications which will be submitted in early 2019 to the DMIRS and DWER respectively for the expansion Proposal.	DWER Part V licence L4247/1991/13
Air Quality			
Public Submission 1	Amidst a lack of thorough assessment of the impact of existing air pollution on surrounding sensitive receptors, the proposal for expansion must be rejected.	Talison contracted an independent consultant to develop a predictive dust model. The resultant Dust Impact Assessment report was peer reviewed and amended based on the recommendations of the peer	Section 7.6 Appendix G - Talison Dust Impact Assessment Peer

		review. Subsequent to receipt of public comments on the Proposal in January 2019, Talison identified an error in the distance to sensitive receptors from the mine boundary detailed in table 5-2 of the Dust Impact Assessment Report. The errors have been corrected in R5 of the Report. An error was also identified in table 7-1 whereby the production for the life of mine was stated in Mtpa but should have read ktpa. This has also been corrected in R5 of the Report. The errors were transcription errors when developing the report and have not altered the dust model or its predictions in any way. As per section 7.5.1 of the Environmental Referral Additional Information Document (December 2018), Talison recognise that predicting air pollution is a complex application and there are limitations with advanced dispersion models used to undertake predictions, due to the variability and limited predictability of modelling inputs. Real air quality concentrations are likely to be highly variable depending on emission levels and the persistence of particular meteorological conditions. The predicted results are therefore not representative of the typical level of impact which would be expected in the surrounding area, and rather are a conservative prediction of the maximum level of impact which could potentially occur. Talison has proposed (section 7.6) to undertake an expanded monitoring program prior to commencing the Proposal activities and throughout the operation of the mine, together with trigger levels which initiate additional dust control or reduced activity, in order to minimise impact to surrounding sensitive receptors.	Review and Revised Assessment (Tables 5-2 and 7-1)
Public Submission 1	Similarly, on-site employee exposure to diesel and petrol fumes, and combustion emissions in their day's shift must be monitored to fully grasp the degree of impact the pollutants have been having on the employees. A recent study claims a persistently substantial exposure to diesel exhaust, as such they cannot be dismissed as insignificant (Peters et. al. 2018).	Referring to Peters et. al. 2018. the study found that exposure rates related predominately to underground mining activity. Although exposure to risk could be limited by regular maintenance of equipment or improved driving habits), transmission controls (e.g. ventilation) and exposure controls (e.g. enclosed working cabins or respiratory protective equipment where necessary). Employee information and training are also important for controlling exposure which is all part of Talison's current work procedures.	NA
Other			
Public Submission 2	Requests Talison liaise with the CEO of the Shire Bridgetown Greenbushes on: • Pedestrian crossings near the Greenbushes sportsground and any walk trail crossing points; • All intersection design and treatments; • The need for fencing in proximity to Greenbushes Pool; and	Noted Talison will liaise with the shire and proposes to implement a working group which will consist of the proponent, shire and members of the community on the design of the mine access road.	

	• Noise attenuation design especially in proximity to Greenbushes Pool and Greenbushes Sportsground.		
Public Submission 2	Council notes the need for Talison Lithium to obtain the necessary environmental approvals plus approvals to excise the land from State Forest and create/dedicate as a road reserve.	Talison will work through the necessary approvals for the requirements to create the road.	
Public Submission 2	Note the submissions received on the mine access road proposal. Notes that in addition to its approval the approval of relevant Government agencies will be required for this proposal to proceed. Approve in principle the proposed route of the mine access road noting that detailed road design plans will be required for local government	The comments from the Shire of Bridgetown Greenbushes are noted and Talison accept the detailed designs and required approvals are needed prior to commencement.	
Public Submission 3	Use of Conveyor /Rail options	Rail/ Conveyor transport is not the subject of this referral.	N/a
Public Submission 3	Current projections are for 200 road trains per day on the haulage route, with related noise, dust, vibration and visual amenity impacts. I have encouraged the proponent to consider alternatives such as a conveyor belt instead of the proposed haulage route. People are concerned about the impact the proposed mine access road would have on neighbouring park and recreational facilities, and on a rehabilitated wetland that the community values highly. An old and well-used community recreation area exists in close proximity to the haulage route that encompasses a pool, children's playground, children's swimming area, barbecue and camping ground. There are also walking tracks to and around a wetland's conservation area that the mining company helped to restore that would be severed by the haulage road. These and similar concerns should be of interest to the EPA since the Decision to Assess the original expansion proposal (August 2018) included a requirement for additional information relating to Flora and Vegetation, Terrestrial Fauna and Social Surroundings (Visual Amenity, Noise and Vibration). For instance, the Referral Supporting Report states that 'noise emissions will be a consideration when designing haul road and infrastructure locations' (2018, 117).	The proposed road is considered the most suitable Mine Access Road to reduce transport through the centre of Greenbushes and gain access onto South Western Highway. The Northern Mine Access Route alignment achieves safe design within predominantly previously cleared or disturbed and rehabilitated areas. The alignment reduces the distance that trucks are required to travel on the South Western Highway. The Northern access road is near Community facilities (Greenbushes Pool & Sports Ground), therefore additional works, to manage traffic and pedestrian interactions, are proposed to improve safety and usability in these areas and minimise community impacts. Talison is proposing to develop a mine access road in order to reduce truck traffic associated with the mine through the town centre which is significantly closer to the school. Talison is committed to continuing its ongoing support to ensure the community facilities are maintained for recreation and free public short-term camping in line with the Shire of Bridgetown Greenbushes plans and strategic goals for the town. This includes working with the shire and the mine access working group to ensure the creation of: 1. Safe pedestrian crossings near the Greenbushes sportsground and any walk trail crossing points; 2. Noise attenuation design especially in proximity to Greenbushes Pool and Greenbushes Sportsground 3. Safe and well-designed intersection and treatments; 4. Inclusion of Noise attenuation design especially in proximity to Greenbushes Pool and Greenbushes Sportsground 5. As required fencing with respect to the Greenbushes Pool and Sports Ground. A conveyor is not an option at this stage as there is no usable railway line / railhead to convey material to.	Section 8.5.5

Public Submission 3	The characteristics of the proposed tailings retreatment plant should be evaluated, including its environmental impacts, plan for failure of the plant, and remediation.	Talison obtained consent to change the proposal during assessment under Section 43A which included a Tailing Retreatment Plant within the final disturbance footprint of the Tailings Storage Facility 4 [this resulted in an increase to tailings production from 8 to 9 Million tonnes per annum (Mtpa)] on the 29th November 2018. Design and Management of the retreatant plant will be regulated through the site operating licence (L4247/1991/13 and DMIRS Mining proposal and the mine closure plan	
Public Submission 4	Conservation Council WA	No comment attached	

A. Public Submission 1 (Wilderness Society)
B. Public Submission 2 (Shire of Bridgetown Greenbushes)
C. Public Submission 3 [redacted]
D. Public Submission 4 (Conservation Council WA)