ATTACHMENT I SUMMARY OF IR & FURTHER ADVICE REQUIREMENT RESPONSES

IR Response and Further Advice requirements with detail on how and where each items has been addressed by the Applicant

IR Items	IR Requirement/s	Addressed how/where	Report/Section
Traffic Impact Assessment	The applicant is requested to provide an amended Traffic Impact Assessment (TIA) and include an assessment consistent with the methodology outlined in the TMR Guide to Traffic Impact Assessment to address the items raised above, and must include but not be limited to the following:	Amended TIA has been provided and addresses all items below.	Attachment A in IR Response
	1. Inclusion of both Stage 1, Stage 2 and decommissioning assessment details.	Council had previously advised that the report could consider Stage 1 with Stage 2 to be assessed at a later date. The TIA report has now been updated to assess both Stages 1 and 2 as requested.	Stage 2 is included in amended TIA in Sections 1.1, 3.1.1, 3.2, 5, Table 4, Section 5.3, Table 11, Section 5.3.1, Table 12, Section 5.3.2, Table 13, Section 6.2.1, Section 7.1, Section 10
	2. Further information about the use of shuttle buses including staff utilization assumptions and pick-up locations. Table 3 must be corrected for 'vehicles per day' and 'vehicles per hour'. The traffic	Additional information is provided in TIA Section 3.1.1, 3.2, and 9.3 in relation to the use of shuttle buses. Following discussions with Council the number of shuttle buses used has been reduced to provide a conservative assessment.	TIA updated Section 3.1.1, Table 2, Section 3.2, and Section 9.3

IR Items	IR Requirement/s	Addressed how/where	Report/Section
	volumes in Section 4.2 must be consistent with Table 3.	The traffic volumes in the table are correctly labelled as vehicles per hour which is how Level of Service is determined. No change has been made to the report.	
	3. Road Safety Assessment including a typical section or detail showing how roadside vegetation could be retained when Turner Road is sealed. The inadequate safe intersection sight distance at Turner Road south along Gillespies Dam Road must be addressed	The relevant details of the Road Safety Assessment have been provided throughout the report. The relevant matters have been summarised within Section 8. Turner Road is proposed to remain with the same sealed and unsealed sections and provided with a carriageway width of 6.5m, which represents a 'Local Access road' as outlined within *Planning Scheme Policy PSP No 2 Engineering Standards Roads and Drainage Infrastructure*. Options to retain vegetation have been proposed with the alignment of Turners Road to limit vegetation impacts provided in TIA Appendix E. The sight distance noted relates to right turning vehicles from Turner Road onto Gillespies Dam Road. The development is not expected to generate any right turn movements and as such, there is no conflict with vehicles approaching from the south and this has been removed.	Road safety has been referred to in updated TIA Section 3.1.3 and Section 8 provides a comprehensive summary on road safety matters. TIA Appendix E – Turner Road Existing Road Formation Assessment
	4. Pavement Impact Assessment. Default state-controlled road values for the marginal cost will need to be used as Council does not collect this information	Council had previously advised that this would be addressed via road dilapidation surveys so the Pavement Impact Assessment had not been provided. A Pavement Impact Assessment is now provided within Section 5.	A Pavement Impact Assessment has now been added to amended TIA in Section 5
	5. Transport Infrastructure Assessment	The structures along the access route from Millmerran to Turner Road (access to site) have been assessed by Friends Civil Engineering. A separate report has now been included in the IR Response as Attachment H.	Attachment H in IR Response

IR Items	IR Requirement/s	Addressed how/where	Report/Section
	6. Impact Mitigation	Section 8 provides a summary of the Impact Assessment and Mitigation for the project which is discussed throughout the TIA.	TIA Section 8
	Note: The TIA must be prepared by a RPEQ or under the direct supervision of a RPEQ. The RPEQ must be identified and sign the report	The report has been signed by an RPEQ.	
	Further Advice Required		
	Issue: The Traffic Impact Assessment (TIA) Rev C states the peak workforce is 200 people and this is a significant reduction from the Planning Report and original TIA (January 2023) which assumed a workforce of 450 people. This reduces the number of trips to the site and there is no explanation of why there is a significant change. **Further Advice Required:** Please explain why there is a significant reduction in the peak workforce from that stated in the original TIA and Planning Report.	This was the result of better representing the staging of the development (with Stage 1 including a 400MW SF). Splitting the development into Stage 1 and Stage 2 would mean the peak workforce numbers would reduce with the maximum stage size under construction at any one time rather than the original estimate based on the full development. The Applicant has also taken some time to interrogate contemporary construction workforce numbers on renewable energy projects. We have approached three Tier 1 EPCs and they all have the same view now, that construction needs to be de-risked and focus on smaller teams with higher impact. The industry is now experiencing increased productivity with smaller teams focusing on dedicated areas, higher skills in smaller teams, less issues with accommodation further away leading to decreased transit time, resulting in improvements in efficiency. Should delays from weather or supply chain occur, smaller crews can be moved and still be productive where larger teams are often displaced or stood down. Further detail is provided in Section 1.1 of the IR Response.	Section 1.1 in IR Response
	Pavement Impact Assessment **Issue:** The pavement impact assessment includes only a summary of pavement	The traffic volumes used for the PIA calculations are the average daily vehicle movements shown in Table 2 of the TIA, which represents the average across the construction stages (i.e. both the construction peak and phases where volumes would be expected be reduced). The volumes, heavy vehicle types, AustRoads classification and associated SAR4 values are	Section 1.2 in IR Response Attachment A – Table 2, Table 12

<table>
<tr><th>IR Items</th><th>IR Requirement/s</th><th>Addressed how/where</th><th>Report/Section</th></tr>
<tr><td></td><td>contribution costs and Council is not able to reconcile how the construction traffic in Table 2 converts to the pavement Impact assessment contribution in Table 12.
Further Advice Required:
Council requests a detailed breakdown of the peak construction traffic volume assumptions provided by Echo Consultants as summarised on page 8 and 9 of the TIA. We also require further detail about the type of heavy vehicle by vehicle class and SAR4 values so that the derivation of the PIA Contributions for Council Roads can be understood.</td><td>shown in the table below. The SAR4 values used are consistent with those provided by TMR.
Table: Traffic Volumes, Vehicle Class and SAR4s
<table>
<tr><th rowspan="2">Heavy Vehicle Type</th><th rowspan="2">Daily (vpd)</th><th rowspan="2">Austroads Class</th><th colspan="2">SAR4 Values – as provided by TMR</th><th colspan="2">Calculated Daily SAR4 Values based on traffic volume</th><th rowspan="2">Total</th></tr>
<tr><th>Unloaded SAR4</th><th>Loaded SAR4</th><th>Unloaded SAR4</th><th>Loaded SAR4</th></tr>
<tr><td>MRV/HRV</td><td>8</td><td>4</td><td>0.5</td><td>3.57</td><td>4</td><td>28.56</td><td>32.56</td></tr>
<tr><td>Truck and Dog</td><td>4</td><td>9</td><td>0.51</td><td>4.93</td><td>2.04</td><td>19.72</td><td>21.76</td></tr>
<tr><td>19m AV</td><td>12</td><td>7</td><td>0.56</td><td>5.02</td><td>6.72</td><td>60.24</td><td>66.96</td></tr>
<tr><td>26m B-Double</td><td>8</td><td>10</td><td>0.53</td><td>6.3</td><td>4.24</td><td>50.4</td><td>54.64</td></tr>
<tr><td></td><td>80</td><td>-</td><td>-</td><td>-</td><td>17</td><td>158.92</td><td>175.92</td></tr>
</table>
The total daily SAR4 value of 175.92 was used for the assessment of the Council roads (being that these roads carry all the truck volumes in both unloaded and loaded directions) along with the assumptions provided. The results are summarised in Table 12 of the TIA.</td><td></td></tr>
<tr><td></td><td>Site Access
Please consider the provision of a single development access to Turner Road at the western extremity of the development site (Please refer to proposed access in red line on the below image). All of Stage 1 and Stage 2 traffic would use this access, reduce</td><td>Whilst it is assumed the suggested single access at the south-western corner of the project land intends to minimise or avoid potential road widening/upgrade requirements to this gravel section of Turner Road, on balance the Applicant believes the proposed West Entry Gate offers the most practical and least impact access point for the development. It presents the least possible environmental and ecological impacts, circumvents negotiating an access agreement with Powerlink which may involve conditions that can’t be met, and crucially avoids seeking to cross</td><td>Section 1.3 in IR Response</td></tr>
</table>

IR Items	IR Requirement/s	Addressed how/where	Report/Section
	the damage to the gravel section of Turner Road and reduce the extent of seal extension works required.	through land that is not involved in the Development Application and over which the Applicant has no rights to access. Further detail and explanation of the justifications to proceed with the site accesses as proposed in the concept layout plans is provided in Section 1.3 of the IR Response.	
Stormwater	To demonstrate compliance with the above mentioned PO8 of the Integrated Water Cycle Management Code, the applicant is requested to provide a hydrologic and hydraulic analysis and conceptual design to demonstrate flooding and drainage characteristics upstream or downstream of the site are not worsened by the development. This analysis must include but not limited to the following:	The Concept Surface Water Impact Assessment report (Attachment B in IR Response) has been amended to include flood modelling, which is detailed in Section 4.4, Section 5.2, Section 5.3 and Figures 4-6, 4-7, 4-8, 4-9 and 5-1. Flood modelling results show no impacts for the 1% AEP external to the proposed development footprint and boundaries. The flood modelling results show the impact associated with the infrastructure works are localised in the vicinity of the infrastructure footprint.	Attachment B in IR Response Section 2 in IR Response
	1. Lidar or survey data sufficient to define the upstream and site catchments	LiDAR and photogrammetry survey has been completed over the proposed development land and immediate surrounding areas by Above Surveys. Site catchments were developed from numerous sources included Qld Govt, LiDAR, cadastre, watercourse data, etc., suitable for catchment delineation and can be found in Section 1.5 of the amended Concept Surface Water Impact Assessment report (Attachment B in IR Response).	Attachment B in IR Response – Section 1.5
	2. Determination of the 1% AEP pre and post development flood extents (including depth and velocity) within the Subject Site using advanced computer simulation modelling	Flood modelling results include 1% AEP flood depths, levels and velocities for pre and post development, as well as afflux mapping. This has been detailed predominantly in Section 3 and Section 4 (and associated Figures 4-6, 4-7, 4-8, 4-9) of the amended Concept Surface Water Impact Assessment report (Attachment B in IR Response). TUFLOW has been utilised for hydraulic modelling.	Attachment B in IR Response – Appendix B, Section 3, Section 4, Figures 4-6, 4-7, 4-8, 4-9

IR Items	IR Requirement/s	Addressed how/where	Report/Section
		The model results illustrate that in a 1% AEP flood event for the developed scenario (i.e. post-development flood model) simulated: • Flood flows can be diverted around key site infrastructure without impacting flood levels outside of the development site • Increases in water levels of up to 400 mm would be expected within the existing drainage channels surrounding the switchyard • Water depths within the powerline easement channel would increase to 0.75 m • Flow velocity increases would be expected within the powerline drainage channel but peak flow velocity values broadly remain below 1.5 m/s.	
	3. A site plan is required showing the location of solar modules and buildings within the Subject Site. Any solar modules within the 1% AEP flood extents will need to be included in the post-development flood model	A Site Layout Concept Design can be found in Appendix B of the amended Concept Surface Water Impact Assessment report (Attachment B in IR Response) and Attachment G of the IR Response. Detail regarding 1% AEP flood extents is included predominantly in Section 3 and Section 4 (and associated Figures 4-6, 4-7, 4-8, 4-9) of the amended Concept Surface Water Impact Assessment report. A Concept Stormwater Management Plan can be found in Figure 5-1 and is detailed in Section 5.2 and Section 5.3. The model results illustrate that in a 1% AEP flood event for the developed scenario (i.e. post-development flood model) simulated: • The solar arrays have been assessed to not have a significant impact on run off volumes, peaks, or times to peak, when associated with the provision of good vegetative ground cover throughout to replicate the existing scenario • Flood flows can be diverted around key site infrastructure without impacting flood levels outside of the development site. Further detail is provided in Section 2 of the IR Response.	Attachment B in IR Response – Appendix B, Section 3, Section 4, Section 5.2, Section 5.3, Figures 4-6, 4-7, 4-8, 4-9, 5-1 Attachment G in IR Response Section 2 in IR Response

IR Items	IR Requirement/s	Addressed how/where	Report/Section
	4. Infrastructure required to convey stormwater around the buildings in the south-eastern corner of the site will need to be included in the post-development flood model including details of how flood waters will be conveyed across Punchs Creek Road	Flood modelling include 1% AEP flood depths, levels and velocities for pre and post development, as well as afflux mapping and are addressed predominantly in Section 4.4, Section 5.2, Section 5.3 and Figures 4-6, 4-7, 4-8, 4-9 and 5-1. The afflux mapping results (Figure 4-9) and reporting discusses the requirements for flooding/ stormwater management around proposed infrastructure footprints. The flood modelling results show the impact associated with the infrastructure works are localised in the vicinity of the infrastructure footprint. Key outcomes of the modelling and assessment include: • The solar arrays have been assessed to not have a significant impact on run off volumes, peaks, or times to peak, when associated with the provision of good vegetative ground cover throughout to replicate the existing scenario • Flood flows can be diverted around key site infrastructure without impacting flood levels outside of the development site • A minimum freeboard of 300 mm for the peak 1% AEP storm event level is to be determined for habitable buildings and critical infrastructure during future project development • A treatment train approach is required to be adopted, with tertiary implementation measures, such as bioretention basins or wetlands, within the critical site infrastructure area development footprint to treat to the leading practice pollutant reduction targets prior to discharge to the receiving environment • Erosion and Sediment Control measures are to be developed during the project development in accordance with the requirements of the Best Practice Erosion and Sediment Control Guidelines, IECA (2008), and in context of anticipated construction methods for the extent of works. The stormwater quantity management (flooding/ stormwater management) measures for the site infrastructure area footprint are shown	Attachment B in IR Response – Section 4.4, Section 5.2, Section 5.3, Figures 4-6, 4-7, 4-8, 4-9, 5-1 Section 2 in IR Response

IR Items	IR Requirement/s	Addressed how/where	Report/Section
		in Figure 5-1 of the amended Concept Surface Water Impact Assessment report (Attachment B in IR Response). Further detail is provided in Section 2 of the IR Response.	
	5. Plots showing as a minimum the flood extents, peak depths, peak velocity and afflux	Flood modelling results include 1% AEP flood depths, levels and velocities for pre and post development, as well as afflux mapping and have been detailed in Section 4.4 and Figures 4-6, 4-7, 4-8, 4-9 of the amended Concept Surface Water Impact Assessment report (Attachment B in IR Response).	Attachment B in IR Response – Section 4.4, Figures 4-6, 4-7, 4-8, 4-9
	6. A design report incorporating all the above information with concept design of mitigation works	The amended Concept Surface Water Impact Assessment (Rev B) prepared by Civil IQ incorporates all the above information with concept design of mitigation works, as detailed in Section 5.2, Section 5.3 and Figure 5-1.	Attachment B in IR Response – Section 5.2, Section 5.3, Figure 5-1
Potential Sensitive Receptors	1. Further information on the current and future uses of the dwellings / buildings as indicated by the arrows noted above. Each site may be a receptor of noise and dust emissions (aside from one caretaker only) and would trigger further assessment against the Environmental Standards Code and Rural Uses Code • RFI Response to include detail provided on RFI Receptor sites 1-5 • Receptor site 3 to be nominated as a caretaker accommodation	Section 3 of the IR Response letter provides detail on the 5 identified sites and states: Site 3 is proposed to be a caretaker accommodation.	Section 3 in IR Response
		PO8 of Rural Zone Code response has been updated regarding the caretaker accommodation.	Attachment F in IR Response
Noise Emissions	To demonstrate compliance with the abovementioned Performance	Operational Noise Assessment completed by Resonate has been provided, as Attachment C in IR Response, and addresses all items below.	Attachment C in IR Response

IR Items	IR Requirement/s	Addressed how/where	Report/Section
	Outcome PO8 of the Environmental Standards Code and PO8 of the Rural Zone Code, the applicant is requested to submit an Acoustic Impact Assessment, completed by a suitably qualified person, that must include but not limited to the following:		

	• Description of all site activities, plant and equipment and related noise sources that includes
	  • operational and maintenance activities and their relevant noise sources
	  • numbers of each type of plant and equipment and their location over the site
	  • vehicle movements
	  • regulated noise devices integral to site operations
		Key components and relevant noise sources of the project are provided in Operational Noise Assessment (Attachment C in IR Response) in Section 2.1, Section 5.1, Table 7, Table 8, Figure 3
		
		Figure 1 provides the concept layout of the proposed project. Internal roads/tracks are shown, indicating vehicle movement locations.
			Attachment C in IR Response – Section 2.1, Figure 1, Section 5.1, Table 7, Table 8, Figure 3

	• Location of sensitive receptors relative to the proposed development, including on and off site	Operational Noise Assessment (Attachment C in IR Response) Figure 2 provides the location of sensitive receivers relative to the proposed project site.	Attachment C in IR Response – Figure 2
	• Assessment criteria for compliance including day, evening and night time limits for clearly defined normal operating hours for each component of the development	Section 4 of Operational Noise Assessment (Attachment C in IR Response) details the noise criteria assessed.	Attachment C in IR Response – Section 4
	• Monitoring of Background noise levels (L_{90})	Section 3 of Operational Noise Assessment (Attachment C in IR Response) provides the baseline noise survey completed, with measured values of L_{A1},	Attachment C in IR Response –

IR Items	IR Requirement/s	Addressed how/where	Report/Section
		L_{A10}, L_{A90} and L_{Aeq} for each 15-minute monitoring period presented in graphical format in Appendix E.	Section 3, Appendix E
	• Modelling of cumulative impacts from the proposed use on all existing sensitive receptors	Sections 5.3 and 5.4 of Operational Noise Assessment (Attachment C in IR Response) details predicted noise levels at each receiver.	Attachment C in IR Response – Sections 5.3 and 5.4
	• Model results should be presented in both noise contour plots and tabulated summaries for identified receptors	Predicted variable operational noise levels are presented in Tables 10 and 11, and noise contours are presented in Appendix B. Predicted continuous operational noise levels are presented in Tables 12 and 13, and noise contours are presented in Appendix C.	Attachment C in IR Response – Tables 10, 11, 12, 13 and Appendices B and C
	• Descriptions of specific mitigation treatments, management methods and procedures that will be implemented to control noise during site activity and operations; and	The Operational Noise Assessment (Attachment C in IR Response) predicts the operational noise levels of the Project will comply with the noise criteria at all surrounding residential receivers during all periods. Thus, mitigation measures will not be required however, it is recommended that all PCUs should be installed at locations at least 1km away from every residential building façade. PO14 of the Environmental Standards Code within the Planning Scheme Code Response document (Attachment G in IR Response) indicates construction management plan/s will be provided to Council for approval prior to commencement of construction. It is anticipated noise management measures would be documented in such management plan/s. Minor amendments to all relevant noise-related outcomes have been included in the amended Planning Scheme Code Response document (Attachment G in IR Response).	Attachment C in IR Response – Sections 5.4.2 and 6 Attachment G in IR Response
	• A complaints management procedure that must include the following:	Appendix D in the Operational Noise Assessment (Attachment C in IR Response) contains a complaints management procedure, which could be amended to include project-specific details (e.g. contact name/s and number/s) in preparation for commencement of operation.	Appendix D of Attachment C in IR Response

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<tr><th>IR Items</th><th>IR Requirement/s</th><th>Addressed how/where</th><th>Report/Section</th></tr>
<tr><td></td><td>• a contact person with whom complaints can be lodged;
• a clearly defined procedure for responding to and investigating complaints; and
• a notification protocol to all complainants of the outcome of complaint investigations.</td><td></td><td></td></tr>
<tr><td></td><td colspan="3">Further Advice Required</td></tr>
<tr><td></td><td>Please provide further information on where the default 25dB criteria comes from. Council will consider the source and its relevance to Qld development assessment. Revision of the noise criteria to the lower monitored levels is considered likely.

It is anticipated that night time peak use of the PCU's will be 100%, Noise assessment should include representative modelling of reasonable peak operational capacity. Night time duty cycle should therefore be modelled at 100%.

Please revise modelling and the report to address the issues noted above.</td><td>DEHP's Noise Control Guideline has been added to Attachment C. The guideline states on page 3 of 19, under Table 2 that, "It may not be possible to maintain background levels in very rural areas below 25dBA as developments occur. In such cases a threshold background level of 25dBA is to be used."

An explanation of how the battery 50% duty factor during night-time has been determined and used to model the noise emissions is provided in Section 4.1 of the IR Response. In summary, the duty factor could be further refined to the following typical operational utilisation capacity:

<table><tr><td>Day (7am – 6pm)</td><td>75-100% duty factor</td></tr><tr><td>Evening (6pm – 10pm)</td><td>50% duty factor</td></tr><tr><td>Night (10pm – 7am)</td><td>0% duty factor</td></tr></table>
It is possible, from the wording of the further advice required, the reviewer may be considering the proposed battery system operates similarly to a house battery that charges and discharges daily and, more specifically at evening/night it cycles for full duration and the full capacity of the house system. This is not the case with a utility battery system which functions as per the typical operational utilisation capacity as described in above table, and for the reasons outlined in Section 4.1 of the IR Response.

As such, no revision or amendment to the modelling and reporting is required.</td><td>Attachment C in IR Response

Section 4.1 in IR Response</td></tr>
</table>

IR Items	IR Requirement/s	Addressed how/where	Report/Section
Air Quality (Dust)	In response to the abovementioned Performance Outcomes of the Environmental Standards Code, the Rural Uses Code and the Landscape Code, the applicant to requested to provide further information including but not limited to the following:	Correspondence with Council subsequent to the issue of the Information Request indicated the Applicant should provide further detail as to how the development can reasonably and practically reduce dust emissions by relying on groundcover. And also provide details of how access tracks, laydown pads and other exposed surfaces will be managed to minimise dust levels.	
	1. Dust deposition modelling in mg/m2/day for the development site on all sensitive receptors. Emissions rates should be quantified by both wheel and wind bourne dust from all exposed surfaces. Estimated vehicle generated dust emissions should be based on the numbers of vehicles per day for light, medium and heavy vehicles	In lieu of dust deposition modelling, Section 5 of the IR Response letter provides further detailed information to support the basis that ground cover and appropriate site management during operation (and construction), as well as sufficient separation from the nearest residential uses, will minimise potential dust emissions at sensitive receivers.	Section 5 in IR Response
	2. Revise mitigation and management measures to ensure compliance is achieved; and	In addition to Section 5 of the IR Response, the Planning Scheme Code Response document (Attachment G in IR Response) has been amended better respond to PO20, PO21 and PO22 of the Environmental Standards Code, as well as other relevant code responses relating to dust/emissions. The main amendments to the code responses include: – The proposed development is not adjacent to any residential use, with the nearest residence located approximately 274m from the site and the majority of nearest receivers being located more than 900m from the site. It is noted Table 9.4.2:2 does not nominate a minimum separation distance from a Renewable Energy Facility use. However, the proposed development exceeds the minimum separation distance	Attachment G in IR Response

IR Items	IR Requirement/s	Addressed how/where	Report/Section
		(from nearest receiver) nominated for Forestry use, and Cattle dips and yards. Regardless, the proposed use is sufficiently separated from receivers and the proposed activities are consistent with the communities' expectations for a use in this locality given this land is currently used for cropping activities. In operation, most vehicle movements will be LVs within the facility and would typically remain on the developed internal access tracks/roads, which will have a road base surface. It is expected up to 10 LVs may be required during operations of the full development, however movement of those vehicles on any given day is expected to be minimal and dependent on what maintenance activities are active. For instance, it is highly unlikely all 10 LVs would be moving around the site at the same time. Typically, only one or two LVs may be moving on site at any one time. Vehicle movements on site are also speed limited (during construction and operation) to minimise dust generation. All frequently used areas for vehicle manoeuvring (e.g. carpark and storage areas) will be hardstand areas to minimise dust. The Powerlink Substation will have blue-metal rock cover over most of the surface and internal roads will be spray sealed, resulting in minimal (if any) dust generation. The areas under the solar pv panels will remain pervious and ground cover will regrow, with the ground receiving sunlight and shade as the panels track the sun's movement throughout the day. An operations management plan/s to monitor and address ground vegetation coverage and address any community complaints, can be conditioned for approval by Council and implemented during operation. The proposed use involves retention of almost all the existing roadside and fence line vegetation and will plant additional vegetation screening areas. This vegetation within the development	

IR Items	IR Requirement/s	Addressed how/where	Report/Section
		land and on roadsides will improve impact mitigation and help maintain the character and ambience of the local area. These factors will serve to minimise dust generation and thus dust nuisance for the nearest receiver/s.	
	3. Include additional areas of landscaped vegetation within development land to improve impact mitigation and help maintain the character and ambience of the local area	Additional vegetation screening areas are now detailed in Section 5.2, Figure 5.1 and Section 6 (Landscape Plan) of the amended LCVIA & LCP prepared by Accent Environmental, to improve impact mitigation and help maintain the character and ambience of the local area. Refer to Attachment D in the IR Response.	Attachment D in IR Response
Environmental Management Plan	**Advice** Council wishes to advise the applicant that if the development is approved, conditions would be prepared for the submission of separate documents - Construction EMP, and Operational EMP and a Decommissioning Management Plan - for review and approval by Council prior to the commencement of each phase of development.	No requirement	
Lighting Impacts	To demonstrate compliance can be achieved with Performance Outcome PO1 of the Environmental Standards Code, the applicant is requested to	The amended LCVIA & LCP (Attachment D in IR Response) now includes a Lighting Impact Assessment as Appendix D and discusses lighting aspects throughout the LCVIA & LCP which addresses all items below.	Attachment D in IR Response

IR Items	IR Requirement/s	Addressed how/where	Report/Section
	submit a Lighting Impact Assessment using the model outputs against the above stated criteria. This assessment should include, but not be limited to:		
	1. Site plans showing where all lighting is proposed	Figure 4.5 of the amended LCVIA & LCP (Attachment D in IR Response) illustrates the proposed lighting locations for the project.	Attachment D in IR Response – Figure 4.5
	2. Luminance levels for each lighting device	LCVIA & LCP (Attachment D in IR Response) Section 4.3.3 details the project lighting requirements, including luminance levels. Table 4.7 presents the minimum substation lighting illumination levels required to comply with Powerlink standards.	Attachment D in IR Response – Section 4.3.3, Table 4.7
	3. Model impacts on all adjacent receptors; and	Section 4.3.4, Table 4.8, Figure 4.5, Section 4.3.5 of the amended LCVIA & LCP (Attachment D in IR Response) detail the potential sensitive receptors, distances to nearest light source, and impact assessment, with Table 4.12 presenting modelled lux values at residential receptors and Figure 4.6 presenting lux resulting from 110 lux at source (substation) directed horizontally at receiver.	Attachment D in IR Response – 4.3.4, Table 4.8, Figure 4.5, Section 4.3.5, Table 4.12, Figure 4.6
	4. Discuss what mitigation measures within the site are required to reduce the risk of lighting impacts	LCVIA & LCP (Attachment D in IR Response) Section 4.3.6 details lighting impact mitigation and provides recommendations. Section 5 discusses the broader visual impact mitigation assessment management and mitigation measures, which includes lighting.	Attachment D in IR Response – Section 4.3.6, Section 5
	In addition, to demonstrate compliance with PO3 of the Landscaping Code, the applicant is requested to include additional areas of landscaped vegetation within the development land to improve impact	Additional vegetation screening areas are now detailed in Section 5.2, Figure 5.1 and Section 6 (Landscape Plan) of the amended LCVIA & LCP (Attachment D in the IR Response) prepared by Accent Environmental, to improve impact mitigation and help maintain the character and ambience of the local area.	Attachment D in IR Response – Section 5.2, Figure 5.1 and Section 6

IR Items	IR Requirement/s	Addressed how/where	Report/Section
	mitigation and assist to maintain the character and ambience of the local area.		(Landscape Plan)
Ecological Significance – Road Widening	To meet the 'avoid and minimise impact' requirements of Performance Outcome PO1 of the Environmental Significance Overlay Code, all potential road widening works should retain all existing vegetation within the road reserve. If road upgrades are unavoidable and it is not possible retain all existing vegetation within the road reserve, the applicant is requested to provide an Ecological Impact Assessment for Council consideration, that includes but is not limited to:	The *Turner Road Ecological Impact Assessment* (Attachment E in IR Response) has been prepared by Terra Solutions and addresses all the items in the Information Request. The ecological assessment followed the completion of the *Existing Road Formation Assessment: Turners Road, Punchs Creek* by Friends Civil Engineering (Appendix E in amended TIA which is Attachment A in IR Response), which investigated the impact on formal road profiling of the existing gravel road and potential for widening of the existing sealed and gravel road sections to achieve the total 14m corridor width and how this would impact existing vegetation within the Turner Road road reserve corridor. In sections where the 14m total road formation width is not currently achieved and where vegetation impacts may occur, Friends Civil Engineering (2023) has proposed three alternative options that would achieve a formation width of 8.0m whilst avoiding impacts to roadside vegetation. This would be achieved through steeper batter grades than the TRC standard of 1 in 6. The Ecological Impact Assessment provides an assessment of the environmental values – including implications and requirements under the relevant State and federal legislation – of the roadside vegetation along Turner Road and identifies key impacts if widening follows the TRC Typical Cross Sections for regional roads. In correspondence with Council subsequent to issue of the Information Request, it was communicated that an effective solution, which balances a range of factors in an acceptable compromise, should be recommended	IR Response – Section 8

IR Items	IR Requirement/s	Addressed how/where	Report/Section
		and supported by an Ecological Impact Assessment. If no effective solution is proposed, further assessment for alternative routes will be required. The Applicant believes the proposed options recommended by Friends Civil Engineering (2023) and supported by the *Turner Road Ecological Impact Assessment* (Terra Solutions, 2023) present an acceptable compromise, balancing a range of factors, and can avoid impacts to matters of environmental significance by avoiding the removal of potential critical habitat features and vegetation clearing within EPBC Act listed threatened ecological communities. Furthermore, the Friends Civil Engineering report (2023) identifies additional benefits in avoiding impacts to matters of environmental significance and retaining the existing vegetation would include, maintaining the landscape values of Turner Road for road users and the local community; and maintaining the noise, dust and visual buffer or relief offered by the vegetation for the local residents along Turner Road.	
	1. Desktop assessment from relevant flora and fauna databases	Section 2.1 of the Turner Road Ecological Impact Assessment (Attachment E in IR Response) details the desktop assessment completed from relevant flora and fauna databases	Attachment E in IR Response – Section 2.1
	2. Site investigations for areas of remnant vegetation, essential habitat for fauna and protected plant found either on site or believed to occur on site	Turner Road Ecological Impact Assessment (Attachment E in IR Response) Section 2.4 provides details of the site inspection/investigation which included an examination of onsite vegetation communities and fauna habitat values such as hollow- bearing trees, conservation significant flora and fauna habitat, and other environmental constraints present in the Assessment Area.	Attachment E in IR Response – Section 2.4
	3. Confirm footprint of all operational areas and roads required to be cleared, areas to be retained and areas to be rehabilitated	Figures 2 and 3 of the *Existing Road Formation Assessment: Turners Road, Punchs Creek* by Friends Civil Engineering (Appendix E in amended TIA which is Attachment A in IR Response) provides the extent of the Tuner Road zones that were assessed to determine the footprint of road works to achieve the TRC standards. Table 5 presents a summary of Turner Road formation expected adjustments and drawings SK01, SK02 and SK03	Appendix E of Attachment A in IR Response – Figures 2 and 3, Table 5,

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		illustrate the recommended widening treatment options to minimise/avoid vegetation impacts. This is also shown as the Assessment Area along Turner Road in Figure 1 of the Turner Road Ecological Impact Assessment (Attachment E in IR Response).	Drawings SK01, SK02 and SK03 Attachment E in IR Response – Figure 1
	4. Discussion of road upgrade options including possible alternate routes, quantitative analysis for the route providing the least amount of vegetation loss	Possible alternate routes have not been explored as the Applicant believes the options recommended meet the Council brief to offer an effective solution, which balances a range of factors in an acceptable compromise. The *Existing Road Formation Assessment: Turners Road, Punchs Creek* by Friends Civil Engineering (Appendix E in amended TIA which is Attachment A in IR Response) Table 5 presents a summary of Turner Road formation expected adjustments and drawings SK01, SK02 and SK03 illustrate the recommended widening treatment options to minimise/avoid vegetation impacts. This is supported by the Turner Road Ecological Impact Assessment (Attachment E in IR Response) Section 4 which concludes there may be potential impact to matters of environmental significance if the TRC Typical Cross Section 14m wide corridor is required by Council and the options presented by Friends Civil Engineering (2023) will ultimately avoid those impacts by avoiding the removal of potential critical habitat features and vegetation clearing within the EPBC Act listed threatened ecological communities.	Appendix E of Attachment A in IR Response – Figures 2 and 3, Table 5, Drawings SK01, SK02 and SK03 Attachment E in IR Response – Section 4
	5. Ecological and habitat assessment of all road corridors, including species, densities and species diversity for each side of the road	Section 3 of the Turner Road Ecological Impact Assessment (Attachment E in IR Response) provides the results of the ecological and habitat assessment completed. Section 3.1.12 provides a useful summary of findings of the site investigation with regard to habitat features within either side of the road reserve and Figure 5 presents a useful illustration of the features.	Attachment E in IR Response – Section 3, Section 3.1.12, Figure 5

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	6. Consideration of clearing only one side of the road to maximise the retention of vegetation	The *Existing Road Formation Assessment: Turners Road, Punchs Creek* by Friends Civil Engineering (Appendix E in amended TIA which is Attachment A in IR Response) Table 5 presents a summary of Turner Road formation expected adjustments and drawings SK01, SK02 and SK03 illustrate the recommended widening treatment options to minimise/avoid vegetation impacts. This is supported by the Turner Road Ecological Impact Assessment (Attachment E in IR Response) Section 3.1.12 and Section 4, noting there are substantially more hollows present on the northern side of Turner Road.	Appendix E of Attachment A in IR Response – Table 5, Drawings SK01, SK02 and SK03 Attachment E in IR Response – Section 3.1.12, Section 4
	7. Discussion of the implications and requirements under State and federal legislation, including the *Vegetation Management Act 1999*, *Nature Conservation Act 1992*, *Water Act 2000*, and *EPBC Act 1999*	Section 1.3, Table 2, Section 3 and Section 4 of the Turner Road Ecological Impact Assessment (Attachment E in IR Response) provide discussion on the requirements and recommendations under relevant legislation based on the potential for ecological and habitat impacts if roadside vegetation is removed to achieve the TRC typical cross sections for regional roads.	Attachment E in IR Response – Section 1.3, Table 2, Section 3, Section 4
	8. Discussion of matters of local environmental significance including how the development will: a) Avoid impacts on the biodiversity values of ecosystems, areas of ecological significance and biodiversity corridors b) Maintain ecological processes and the ecosystem services provided by areas of ecological significance	The *Existing Road Formation Assessment: Turners Road, Punchs Creek* by Friends Civil Engineering (Appendix E in amended TIA which is Attachment A in IR Response) includes a section on the ecological significance mapping from TRC (see p15 of 25). This section and Table 6 discuss and detail the alternative road formation adjustment options to minimise/avoid impacts on matters of local environmental significance. Drawings SK01, SK02 and SK03 illustrate the recommended widening treatment options to minimise/avoid vegetation impacts. This is supported by the Turner Road Ecological Impact Assessment (Attachment E in IR Response) Section 4 which concludes there may be potential impact to matters of environmental significance if the TRC Typical Cross Section 14m wide corridor is required by Council and the options presented by Friends Civil Engineering (2023) will ultimately avoid those impacts by avoiding the removal of potential critical habitat features and	Appendix E of Attachment A in IR Response – p 15 of 25, Table 6, Drawings SK01, SK02 and SK03 Attachment E in IR Response – Section 4

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	c) Retain connection of habitat areas and biodiversity corridors; d) Restore and rehabilitate any degraded ecosystems, habitats and corridors; e) Protect ecological values and processes of waterways and wetlands; f) Protect water quality and riparian habitat of waterways on site or those receiving runoff from site.	vegetation clearing within the EPBC Act listed threatened ecological communities.	
	9. Provision of managed buffers between operational areas, sensitive receptors, ecologically significant areas and waterways; and	No additional buffers have been proposed because the Applicant believes the options recommended to alternative road formation adjustment options to minimise/avoid impacts on matters of ecological and environmental significance meet the Council brief to offer an effective solution, which balances a range of factors in an acceptable compromise. And in doing so, the Friends Civil Engineering report (2023) identifies additional benefits of avoiding impacts to matters of environmental significance and retaining the existing vegetation would include, maintaining the landscape values of Turner Road for road users and the local community; and maintaining the noise, dust and visual buffer or relief offered by the vegetation for the local residents along Turner Road	
	10. Provision of a Rehabilitation plan for end of life or staged operations.	Appendix L of the original application materials provided a Site Based Environmental Management Plan & Site Rehabilitation and End of Use Plan. The purpose of these plans was to provide Council with a commitment relating to minimising and managing development impacts and an indication of the management plans that are anticipated for the development and are expected to be a conditional requirement prior to commencement of works and stages. Such plans will be submitted for	Appendix L of original application materials

IR Items	IR Requirement/s	Addressed how/where	Report/Section
		approval to Council prior to commencement of stages and will be site and stage specific. At this point in the development lifecycle, it is not yet known when and who will undertake the construction and ongoing development stages. There is also no certainty around what, if any, rehabilitation of impacts from road upgrades may be required. The Applicant believes Appendix L adequately represents the intention for the development to minimise and manage impacts and for rehabilitation post-works.	
Landscaping	The applicant is requested to provide information demonstrating the need of providing Asset Protection Zone (APZ) Buffer.	Section 9 of the IR Response letter provides the following response: The Asset Protection Zone (APZ) Buffer illustrated on the concept layout plan and noted in the LCVIA & LCP, is not related to any risk associated with the Bushfire Hazard Overlay. An internal clearance and APZ buffer has been included as a measure primarily to protect the proposed asset infrastructure from tree falls. It is standard practice on solar farms to allow a separation buffer, of at least the height of the tallest tree, to the built infrastructure. This is also to minimise or avoid shading on the solar pv panels which reduces the generating output of the asset.	IR Response – Section 9
	To demonstrate compliance with the above mentioned PO8 of the Rural Zone Code, the applicant is requested to submit an amended landscape plan addressing the following:	The amended LCVIA & LCP (Attachment D in IR Response) includes a revised Landscape Concept Plan in Section 6 of the amended LCVIA & LCP (Attachment D in IR Response) and details of the additional areas of screening vegetation are provided in Section 5.2, Figure 5.1. In addition to the amended LCVIA & LCP, the Planning Scheme Code Response document (Attachment G in IR Response) has been amended with responses to the Environmental Standards Code and other relevant codes now referring to the landscaping as detailed in the Landscape Concept Plan.	Attachment D in IR Response Attachment G in IR Response
	1. Demonstrate how the visual amenity issues are to be mitigated	Visual impact mitigation is discussed in detail in Section 4.3.6 (for lighting) and Section 5.	Attachment D in IR Response – Section 4.3.6, Section 5

IR Items	IR Requirement/s	Addressed how/where	Report/Section
	2. Indicate suitable landscaping provision to screen the proposed infrastructure and buildings; and	Details of additional areas of screening vegetation are now provided in Section 5.2, Table 5.1, Figure 5.1 and Section 6 (Landscape Plan) of the amended LCVIA & LCP (Attachment D in IR Response).	Attachment D in IR Response – Section 5.2, Table 5.1, Figure 5.1, Section 6
	3. Include further detail relating to the proposed plant species mix, locations and quantity within the prepared mass planting areas.	Detail relating to the proposed plant species mix, locations and quantity is discussed in Section 6.1, Figure 6.3, Figure 6.4, Drawing numbers 1 of 4, 2 of 4, 3 of 4 and 4 of 4 at the end of Section 6 and Appendix C of the amended LCVIA & LCP (Attachment D in IR Response).	Attachment D in IR Response – Section 6.1, Figure 6.3, Figure 6.4, Drawing numbers 1 of 4, 2 of 4, 3 of 4 and 4 of 4 at the end of Section 6 and Appendix C
Social Impact Assessment	Council wishes to clarify previous advice in reference a requirement for a Social Impact Assessment to be prepared as part of the Information Request. In this respect, Council considers any potential social impact matters are not related to the proposed land use of a 'Solar Farm' .Council believes that other complementary land uses (e.g., workers accommodation) (subject to separate application to Council) are likely to trigger a Social Impact Assessment to be prepared as part of any future application. No further	No requirement	

IR Items	IR Requirement/s	Addressed how/where	Report/Section
	information is required on social impacts as part of the Information Request for the Solar Farm.		