

In reply please quote: WDC ref LU2300093
NRC ref APP.045356.01.01

Or ask for: Alister Hartstone (Consultant Planner)

3 October 2023

Meridian Energy Limited
C/- Brett Hood
Reyburn and Bryant Limited

Sent via email Brett@reyburnandbryant.co.nz

Dear Brett

Proposed Resource Consent Applications before the Whangarei District Council and Northland Regional Council – s92(1) Request for additional Information

Applicant: Meridian Energy Limited
Location: Sites 1 – 3, State Highway 15A, McCathie, Marsden Point and Rama Roads, Ruakaka
Reference: Whangarei District Council LU2300093
Northland Regional Council APP.045356.01.01

With regard to the above applications, I can advise that an initial review of the information provided with both applications has been completed. Further information has been identified as necessary to support the assessment of the above applications. For the purpose of efficiency, the additional information sought from both the Whangarei and Northland Regional Councils is combined in this single Section 92(1) request.

Where identified, technical experts acting for both Councils have provided documents that are attached to this request identifying the additional information required and why. It is requested that if there are any technical questions or discussions required between the applicant and Council experts to resolve any of the information requests, that those discussions occur directly between those experts, with a record of discussions and any outcomes to be forwarded to me as part of the formal Section 92 response.

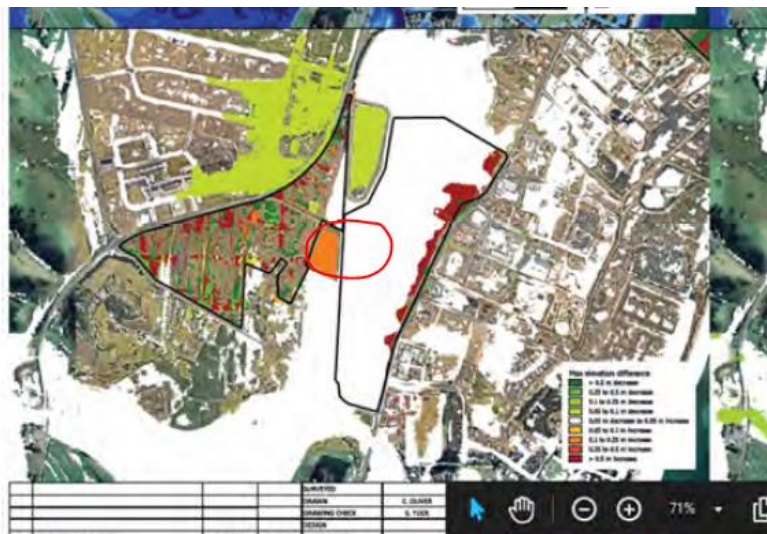
The following information is requested pursuant to Section 92(1):

Northland Regional Council

1. Please refer to the attached document provided by Jack Warden of Rural Design Limited regarding the ecological effects and proposed offsetting of wetland disturbance / removal. I understand Jack has already indicated his initial concerns regarding the proposal and I expect that this matter is probably the key issue to resolve as part of the consenting process. Can you please consider and respond to the queries contained in his advice.
2. Bertrand Salmi of Water Technology Limited has provided the following comments addressing the development implications regarding flood levels and modelling of effects:
 - *The model methodology appears to be fit for purpose to assess relative effects of filling the site on flood extents, noting the results are comparable to the Regionwide flood model (where it*

overlaps). There are some differences between underlying assumptions but this is expected in modelling.

- We note that BECA relied on the RCP 2090 HIRDS dataset though we would expect RCP8.5 to be more appropriate (noting that relatively speaking, this is unlikely to affect the findings)
- Site Assessment
 - **Site 1:** no impact is achieved via a bund with outlet structures along the downstream (north-eastern) boundary but little details are provided in terms of what the bund/outlets would look like
 - We note there is little details on these assets provided in the flood modelling report. Given they are critical in protecting downstream properties, it would be good to see. They may be included in the Civil Design Report (BECA), though we don't have a copy of it.
 - Consideration of maintenance would be important too, dependent on height of bund.
 - Details can likely be addressed at the detailed design stage however, modelling will be needed to confirm that there is no detrimental impacts off-site.
 - **Site 2:** flooding at this site is mostly from local rainfall. Earthworks on the site can likely readily be designed to ensure hydraulic neutrality.
 - **Site 3:** earthworks at the site are predominantly cut, which would explain why there is generally betterment offsite as a result of work.
- The maps in the Appendices of the Flood Modelling Report are low resolutions. It would be good to get higher resolution maps
- It would also be good to get a copy of the Hec Ras 2D model, to check how the post-development scenario was modelled relatively to the existing.
- We note that the maps shows some afflux (i.e., increase in flood levels) on the wetland on an adjacent property but we would need higher resolution maps to confirm the extent of increase;



- Michael [at] Metis mentioned that he was of the opinion that the proposed solar panels would potentially increase impervious areas, which differs from the current assumption that the pervious and porous nature of the site would be maintained. Should the assumption change, the Ruakākā Flood Model would need to factor the changes in, to confirm that the increase in impervious areas and associated runoff doesn't impact on adjacent properties during flood events.

Can you please consider and respond to the queries contained in his advice.

3. In terms of planning matters, it is noted that the application includes a request for consent for construction of a bore and associated water take as per Section 4.2 of the application. However, there does not appear to be any assessment of the matters of control under Rule C.8.5.3 or wider

effects associated with the water take under Rule C.5.1.12. Can you please provide a suitable assessment of effects to address infringement of those two rules. That assessment should include consideration of any affected persons associated with the proposed water take.

In conjunction with this and for completeness, you will have received advice under cover of email dated 21st September 2023 from Mr Stuart Saville of Northland Regional Council. That advice refers to amendments to the RMA by the NBEA, which requires the activity of a water permit applied for by Meridian Energy Limited to be considered as an “affected resource consent” by clauses 38 – 40 of Part 6, Schedule 12 of RMA. That consideration should be addressed in conjunction with the assessment of effects sought for the water take.

Whangarei District Council

4. Please refer to the attached document provided by Kylie McLaughlin-Brown of Evolve Planning and Landscape Architecture Limited regarding the rural character, landscape and visual amenity effects. Can you please consider and respond to the queries in her advice.
5. Please refer to the attached document prepared by Michael Arthur of Metis Consultants Limited as it relates to stormwater management, notably associated with impervious surfaces (and please refer to last bullet point under 2. above). Can you please consider and respond to the queries in his advice.
6. Northland Transportation Alliance have provided some comments on the proposed vehicle crossings and traffic as it relates to the local roading network. They have noted as follows:
 - *Provide updated tracking showing the location of the light pole & the tracking of vehicles.*



Please ensure that the light is unlikely to be struck when heavy traffic shall be turning into the vehicle crossing. A condition to be listed that the light pole be replaced at the developers expensive, should it be damaged and upgraded to current standards.

In addition, they have raised a question regarding a possible cycle connection through Site 1, to form a section of the Ruakaka to One Tree Point/Marsden Cove route, as illustrated below. This would be formed as a gravel surface at 2-3m width to comply with Grade 1-2 from the NZ cycle trail design guide. The initial internal advice provided to NTA is that it is outside the scope of the application. Nevertheless, it is included for your consideration and comment.



7. It is not clear whether the written commentary provided under Appendix 16 – ‘Letters of Support’ is sufficient to adequately address the requirements of Section 176(1)(b) of the RMA where written consent is required from the requiring authorities in relation to land that is subject to a designation. None of the letters specifically acknowledge or address the designation/s so it is unclear what the status of these letters are. Can you please consider and advise accordingly.
8. Recognising that Sites 1 and 2 are currently subject to industrial zonings, there appears to be some reliance on a permitted baseline or similar argument, particularly in terms of the landscape and visual effects assessment. However, the application does not appear to explicitly detail a permitted baseline on either Sites 1 or 2. I consider it would be helpful to assess and determine what, if any, permitted baseline might be applicable when considering the extent of adverse effects on those two sites, and possibly on Site 3 if it is considered relevant.
9. The extent of adverse effects on any affected persons will need to be addressed in more detail, particularly in terms of the landscape and visual effects and construction noise. I note that no conclusion has been offered regarding the extent of adverse effects on the receivers of construction noise where it will exceed the permitted standard. The extent of adverse effects identified in the Landscape, Visual Amenity and Rural Character Assessment contained in Appendix 14 includes reference to ‘moderate – low’ effects, so some adjacent owners may be considered to be adversely affected to a minor extent (albeit those effects may be mitigated to less than minor over time). A more detailed consideration of affected persons based on the technical reports provided in the application is warranted in order to determine whether there are any affected persons and whether those person are adjacent to the site or are considered to be within the wider environment.

This assessment should take into account the permitted baseline consideration as per point 8. above.

Pursuant to Section 92A(1) you are required to respond (in writing) to this request for further information within 15 working days of this query. You can respond by either;

- a) Providing the information requested, or
- b) Seeking a later date to provide the information by, or
- c) Refusing to provide the requested information.

Processing of this application has been put on hold from 3 October 2023. The processing of the application will restart:

- a) When all of the above requested information is received, or
- b) From the revised date for the requested information to be provided, if you have provided written confirmation of a revised date for doing so;
- c) From the date that you have provided written confirmation that you do not agree to providing the requested information, or
- d) Fifteen working days from the date of this letter (being 1st November 2023).

I trust that this is of assistance.

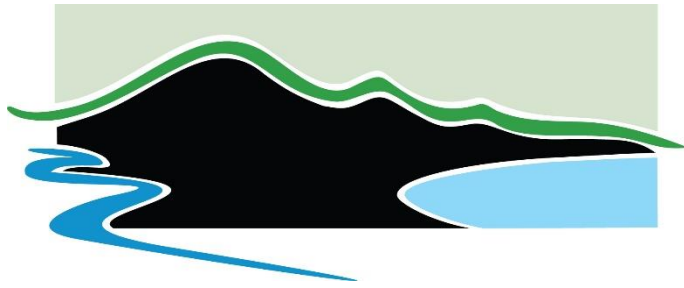
Regards

A handwritten signature in black ink, appearing to read 'Alister Hartstone', written in a cursive style.

Alister Hartstone
Consultant Planner

Attachments:

- Ecological Peer Review by Jack Warden, Rural Design Limited
- Landscape and Visual Assessment Review by Kylie McLaughlin-Brown, Evolve Planning and Landscape Architecture Limited
- Stormwater Review by Michale Arthur, Metis Consulting Limited



RURAL
DESIGN

SINCE 1984

3 October 2023

Katie Martin (Team Leader) - Whangarei District Council
Application Number (LU2300093)

Stuart Savill (Consents Manager) – Northland Regional Council (NRC)
Application Number (APP.045356.01.01)

Cc/: Alister Hartstone

In the matter of: Meridian Energy Limited (MEL) Proposed solar energy farm development at Ruakaka.

Rural Design 1984 Ltd (RDL) have been asked to undertake an Ecological Peer Review on behalf of Whangārei District Council (WDC) and Northland Regional Council (NRC) relating to a solar energy farm development proposal (WDC-LU2300093 and NRC-APP.045356.01.01) by Meridian Energy Ltd (MEL) ('the Applicant') at three sites three sites between Ruakākā township and Marsden Point ('the Site').

In conducting this Ecological Peer Review, a desktop study was completed which included a review of the relevant information relating to the ecological aspects of the development proposal. Furthermore, an initial site drive-through was undertaken with Andrew Guerin (Meridian) and Tanya Cook (Boffa Miskell Limited) (BML) on Thursday 28th September 2023.

It is anticipated that following a more thorough site walkover to be carried out by RDL planned for the 5th of October 2023 some of the concerns will be addressed or others may arise. To date, the primary concerns from an ecological perspective are highlighted below.

NATIONAL POLICY STATEMENTS

National Policy Statement for Freshwater Management (NPS-FM) & National Environmental Standard for Freshwater (NES-F) Reg 45 (6)

A resource consent for a discretionary activity under this regulation must not be granted unless the consent authority has first—

(a) satisfied itself that the specified infrastructure will provide significant national or regional benefits; and

(b) satisfied itself that there is a functional need for the specified infrastructure in that location

(c) applied the effects management hierarchy.

1. NPS-FM 'functional need' means the need for a proposed activity to traverse, locate or operate in a particular environment because the activity can only occur in that environment. I do not see how the application can pass this test. Please provide a robust assessment against Reg 45(6)(b) of NES-FW. While I note the Land Use Consent Application prepared by Reyburn and Bryant (R&B) has outlined the functional need for the solar farm operation to take place in this general location, there has been no assessment as to why the proposal needs to extend over the mapped wetland habitats on Site 1. I do not consider that the proposal passes the high threshold of 'functional need' and has rather taken an approach based on 'operational need,' and therefore I do not consider that the assessment sufficiently covers requirements under Reg 45(6)(b). A more in-dept consideration of alternatives is required, in particular as to why the development could not extend over the entirety of Site 3, which contains minimal ecological constraints instead of requiring significant "removal" of wetland areas in Site 1.

National Policy Statement for Indigenous Biodiversity (NPS-IB)

2. I agree with BML statement that NPS-IB (2023) does not apply to this application as per Section 1.3 (3) of NPS-IB (2023).

PREVIOUS BESS CONSENT

3. Previous consent for Battery Energy Storage System (BESS) - please identify the location where the offset of the wetland loss from the BESS construction has been carried out on site. BML report states that the BESS is already consented, and

construction is underway in the northern corner of Site 1A. BML state that the 0.15 Ha wetland offset as part of the BESS consent will be wrapped into the larger wetland offset plan as part of this consent. This does not seem appropriate given that this work should have been carried out as part of separate RC conditions. Please provide comment/clarification on this.

WETLAND CLASSIFICATION, EXTENT AND PROPOSED WETLAND OFF-SET

4. Based on the brief site visit undertaken on the 28th of September 2023 there appears to be rather large discrepancy between the BML mapped wetland extent (Figure 1) and what can be observed on the ground. A small example of the BML mapped wetland areas compared with the potential additional wetland extent based on the most recent Google aerial imagery is provided below (Figure 2). It appears that the discrepancy in the overall natural inland wetland extent on site compared between BML mapping and a rapid desktop analysis carried out by RDL based on the most recent aerial imagery, is quite significant. It is noted that the BML assessment has relied on the 'rapid test' applied at locations across the project site, that BML have based their overall mapping exercise on a representative selection of identified wetland features being GPS'd through Fieldmaps, and that not all wetland areas on site had been ground-truthed/delineated. This is not deemed appropriate given that the proposal is based on "removal" of nearly 90% of the wetland areas on Site 1, so appropriate delineation of all wetland areas on site based on delineation carried out on the ground is required. Based on these results alone and without up-to-date aerial imagery overlaid, there is no context to the results of the wetland delineation carried out by BML. Please provide updated mapping and calculations to reflect the current wetland extent on Site 1 using accepted wetland delineation methods (MfE Wetland delineation protocols 2022) ensuring that all wetland areas have been appropriately delineated/ground-truthed.

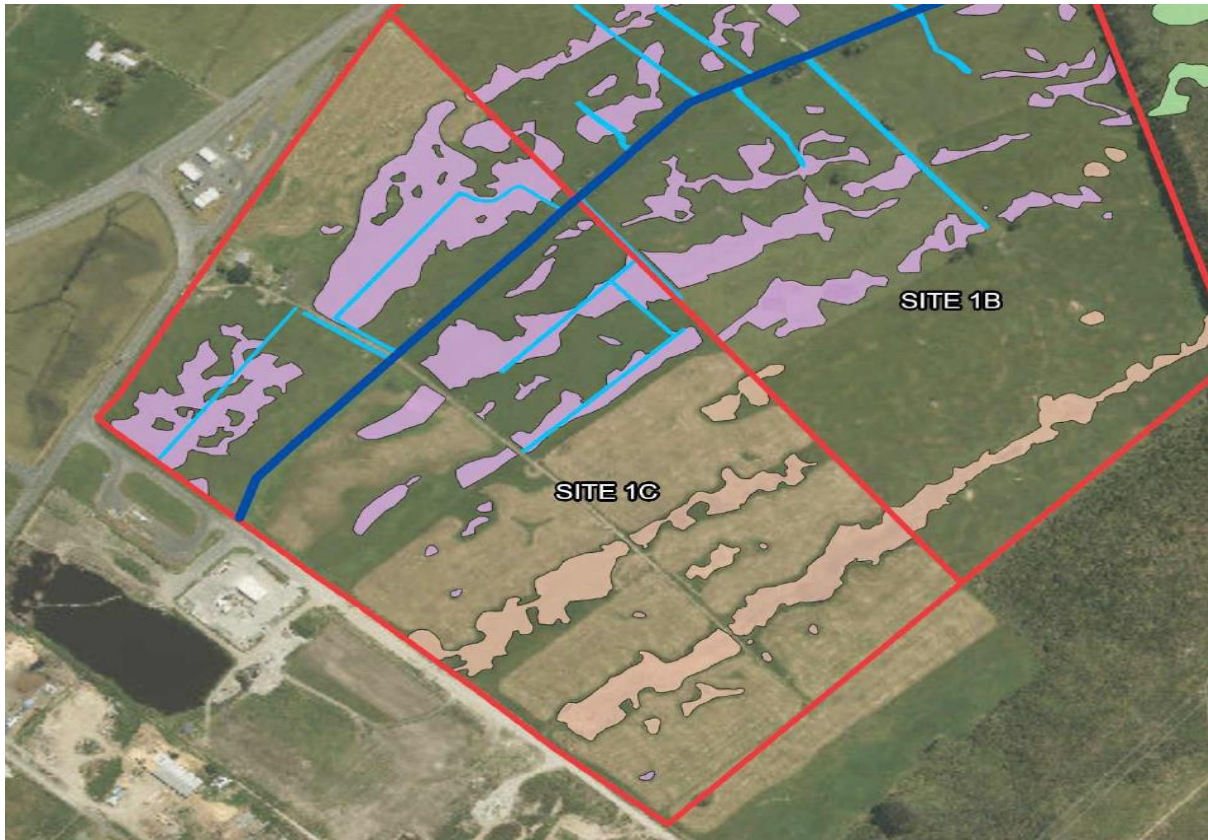


Figure 1: (BML) Figure 12: NPS Natural Inland Wetlands and watercourses in Site 1 of the Ruakākā Energy Park



Figure 2: BML identified wetland extent (green) and RDL likely additional wetland areas (white hatch) based on analysis of the most recent Google aerial imagery

5. During the site visit on the 28th of September 2023, it was observed that large swaths of the wetland extent on site (although in mosaics) at the time of the visit were dominated by the obligate native willow herb (*Persicaria decipiens*) and therefore these areas are dominated by an indigenous species. Please provide updated mapping and calculations to reflect the current extent of areas identified as exotic and indigenous wetland.
6. It was noted that the northern extent of Site 1 (observed from road edges and confirmed from observing in roadside drain) contained 'At Risk – Declining' *Carex fascicularis*. Please reassess the significance of the wetlands where this species is present.
7. Removal of 17 ha of wetland habitats that supports 'Threatened' avifauna and likely 'Threatened' flora is proposed – I do not agree with BML conclusion that the ecological effect of what BML describe as temporary wetland habitat loss (taking into account the proposed offset measures) is "low". I do not agree that the wetland loss would be temporary, I consider it being permanent wetland loss which will result in significant adverse effects on 'Threatened' avifauna such as 'Critically Endangered' Australasian bittern, which have been confirmed to be present on Site 1. Please provide a detailed explanation how the wetland loss on Site 1 can be assessed as temporary loss.
8. I do not agree that the proposed offset and mitigation measures are sufficient to ensure that no-net loss of wetland areas is achieved. I consider that an insufficient offset has been proposed. Best practice for wetland loss would suggest a minimum of 1:3 offset (based on international studies). Applying NZ methodology, if I analyse the proposal of 17 ha wetland loss and 19 ha wetland offset through Biodiversity Offsets Accounting Model (DoC) assuming that the offset wetland habitat would be a minimum 50% of the quality/significance of the impacted wetland, by year 5 (typical for RC conditions), a minimum area of 34 ha of offset wetland would be required to achieve no-net loss. Can BML please provide their suggested offset calculations (excel spreadsheet including explanation of any assumptions applied to the calculations) based on Biodiversity Offset Accounting Model (Maseyk et al. 2015) as suggested under Condition 21a of the Proposed Conditions of Consent.
9. Please provide suggested controls to ensure that adverse effects associated with permanent wetland loss are minimised. For example, such controls may include creation of the wetland offset area a minimum 5-years prior to the construction work beginning to ensure that the offset habitat is provided for prior to the "removal" of the wetland areas on Site 1. The 5-year period between wetland offset creation and

start of construction works would ensure that suitable lag-time is available for the offset wetland area to reach canopy closure, allowing for any susceptible fauna relocation or facilitation of assisted movement prior to the reclamation of their existing habitat on Site 1.

10. Please provide an in-depth consideration of alternatives – while there have been engineering/cost analysis focused on full development of Site 1, there has been no consideration for establishing the solar farm operation over the entirety of Site 3 instead – which is primarily in pasture and contains minimal ecological constraints. I would note that BML have mapped no wetland habitats at all within the proposed ‘wetland offset area’. The wetland loss on Site 1 is 17 ha and proposed offset wetland mitigation on site 3 is 12.8 ha (approx.) which would mean that it would be feasible to simply extend the proposed solar farm park development over the entirety of Site 3, and some smaller isolated suitable areas on Site 1 (located near Marsden Point Road and SH15), which would avoid wetland loss on Site 1. I would like to see this alternative explored and considered by the Applicant and also seek a comment from their Ecologist.
11. BML state that the proposed area for wetland creation/offset on Site 3 was historically wetland prior to land clearance and drainage. I have reviewed historical imagery from 1950 onwards and assessed google street view, and while the wetland offset area is indeed low lying, there is little indication that the proposed wetland offset area has in recent history been a wetland. At current day, the area is in its entirety in grazed pasture and is only lightly drained by 2 surface water drains. This indicates that significant earthworks and manipulation of the existing water table would be required to establish the required hydrological regime for a self-sustaining wetland system in the future. This is also likely to have an effect on the flood risk within the adjoining properties. Please include a feasibility analysis supported by a suitably qualified hydrologist outlining the long-term sustainability of a potential new wetland area at this location.
12. BML state that the loss of wetland habitat will be short term (~ 3 years), and the offset wetlands will have a larger total extent (~ 19 ha in total) and higher ecological value, and therefore the ecological effect of this temporary wetland habitat loss is “Low”. I do not agree with this statement. Can BML please clarify what they mean by the “short-term loss of 3 years” and how this has been calculated. BML can only speculate that a wetland created within a pasture area would have a higher ecological value – I note the proposal is based on the provision of extremely basic revegetation planting, and the wetland offset area will require continued intervention

to service the existing power pylons. Thus any chance of true wetland restoration is lost, as the area will continue to be impacted by human use.

13. I would also like to question the overall calculated wetland offset area, my calculations show approximately 12.8 ha of off-set within Site 3 and what I would see as essentially offering to revegetate 7 ha of the margins of a wetland on Sites 1A and 1B. I do not see how this can off-set the loss of 17 ha of existing wetland habitat (please note the total wetland extent as mapped by BML is also in dispute). Please provide detailed design clearly quantifying all proposed wetland off-set areas in each site, methodology on how the new wetland areas will be created and how a sufficient water table will be created/maintained across both Site 1 and Site 3.
14. Given the high uncertainty of the proposal and low likelihood of the success of converting exotic pasture into long-term, self-sustaining wetland habitat, I would like to see at least a draft version of a Wetland Restoration and Management Plan which details how sufficient water levels within the proposed wetland offset/creation area in Site 3 will be maintained to ensure that the system can support a wetland ecosystem type rather than a low quality manuka/kanuka shrubland, and how this may affect the hydrology and flood risk of adjacent properties and Ruakākā River. How will water table be raised in Site 1 to ensure that the revegetation planting proposed to extend along the existing wetland areas proposed to be retained and extended? Note that terrestrial revegetation plantings do not count as wetland offset. Please include a hydrological assessment prepared by a suitably qualified hydrologist as to how water table within each area (both Site 1 and Site 3) will be raised, and the viability for the long-term maintenance of a raised water table within Site 3 given that it is currently pasture and has likely never been a wetland habitat in the past (or at least since 1950s). It is also noted that a Crown Drainage Easement is required to be maintained within the proposed wetland offset area in Site 3. Please include an assessment as to the likely effect this would have on the hydrological functions of the wetland offset area.
15. It was noted that a large portion of the maintained artificial watercourses on Site 3 were tidal. Furthermore, it was noted that the outlet into the Ruakākā estuary is controlled by a floodgate. Any wetland offset on Site 3 will need to demonstrate and consider the salinity of the site, the existing floodgate and associated existing roading network (its ability to be modified to provide the intended ecological enhancements e.g. fish passage), the existing high voltage powerlines, and existing low voltage powerlines.

16. Please identify and demonstrate how natural inland wetland areas within a 100m setback of the proposed development works will not result in the complete or partial drainage of any adjacent wetland features in neighbouring sites.
17. Please demonstrate how the proposed areas to be protected on Site 1 will maintain their hydrological function and remain as a functioning wetland considering the proposed level of cut and fill, and diversion of existing watercourses within the remainder of the site.

STATUS OF WATERCOURSES AND POTENTIAL ADVERSE EFFECTS

18. Please confirm the status of all watercourses within the site boundaries – under section 3.2.2 of the EEA, BML state that Bercich Drain in Site 1 and a large unnamed drain running along the west boundary of Site 3 meet the definition of a “river” as per the Proposed Regional Plan for Northland (PRP), but under 4.3.1 suggest that these watercourses meet the definition of an “artificial watercourse” as defined under PRPN. Please provide a clearly annotated map for all sites that clearly identify the definition and status of all watercourses in reference to the definitions under PRP.
19. Please clarify the potential adverse effects are associated with the R&B statement under Section 5.4.4 of the Land Use Consent Application that *“Any adverse effects associated with maintaining the drains will be negligible as they will continue to be maintained in the manner that they were previously, in accordance with the permitted activity standards of the PRP.”* Please note that not all watercourses on the site(s) are artificial watercourses, and some meet the definition of an intermittent or permanent stream under the PRP, and therefore any ‘maintenance’ is subject to relevant PRP regulations. In particular, it is noted that the watercourse identified as the “Crown Drainage Easement” in Site 3 (please refer to Figure 24 of the EEA prepared by BML) is proposed to be maintained within the proposed wetland offset area. Will this drain also require ongoing maintenance? If so, please provide an assessment as to what the likely long-term effects of this would be on the proposed wetland offset area, noting that this will likely have a chronic effect by maintaining a low water table within this area, and thus reduce the viability for a self-sustaining wetland area to be established at this location.
20. Given that numerous waterbodies (including permanent streams and open water wetland habitats) are proposed to be reclaimed in Site 1, I would see it as prudent that a revised freshwater fish survey and aquatic survey be provided for as part of the application that does rely on data from NIWA and previous assessments carried

out by other consultants at unknown parts of the site(s). Given that black mudfish (*Neochanna diversus*) are notoriously difficult to survey utilising standard fish sampling protocols, and that they have been recorded in nearby sites in the past, please include an updated fish assessment utilising eDNA tests with a minimum of 5 replicate samples to confirm the absence of black mudfish within the impact areas on Site 1. Standard aquatic surveys are often insufficient to confirm presence/absence, as mudfish bury themselves deep in the mud during dry summer periods, and therefore may not be detected during standard fish surveys and therefore the use of eDNA is deemed more appropriate.

EFFECTS ON FAUNA

21. From the information provided with the application, BML confirm 'Critically Endangered' Australasian bittern are on site residents within Site 1. Considering the scale of wetland habitats (both exotic or indigenous dominated) within Site 1, it is assessed that wetlands of this size, scale and location are crucial to the survival of this species in Ruakākā, and therefore the wetland(s) on Site 1 are assessed to be of high ecological significance, both locally and regionally. Considering the critical threat status and rarity of bittern, the loss or displacement of a single bird or pair of birds could have measurable effect on the national and international population. Please provide a more detailed assessment on what methods will be employed to ensure that these species will not be adversely impacted by the proposed development. Please include additional mitigation options such as those outlined under Item 9 of this ecological peer review.

22. Please consider long terms effect on bittern populations on Site 1. I would note that the proposed offset area on Site 3 is located across a busy industrial road, while Site 1 is located on the coastal transitional zone with minimal existing disturbance, and therefore are preferred habitat to bittern. I consider that long term habitat viability, suitability and recruitment potential within the proposed offset wetland mitigation area on Site 3 to be low. The proposed wetland offset area is surrounded by residential development, disturbance from road noise, and high and low voltage power lines which will require ongoing intervention and habitat disturbance. I have significant doubts that any bird, especially such cryptic and disturbance intolerant birds such as bittern will readily colonise such an area. Please provide evidence that the proposed offset site will provide suitable habitat for 'Critically Endangered' Australasian bittern.

23. During the site on 28th September 2023 seabirds were noted throughout the project area. Please provide evidence that seabirds which utilise the site will not severely be impacted by the proposed development.
24. The watercourses across all sites are likely inanga (*Galaxias maculatus*) spawning habitat. Given the high level of modification and reclamation of onsite watercourses and wetland areas, please provide an assessment and mitigation measures to be employed during active site development works to ensure that inanga spawning habitat is not permanently lost or adversely affected.

CONSTRUCTION AND OPERATIONAL EFFECTS

25. Potential effects on the day-to-day operations of the solar farm have been provided. It is noted that impact of solar farms especially on avifauna is largely unknown in New Zealand. International literature and BML report suggest impacts such as:
- Collisions
 - Disturbance displacement
 - Habitat loss
 - Barrier effects
 - Foraging behaviour
 - Evidence indicate that waterbirds may be particularly susceptible to collisions with solar arrays due to the so-called lake effect, caused by the reflection of the sun of the smooth surface of solar panels.
 - Mowing/maintenance regimes impacts on nesting avifauna.

Considering the above, please provide further detail on how the proposal will mitigate the potential impacts on avifauna which likely utilise the site for commuting, breeding, roosting and feeding.

26. Please identify and demonstrate the receiving environments associated with the Proposal and the associated effects on the receiving environments e.g. Ruakākā Estuary, Ruakākā beach etc. For example, stormwater diversions and discharges may have an effect on the hydrological regime and functioning of streams and wetlands outside the development footprint that are located on neighbouring sites.

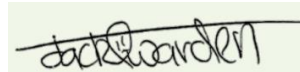
27. It is considered that similar issues as outlined above have been raised within the Cultural Effects Assessment Report prepared by Patuharakeke Te Iwi Trust Board in particular relating to the effects of wetland "Removal" in Site 1. We concur the assessment undertaken by Patuharakeke Te Iwi Trust Board that as it stands the proposal would result in more than minor effects due to significant loss of existing wetland extent.

Ecological Peer Review prepared by:

Jack Warden

Senior Ecologist

Rural Design 1984 Ltd

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03.10.2023