

# Technical Clarifications

## Green Star Design & As Built NZ v1.1

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## Released January 2023

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Technical Clarifications for Green Star Design and As Built NZ, which represent NZGBC's answers to submitted Technical Questions, are published in this document to provide further guidance and reference to other projects. This list will be updated quarterly on the NZGBC Green Star Resources webpage.

There are two types of Technical Clarifications listed in this document. Please make sure you fully understand the difference between **General Clarifications** and **Project Specific Clarifications** before applying any clarification to your project.

**General Clarifications** are extensions to the guidance provided in the Submission Guidelines. They clarify and sometimes supersede the original Credit Criteria or Compliance Requirements. They set precedent for future project teams to follow. Should a project team wish to apply a general clarification to its project, there is no requirement for further Technical Questions to be submitted to NZGBC. NZGBC Assessors will also use them as precedents to assess submissions.

**Project Specific Clarifications** are published as references for other projects but, not like General Clarifications, they do not set precedent. They often relate to special situations where multiple prerequisites exist for a particular project and less likely to reoccur to another project. Therefore, rulings set for Project Specific Clarifications are often conditional and will likely vary for other projects. Each project still needs to submit its own Technical Questions and provides evidence relating to its own building in order to have a similar ruling approved for this specific building.

**Note:** A separate list of Technical Clarifications for Legacy rating tools is provided on this [webpage](#). Some of them may be applicable for projects registered under Green Star Design and As Built NZ. Should you wish to apply any Technical Clarification for legacy rating tools to your projects, please submit a Technical Question to the NZGBC to explain WHY and HOW it applies.

Please ensure you have downloaded the latest version of Technical Clarification list from the website at [www.nzgbc.org.nz](http://www.nzgbc.org.nz)

0. General	15. Greenhouse Gas Emissions
1. Green Star Accredited Professional	16. Peak Electricity Demand Reduction
2. Commissioning and Tuning	17. Sustainable Transport
3. Adaption and Resilience	18. Potable Water
4. Building Information	19. Embodied Carbon Emissions
5. Commitment to Performance	20. Responsible Building Materials
6. Metering and Monitoring	21. Sustainable Products
7. Responsible Building Practices	22. Construction and Demolition Waste
8. Operational Waste	23. Ecological Value
9. Indoor Air Quality	24. Sustainable Sites
10. Acoustic Comfort	25. Stormwater
11. Lighting Comfort	26. Light Pollution
12. Visual Comfort	27. Microbial Control
13. Indoor Pollutants	28. Refrigerant Impacts
14. Thermal Comfort	29. Innovation

Clarification type	Tool Version	Month Released	Sub-Credit No.	Sub-Credit Name.	Amendment/Approved Ruling
<b>General</b>					
General	V1.1	06/22	General	N/A	For the Nominated Area, toilets and end-of-trip facilities should be defined as Tertiary spaces.
Project Specific	V1.1	11/20	General	N/A	The NZGBC conditionally grants that the project can submit a model lease clause (unleased spaces) or signed lease agreement (leased spaces) and not provide a Tenancy Fitout Guide, however, as per the Design & As Built Fitout Scope Guidance, the document must provide a project-specific response and outline to the tenant how the base building has been designed to deliver necessary base building characteristics and functions to meet the intent of the credit, in compliance with Appendix A: Credit Criteria Guidance. The proposal to consider credit 10.1 as a Type C credit is granted. The project will deliver fan coil units beyond the riser however without ceilings installed, therefore compliance will be conditional on tenants installing finishes as required in the lease agreement.
General	V1.1	8/22	General	N/A	Crushed concrete from a previous building on the same site directly reused (without being taken out from the site) for hardfill or backfill may claim points under credit 22 Construction and Demolition Waste, credit 19 Life Cycle Impacts and credit 21 Sustainable Products simultaneously, but not under the innovation category.  Note that the project team should ensure the quality of the crushed concrete is suitably consistent as being reused for hardfill or backfill.
General	V1.1	8/22	General	N/A	The Healthcare Guidance requires shell spaces to be defined as primary spaces. However, for hospital projects, some areas may not be completed before Practical Completion but do have nominal fitout design in place. In this case, it is acceptable for project teams to subdivide the shell spaces into primary, secondary and tertiary spaces based on the nominal design rather than defining the entire shell spaces as primary. Note that project teams need to confirm that the proposed design will eventually be built as it is.
General	V1.1	11/22	General	N/A	The use of default Design Occupancy from Green Star Legacy tools is not an acceptable method of calculating Design Occupancy for speculative developments. For speculative developments it is common for the developer / client to provide a Building Performance Specification or similar document which outlines the development's requirements for the design team. The Design Occupancy referred to in the Building Performance Specification or similar should be used consistently as the basis for calculations for all relevant credits.
<b>1. Green Star Accredited Professional</b>					
<b>2. Commissioning and Tuning</b>					

Clarification type	Tool Version	Month Released	Sub-Credit No.	Sub-Credit Name.	Amendment/Approved Ruling
<b>3. Adaption and Resilience</b>					
Project Specific	V1.1	11/20	3.2	Earthquake Resilience	<p>The criteria under 3.2.2 states “The project team must provide an evaluation of the project’s seismic performance against “standard practice”, summarising how the project demonstrates best practice and meets the aim of this credit.</p> <p>The bullet points from structural engineer’s report are:</p> <ol style="list-style-type: none"> <li>1. Design structure as an Importance Level 3 building and include an SLS2 criteria for a 1 in 250-year earthquake event.</li> <li>2. Design of an elastic structural system, that aims to not require structural repairs until a severe ULS earthquake.</li> <li>3. For elements that impact operational continuity, limit seismic displacements at SLS2 to those recommended in NZS1170.5.</li> </ol> <p>In the assessors’ opinion (assuming the structure is required to be IL3) points 2 &amp; 3 would probably be classified as “standard practice” as would the first part of point 1. The SLS2 criteria for 1 in 250-year EQ could be a slight enhancement above standard practice if it were to apply to items not necessary for operational continuity. Operational continuity for the SLS2 of 1 in 250 year is currently an un-sited amendment in the loadings standard (1170.5 amendment 1) – this means that use of it is not legally mandatory but it would be considered prudent (mandatory/standard?) practice by reputable engineers.</p> <p>Combined the 3 points above could provide a robust performing structure – what is missing is an understanding of deflections, structural form and integration of this design philosophy within the whole design team (ie all disciplines). The assessors are also unsure if the points are for a low damage (primary structure) design or LDD for the building as a whole.</p> <p>The assessors note that the project team requires assessment against a damage control limit state and a collapse limit state – the assessors don’t see this. Also, assessment of reparability, self-centring etc is required, and the assessors don’t see any comment on these aspects. The statement on performance is qualified around “where possible” and subject to cost. Suggesting that some aspects of performance above code minimum (standard practice) are up for review as part of a value engineering exercise.</p> <p>In summary the building may achieve better than standard practice, but the evidence presented by the project team is more of a statement of design parameters rather than an evaluation of performance against the Green Star stated performance criteria and is insufficient to demonstrate how better than standard practice has been achieved.</p> <p>Therefore, what the project team proposing is conditionally awarded subject to presenting further details i.e. a simple table of code compliance performance (as a proxy for standard practice) vs actual project performance for all the stated credit criteria to make the evaluation process more transparent/simpler.</p>
<b>4. Building Information</b>					

Clarification type	Tool Version	Month Released	Sub-Credit No.	Sub-Credit Name.	Amendment/Approved Ruling
<b>5. Commitment to Performance</b>					
Project Specific	V1.1	8/22	5.2	End-of-life Waste Performance	For aged care facilities that are delivered like residential projects, it is acceptable for projects to show compliance to the original criterion under credit 5.2 End-of-Life Waste Performance in the Submission Guidelines, where the Healthcare Guidance is also adopted. Note that this exception only applies to this specific project type. For all the other healthcare projects using the Healthcare guidance, the guidance needs to be adopted in full as specified in the Healthcare Guidance.
General	V1.1	10/22	5.2	End of Life Waste Performance	<p>Does not having a Make Good clause meet the intent of the End of Life Waste credit?</p> <p>Yes. Not having a Make Good clause is considered to have an equivalent environmental outcome to having a best practice Make Good clause, where the project team can demonstrate there is a commitment from the building owner to pursue the re-use of the existing fitout by an incoming tenant.</p> <p>A joint commitment, wherein no Make Good works are required between Building Owner and Tenant, must still address the requirements of credit 5.2A.</p>
<b>6. Metering and Monitoring</b>					
Project Specific	V1.1	11/20	6.1	Metering	The alternative proposed method of determining the energy use of the lighting at each floor through calculations rather than meters is accepted, provided that all power uses are metered and compliant with the Submission Guideline requirements. Where floors have multiple tenancies or specialist lighting systems then these must be metered as per the Submission Guidelines
General	V1.1	01/23	6.1	Metering	<p>For Industrial office/warehouse buildings can each load over 5% of the total power supply to the building be grouped to the function and each group be individually metered?</p> <p>Yes, the requirement is for distinct, common and major uses to be metered as per the description on page 86 'where the electrical load for a single item exceeds 5% of total electricity (power) demand for the project, or 100kW, it must be individually metered.' The wording "electricity (power) demand" should be taken to mean electricity consumption in kWh.</p>
<b>7. Responsible Construction Practices</b>					
Project Specific	V1.1	7/20	7	Responsible Building Practices	The Assessor believe the relocation/ remodelling of the existing carpark arrangements is an integral part of the development approval for the project. Whilst the Assessor accepts the carpark relocation works may be undertaken as a separate 'enabling works' contract, these works are part of the campus redevelopment/ re-organisation and a key component of the project, as evidenced by the fact the design team is common to both the 'enabling works' and the proposed building project.

Clarification type	Tool Version	Month Released	Sub-Credit No.	Sub-Credit Name.	Amendment/Approved Ruling
					The assessor therefore believes the Credits relating to contract works (Credits 7.1, 7.2, 7.3 Responsible Construction Practices and Credits 22.1, 22.2 Construction Waste) should apply to the enabling works contract as well as the main contract works.
General	V1.0	12/20	7.2	EMS	<p>It is granted conditionally for the project to demonstrate the compliance to this credit when the main contractor achieved ISO 14001 certification part way through the project.</p> <p>The Telarc assessment to achieve ISO 14001 goes through various stages to test and confirm that the applied business processes meet the standards as laid out by that particular ISO standard. The first stage is to access the company policies and management documents to ensure they comply. Once confirmed the Telarc auditors then return and assess the “systems in Action”. For this to be granted, the following comments shall be addressed by further evidence.</p> <ol style="list-style-type: none"> <li>1. If changes were made to the Company Policy and Process (as part of the stage 1 Telarc Audit) to achieve the accreditation, then the project could not have been operating to the required standard and therefore cannot demonstrate compliance as per the credit criteria. Please provide evidence of the company systems audit and summary of the process undertaken to prove compliance without any significant change.</li> <li>2. If the project was required changes to their process and/or significant defects were noted that were later remedied to meet the ISO requirements (Company processes) then this method of proving compliance with this credit cannot be approved. This in effect would show that the project was not set up to the required standard before and during the construction period. Please provide evidence that the project was operating to the required Standard and no significant deviations were identified.</li> </ol>
<b>8. Operational Waste</b>					
<b>9. Indoor Air Quality</b>					
General	V1.1	12/22	9.1	Ventilation System Attributes	<p>Where the highest level of filtration possible in the FCU is G2, i.e. in smaller FCUs, and only access downstream of the heating/cooling coils is possible then:</p> <ul style="list-style-type: none"> <li>• Adequate access must be provided to the FCU for filter cleaning/maintenance/replacement.</li> <li>• Adequate access must be provided to the downstream side of the heating/cooling coils in the FCU for cleaning/maintenance.</li> <li>• Adequate access is considered as that presented in item B on the bottom of page 116 of the Submission Guidelines, ensuring that access to the filter is also adequate.</li> <li>• Outdoor air must be supplied to the FCU via an air handling unit (AHU).</li> </ul>

Clarification type	Tool Version	Month Released	Sub-Credit No.	Sub-Credit Name.	Amendment/Approved Ruling
					<ul style="list-style-type: none"> <li>AHU must have minimum levels of filtrations of: Panel filter = G4 + Deep Bag = F7 (ePM1 50%). An additional panel filter is recommended to extend the clean performance of the bag filter.</li> <li>Adequate access to both sides of the AHU coils for cleaning/maintenance must be achieved.</li> <li>The building owner commits to a maintenance schedule that includes regular filter and coil inspections/cleans as necessary. The regularity of maintenance should be based on the manufacturer's recommendations.</li> </ul> <p>Project teams wishing to use this approach should include evidence of the following in their submission:</p> <ul style="list-style-type: none"> <li>Why filtration no higher than G2 is possible at the FCU.</li> <li>Accessibility at the FCU is adequate for both filter maintenance/replacement and coil inspection/cleaning.</li> <li>A maintenance plan clearly showing the requirements for filter and coil maintenance have been met.</li> <li>A commitment from the building owner for implementing the maintenance plan as proposed</li> </ul>
<b>10. Acoustic Comfort</b>					
General	V1.1	11/22	10	Acoustic Comfort	<p>What is the nominated area for Acoustic Comfort?</p> <p>The Nominated area for Acoustic comfort credits</p> <p>10.1 – Internal Noise Levels</p> <p>10.2 – Reverberation</p> <p>10.3 – Acoustic Separation</p> <p>Are Primary and Secondary spaces</p>
<b>11. Lighting Comfort</b>					
Project Specific	V1.1	09/21	11	Lighting Comfort	<p>It is agreed that for the retail section of the supermarkets, the requirements of credits 11.2, 11.3, and 11.4 do not need to be applied. The more standard spaces, such as offices and staff rooms, would still need to comply with these credits to achieve the points. When this exemption leads to the assessable area being less than 5% of the building, project teams should claim 'Not Applicable' for these criteria.</p> <p>The NZGBC considers the outcome of making these criteria 'Not Applicable' a more accurate reflection than awarding the point for a compliant area of less than 5% of the building. Where the nominated area is more than 5% of the gross floor area, or more than 1000sqm, the space is subject to credit requirements.</p>

Clarification type	Tool Version	Month Released	Sub-Credit No.	Sub-Credit Name.	Amendment/Approved Ruling
General	V1.1	08/22	11.1	Minimum Lighting Comfort	The Healthcare Guidance does not explicitly allow for specialist medical light fittings to be excluded from this credit. However, the guidance does say that “where a space has a clinical functional requirement, which contradicts the requirements listed in either the Submission Guidelines or the Healthcare Guidance documents, the clinical requirement shall always take precedence. Clinical spaces are considered Not Applicable within most of the Indoor Environment Quality category”. Specialist medical light fittings are part of the clinical requirements, therefore can be excluded from assessment for this credit.
<b>12. Visual Comfort</b>					
General	V1.1	01/23	12.1	Glare Reduction	The Annual Sunlight Exposure (ASE) metric may be used by project teams to assess glare risks for skylights under this credit. Spaces that receive 1000 Lux for greater than 250 hours during the year ASE (1000,250) are considered at risk of glare. Any regularly occupied spaces with ASE (1000,250) greater than 10%, must identify how the space is designed to address glare. All regularly occupied spaces with ASE (1000,250) less than 10% are considered compliant under Green Star credit 12.1 and do not require any additional glare mitigation.  Project teams are expected to provide glare plots documentation within the submission with some commentary on how the space is designed in response to the results.
Project Specific	V1.1	11/20	12.1	Glare Reduction	The request to exclude vision glazing which is installed to provide sight-lines for clinical staff to observe patients from the credit minimum requirements is granted, due to clinical health and safety needs and the model of care being provided to patients.
General	V1.1	4/22	12	Glare Reduction, Daylight, views	For criterion 12.2 Glare Reduction, the nominated area is primary and secondary spaces; for criteria 12.2 Daylight and 12.3 Views, the nominated area is all primary spaces.  Please see the ‘List of areas’ section of the Submission Guidelines for space type definitions.
<b>13. Indoor Pollutants</b>					
General	V1.1	07/22	13.2	Engineered Wood Products	1 point can be awarded when 95% of engineered wood products meet the formaldehyde emission limits by area. Project teams are not expected to calculate all the surface areas of each engineered wood product. Only the largest face of each product is to be calculated for credit compliance.
General	V1.1	10/22	INN Challenge	Indoor Plants	Can project teams use ‘Pot Diameter’ to demonstrate compliance with the credit criteria 12.3.1 – Plant Distribution?  Yes, as alternative to soil surface area method, the pot diameter method can be used as a method of demonstrating compliance with the credit criteria ‘Indoor plants - Plant distribution’, As a minimum, for every 10 m2 of the nominated area the diameter of the pots must be equal to at least 300mm in diameter. A combination of different pot sizes is acceptable, provided the diameter of all the pots combined is greater than or equal to 300mm for every 10m2 of the nominated area.  Please include a copy of this response in your submission.



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<b>14. Thermal Comfort</b>					
General	V1.1	01/23	14.1	Thermal Comfort	<p>The Submission Guideline references the ASHRAE Standard 55-2013 (55-2020 may also be used) for naturally ventilated spaces. The ASHRAE standard 55-2020 Applicability section 5.4.1 states that this method may be used only when (a) no heating system is operating, and (d) when the prevailing mean outdoor temperature is greater than 10°C. The Submission Guidelines section 14.1.1 suggests that spaces may contain heating, which is counter to the ASHRAE Standard.</p> <p>Where projects are not in accordance with the methodology outlined in ASHRAE 55-2020 Section 5.4.1(a) and section 5.4.1(d), due to having an operating heating system and prevailing mean outdoor temperatures lower than 10°C which falls outside the applicability limits of the methodology. The winter discomfort or underheating should be assessed through the Predicted Mean Vote (PMV) methodology in accordance with the requirements outlined in 14.1.2 of the Design &amp; As Built Submission Guidelines.</p> <p>Summer discomfort and overheating can still be assessed using the adaptive comfort methodology outlined in ASHRAE – 55 provided all relevant applicability limits are met i.e a combination of assessment methods acceptable with PMV used during the heating season and adaptive comfort model approach used for the remainder of the year.</p>
<b>15. Greenhouse Gas Emissions</b>					
<b>16. Peak Electricity Demand Reduction</b>					
<b>17. Sustainable Transport</b>					
Project specific	V1.1	11/20	17.3	Low Emissions Vehicle Infrastructure	Based on the information provided, this assessor believes Credit 17.3 Low Emission Vehicle Infrastructure would apply only to carparks which will need to be installed for the new buildings (80 carparks).

Clarification type	Tool Version	Month Released	Sub-Credit No.	Sub-Credit Name.	Amendment/Approved Ruling
General	V1.1	10/22	17.3	Low Emission Vehicle Infrastructure	<p>The NZGBC defines electric vehicle charging infrastructure as the provision of a standard domestic, commercial or industrial power outlet, or wiring to enable the future installation of electric vehicle charging equipment without the electric vehicle charging equipment itself being installed at the time of practical completion, thus making the project electric vehicle ready in the future.</p> <p>For projects registered under the Green Star - Design &amp; As Built v1.1 and earlier versions, the GBCA recommends that for the 5% of the car parking spaces provided with the electric vehicle charging infrastructure as a minimum must have:</p> <ul style="list-style-type: none"> <li>• At least 2 car parking spaces provided with an electric vehicle charging unit with a dual-port; and</li> <li>• An industry-standard socket outlet to facilitate recharging an electric vehicle; and;</li> <li>• Has communications capabilities which may be used to enable a load management system.</li> </ul>
General	V1.1	09/22	17.5	Walkable Neighbourhood	<p>To confirm amenities are within 400m or 800m of the project, the site plan should show the measured walking distance (instead of the radial distance) from the centre of the project following a designated path to the amenity to meet the credit requirement.</p> <p>Note: The name of the criterion is Walkable Neighbourhoods. Its intent is to show that the amenity can be reached within a walkable distance (400-800m).</p>
<b>18. Potable Water</b>					
<b>19. Life Cycle Impacts</b>					
<b>20. Responsible Building Materials</b>					
<b>21. Sustainable Products</b>					
General	V1.1	11/22	21	Sustainable Products	<p>Where some, but not all, major components of a façade (e.g. glass, aluminium extrusions or insulation product) are compliant with credit 21 Sustainable Products project teams may include only those compliant parts in the calculation of the PSV. The product cost included in the calculation must be for only the compliant components, not the whole of the façade, and evidence of how this has been determined should be included in the submission.</p>

Clarification type	Tool Version	Month Released	Sub-Credit No.	Sub-Credit Name.	Amendment/Approved Ruling
General	V1.1	05/22	21	Sustainable Products	<p>NZGBC understands that concrete is a challenging product to provide compliant EPD's for Green Star Assessment given that each batch can be made to a different recipe, yet EPDs focus on "standard" products. The technical solution for this (process EPDs) is an expensive option for New Zealand's relatively small market size with relatively little uptake of supplementary cementing materials (SCMs) in concrete to date.</p> <p>To tackle this issue, NZGBC provides the following progressive pathways for concrete manufacturers to show Green Star compliance.</p> <p><b>Before 1<sup>st</sup> January 2024</b>, EPDs for concrete can be recognised where:</p> <ul style="list-style-type: none"> <li>○ The concrete manufacturer has an EPD covering their major standard concrete mix designs, <u>AND</u></li> <li>○ The concrete manufacturer provides a declaration akin to an EPD (but without verification) from a reputable source. Reputable sources include: <ul style="list-style-type: none"> <li>▪ The Global Cement and Concrete Association EPD Tool</li> <li>▪ An in-house LCA calculator verified by an independent third party</li> </ul> </li> </ul> <p><b>After 1<sup>st</sup> January 2024</b>, EPDs for concrete will only be recognised where:</p> <ul style="list-style-type: none"> <li>○ The exact product is covered by an EPD (i.e., the customer purchases a standard mix design, or the concrete manufacturer creates a customer-specific EPD), <u>OR</u></li> <li>○ The specified product has a carbon footprint within +/-5% (for modules A1-A3) of a product declared in the EPD. The two products must have the same compressive strength (MPa) and a cement content within +/-0.5% weight/weight. The similarity in the carbon footprint must be proven through a reputable tool.</li> </ul>
<b>22. Construction and Demolition Waste</b>					
Project Specific	V1.0	11/20	22	Construction Waste	The Assessor believe the relocation/ remodelling of the existing carpark arrangements is an integral part of the development approval for the project. Whilst the Assessor accepts the carpark relocation works may be undertaken as a separate 'enabling works' contract, these works are part of the campus redevelopment/ re-organisation and a key component of the project, as evidenced by the fact the design team is common to both the 'enabling works' and the proposed building project. The assessor therefore believes the Credits relating to contract works (Credits 7.1, 7.2, 7.3 Responsible Construction Practices and Credits 22.1, 22.2 Construction Waste) should apply to the enabling works contract as well as the main contract works.
Project Specific	V1.0	11/20	22	Construction Waste	Any natural stone or rock-like material in waste arising from excavation that is below a size that would preclude its re-use as fill, topsoil or similar re-use (in the reasonable opinion of the waste management contractor or processing facility), complies with the definition of 'excavation waste' under Credit 22 of the DAB Submission Guidelines
General	V1.1	12/22	22.1	Reporting Accuracy	The C and D Waste Reporting Criteria requires Waste Contractors to provide weigh bridge receipts as part of the audit to receive the Compliance Verification Summary. The C and D Waste Reporting Criteria does not require Reprocessing Facilities to be audited or to have a weigh bridge (please see the C and D Waste Reporting Criteria definition section for further clarification of these terms). Waste contractors transporting C and D waste to reprocessing facilities which do not have weigh bridges can provide alternative methods proving the load from the construction site goes directly to the reprocessing facility. One way of proving this can be a GPS track of the waste contractor vehicle from the construction site to the reprocessing facility, such as E Road. A Waste Contractor taking material to a Waste Processing Facility will require weigh bridge receipts as per the C and D Reporting Criteria.

Clarification type	Tool Version	Month Released	Sub-Credit No.	Sub-Credit Name.	Amendment/Approved Ruling
<b>23. Ecological Value</b>					
<b>24. Sustainable Sites</b>					
Project Specific		04/19	24.1	Conditional Requirement: Ecological Protection	The projects' eligibility with respect to Credit 24 is approved despite being near a waterway on the basis of: <ul style="list-style-type: none"> <li>• The waterway not being considered a sensitive site according to Auckland Council's plans and zoning (and under Section 6 of the RMA)</li> <li>• The project planning to enhance the biodiversity of the waterway as part of the intended scope of works.</li> </ul>
Project Specific	V1.1	08/21	24.2	Reuse of Land	This technical question for Land Reuse is accepted on the condition that the project team can provide evidence that there is a hard surface to the floor of the glasshouses, e.g. concrete, which is not suitable for planting and/or the ground is not suitable for growing food crops. Alternatively, the project team may wish to consider the relocation of the glasshouse to another site not previously used for agriculture and within the Auckland region where it will be reused for growing produce.
<b>25. Stormwater</b>					
Project Specific		11/20	25.2	Stormwater Pollution targets	It is conditionally accepted that the requirement for continuous simulation load modelling is not required in this instance provided the installed engineering design is consistent with the referenced assumptions in CCC WWDG Table 6-6 and the Australian guidance document for infiltration (biofiltration) treatment Adoption Guidelines for Stormwater Biofiltration Systems.  With respect to designing for the 'first flush', this should be defined by the applicant in accordance with relevant design standards and the design developed to ensure all of this flow, with suitable allowance for blockage / clogging of the designed media, is treated before overflow occurs.  It is noted that the Greenstar Table 25.1 pollution removal requirements are all in excess of the minimum expected removal rates presented in CCC WWDG Table 6-6 and it will therefore need to be demonstrated that the design and installation is best practice to achieve the required pollution removal targets with adequate maintenance plans in place to ensure continued performance over the longer term
Project Specific		11/20	25.2	Stormwater Pollution targets	Provided the Jellyfish Filter is sized to meet the calculated flow rates based on the manufacturers specifications and the configuration required, the treatment device will meet the 90% FREE OIL removal rate (Table 25.2, Column A) based on the construction of the device and the documentation provided.
<b>26. Light Pollution</b>					

Clarification type	Tool Version	Month Released	Sub-Credit No.	Sub-Credit Name.	Amendment/Approved Ruling
<b>27. Microbial Control</b>					
<b>28. Refrigerant Impacts</b>					
<b>29. Innovation</b>					
General	V1.0	06/21	29	Thermally treated timber	<p>Thermally treated timber may be recognised through an innovation application for a large proportion of thermally treated timber used in a project.</p> <p>To target this innovation, project teams will need to define a percentage benchmark for the thermally treated timber used in construction. In order to define the benchmark, project teams are required to:</p> <ul style="list-style-type: none"> <li>• Describe briefly the assumptions behind the benchmark, and any process that was used to establish them.</li> <li>• If existing data was used, or a literature review was performed, this must be included. If the assumptions rely on previous experience by the project team, including professional estimates, this must be stated.</li> <li>• Describe the process being undertaken to ensure the defined benchmarks are being met.</li> <li>• Demonstrate that the benchmarks were achieved in the project's As Built submission. For some projects, this may be able to be demonstrated at Tender stage, for the project's Design submission.</li> </ul>
General	V1.0	11/20	29.2	Market Transformation	<p>The following guidance is provided for projects wanting to target the Soft Landings Framework innovation point in the Commissioning and Tuning credit.</p> <p><b>Minimum Compliance</b> All compliance requirements as per Credit 2: Commissioning and Tuning must be achieved prior to pursuing the 'Soft Landings Framework Innovation credit'.</p>

Clarification type	Tool Version	Month Released	Sub-Credit No.	Sub-Credit Name.	Amendment/Approved Ruling												
					<p><b>Documentation Requirements</b></p> <p><b>Design Review Submission</b></p> <ul style="list-style-type: none"> <li>Documentation to support how the 'Soft Landings Framework' approach will be implemented throughout the design, construction, commissioning and tuning phases; including meeting minutes and commissioning plans;</li> <li>CV of the project's Commissioning Agent detailing the qualifications and experience relevant to the project; and</li> <li>Confirmation from the building owner that indicates their commitment to incorporate the principles of the 'Soft Landings Framework' throughout design, construction, commissioning and into building operation.</li> </ul> <p><b>As Built Submission</b></p> <ul style="list-style-type: none"> <li>Supporting documentation to support how the 'Soft Landings Framework' approach was implemented throughout the design, construction, commissioning and tuning phases. Where the tuning phase may not have been undertaken at the time of submission, documentation should support how it will be implemented.</li> <li>Meeting minutes and workshop notes demonstrating involvement of the design team in the development and implementation of the 'Soft Landings Framework' throughout design, construction and commissioning, all stages of checklist completed as per the soft landing framework relevant at the time of submission and checklist for all future stages.</li> <li>CV of the project's Commissioning Agent detailing the qualifications and experience relevant to the project; and</li> <li>Confirmation from the building owner that demonstrates the building owner's commitment to incorporate the principles of the 'Soft Landings Framework' in to building operation.</li> <li>Any other evidence to support claims made by the project team.</li> </ul>												
General	V1.0	10/19	29.3	Improving on Green Star Benchmarks	<p>Ultra-Low VOC paints can be calculated by volume rather than cost. For the Innovation - Improving on Green Star Benchmarks credit criterion in Green Star - Interiors v1.2, where it states:</p> <table border="1"> <thead> <tr> <th>Credit</th> <th>Criterion</th> <th>Benchmark</th> </tr> </thead> <tbody> <tr> <td>Indoor Pollutants</td> <td>Ultra-Low VOC paints</td> <td>One (1) additional point may be awarded where over 50% of paints (by cost) specified in the building have a maximum TVOC content of 5g/L. This must be verified by one of the approved paint test methods. Theoretical TVOC calculations are not acceptable for this Innovation claim.</td> </tr> </tbody> </table> <p>The following can be used instead:</p> <table border="1"> <thead> <tr> <th>Credit</th> <th>Criterion</th> <th>Benchmark</th> </tr> </thead> <tbody> <tr> <td>Indoor Pollutants</td> <td>Ultra-Low VOC paints</td> <td>One (1) additional point may be awarded where over 50% of paints (by volume) specified in the building have a maximum TVOC content of 5g/L. This must be verified by one of the approved paint test methods.</td> </tr> </tbody> </table>	Credit	Criterion	Benchmark	Indoor Pollutants	Ultra-Low VOC paints	One (1) additional point may be awarded where over 50% of paints (by cost) specified in the building have a maximum TVOC content of 5g/L. This must be verified by one of the approved paint test methods. Theoretical TVOC calculations are not acceptable for this Innovation claim.	Credit	Criterion	Benchmark	Indoor Pollutants	Ultra-Low VOC paints	One (1) additional point may be awarded where over 50% of paints (by volume) specified in the building have a maximum TVOC content of 5g/L. This must be verified by one of the approved paint test methods.
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General	V1.0	7/21	29.3	Improving on Green Star Benchmarks	<p>Projects targeting the Exceeding Green Star Benchmarks for Indoor Pollutant innovation Ultra-Low VOC Paints may use theoretical calculations to determine the grams of VOC per litre (g/L) in addition to the current methods of demonstrating that a paint, adhesive or sealant complies with this criterion. Total VOC (TVOC) values must reflect the final ready to use product, inclusive of tints (in the case of paints) and made in grams of VOC per litre (g/L) of ready to use product. All theoretical calculations should be provided by the supplier on company letterhead or on the official product datasheet.</p> <p><b>Documentation Requirements:</b> Please provide the following in your submission;</p>												

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					<ul style="list-style-type: none"> <li>Evidence that at least 95% of all internally applied paints, adhesives, sealants and carpets meet stipulated 'Total VOC Limits' and that one (1) point has been awarded for credit criterion 13.1 Paints, Adhesives, Sealants and Carpets.</li> <li>Evidence that over 50% of paints (by volume) specified in the building have a maximum TVOC content of 5g/L.</li> <li>All theoretical calculations on supplier letterhead or material safety data sheets, product safety data sheets, manufacturer's product specification sheets etc.</li> <li>A copy of this FAQ.</li> </ul> <p>For Note: Theoretical calculations are only applicable when calculating ultra-low VOCs. Projects must demonstrate compliance for criteria 13.1 Paints, Adhesives, Sealants and Carpets and 13.2 Engineered Wood Products as per the Submission Guidelines.</p>
General	V1.0	11/20	29.3	Improving on Benchmarks	<p>Can unconditioned warehouse spaces be excluded from Air Permeability Performance Testing?</p> <p>Yes. Projects may exclude unconditioned warehouse areas from the Air Permeability Performance Testing where these warehouse spaces are not conditioned by any equipment.</p> <p>All other spaces, including offices or refrigerated warehouse spaces are considered as conditioned spaces and are considered applicable to the credit criterion.</p>
General	V1.0	11/20	29.3	Improving on Benchmarks	<p>What do I provide to target Improving on Green Star Benchmarks for "Supplementary or Tenancy Fitout Systems Review"?</p> <p>When pursuing the "Supplementary or Tenancy Fitout Systems Review credit" under the Improving on Green Star Benchmarks Innovation pathway, the following are documentation requirements apply.</p> <p><b><u>Design Review Submission</u></b></p> <ul style="list-style-type: none"> <li>Submission Template</li> <li>CV of the project's Commissioning Agent; and</li> <li>Confirmation from the building owner that indicates the building owner's commitment to incorporate the Supplementary or Tenancy Fitout Systems Review as a part of the services and maintainability review.</li> <li>Scope of Works for the ICA.</li> </ul> <p><b><u>As Built Submission</u></b></p> <ul style="list-style-type: none"> <li>Supporting documentation to support a comprehensive services and maintainability review of supplementary or tenancy fitout systems, in addition to all nominated base building systems as outlined the design, construction, commissioning and tuning phases; including meeting minutes and commissioning plans;</li> <li>CV of the project's Commissioning Agent; and</li> <li>A copy of the 'Service and Maintainability Report' evidencing the tenant systems was included in the review.</li> </ul> <p>All other requirements as per submission guidelines</p>

Clarification type	Tool Version	Month Released	Sub-Credit No.	Sub-Credit Name.	Amendment/Approved Ruling
General	V1.0	4/20	29.4	Innovation challenge	The compliance requirements for the Occupant Engagement Innovation Challenge have been updated. The update requires the post-occupancy survey to be completed at least 12 months after practical completion to ensure that occupants have experienced the building through all the seasons. The survey should, however, be completed as near as practicably possible to the 12 months post practical completion date. The updated Innovation Challenge can be found <a href="#">here</a>
General	V1.0	11/20	29.4	Improving on Benchmarks	<p>Can I use a Leesman survey to measure occupant satisfaction?</p> <p>Yes, however a technical question to demonstrate your approach must be submitted to the NZGBC for review and approval.</p> <p>The NZGBC approves in principle the use of a Leesman survey as an alternative method of compliance, on the basis that the survey core question set is expanded to address in detail occupant satisfaction, including the assessment of occupant well-being and interaction with their indoor environment.</p>
General	V1.0	10/19	29.5	Global Sustainability	<p>Project teams are not required to have been awarded the pre-approved credits from other rating tools listed under the Global Sustainability credits in Green Star - Design &amp; As Built when making claims under the Global Sustainability credit. These pre-approved credits may also be applied to other tools of Green Star - Interiors where appropriate.</p> <p>The project team is required to outline and supply evidence to validate the claim in lieu of official WGBC member rating tool accreditation.</p> <p>Project teams using all Green Star tools may also target other items not listed as pre-approved, provided they are considered outside of the scope of the Green Star rating tools. In this case, a free-of-charge technical question should be submitted to the NZGBC for approval.</p> <p>For innovation claims within a Green Star crosswalk, the relevant attribute from the crosswalk does need to be achieved to target the point, as these topics have been deemed within the scope of Green Star.</p>
General	V1.0	7/20	29.5	Global Sustainability	The project proposes to submit a Global Sustainability Innovation Challenge targeting the GBCA Design & As Built Credit 25: Heat Island Effect. The proposal to target this credit is granted.
General	V1.0	11/20	29.5	Global Sustainability	<p>Can projects target the 6.1 Green Cleaning Policy credit from Green Star - Performance under the Innovation category?</p> <p>Yes. Projects pursuing a certification under Green Star - Design &amp; As Built, Green Star - Interiors may target credit 6.1 Green Cleaning Policy from Green Star - Performance v1.2 under the Global Sustainability credit.</p> <p>One (1) point is available where all compliance requirements for credit 6.1 Green Cleaning Policy from the Green Star - Performance v1.2 submission guidelines are addressed. This is on the condition that the Green Cleaning Policy must be implemented for a minimum of 10 years.</p>



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General	V1.0	6/21	29.5	Global Sustainability	<p>Projects pursuing a certification under Green Star - Design &amp; As Built and Green Star - Interiors may target credit 25.1 Site Maintenance Procedures from Green Star - Performance v1.2 under the Global Sustainability credit.</p> <p>One (1) point is available where all compliance requirements for credit 25.1 Site Maintenance Procedures from the Green Star - Performance v1.2 submission guidelines are addressed. This is on the condition that the Site Maintenance Procedures must be implemented for a minimum of 10 years.</p> <p>Documentation Requirements: Please provide the following in your submission:</p> <ul style="list-style-type: none"> <li>• Submission Template for Global Sustainability</li> <li>• Initial Certification Submission Template for credit 25.1 Site Maintenance Procedures (Green Star - Performance v1.2). Please download the submission template from the Resources page.</li> <li>• Formal agreement or internal policies that describe the stakeholders, targets and duration of agreements, or copies of other formal commitment devices;</li> <li>• A set of Site Maintenance Procedures covering the criteria prescribed in Credit 25.1 – Site Maintenance Procedures (Green Star - Performance v1.2);</li> <li>• At least 1 copy (or online access) of the report generated as a result of the commitments implemented;</li> <li>• Grounds keeping, policy, operational requirements or maintenance scope of works;</li> <li>• Confirmation that the best practice operational policy will be implemented by the asset owner/operator for a minimum of 10 years;</li> <li>• A copy of this FAQ.</li> </ul>
General	V1.0	7/21	29.5	Global Sustainability	<p>Projects pursuing certification under Green Star - Design &amp; As Built, and Green Star - Railway Stations may target the 'Designing for Robustness' credit from the 2015 'BREEAM In-Use International' Technical Manual.</p> <p>One (1) point is available where all compliance requirements for the credit has been addressed and evidenced as per the Asset Performance MAT 07 – Designing for robustness criteria from the BREEAM Technical Manual.</p> <p><b>Documentation Requirements:</b></p> <ul style="list-style-type: none"> <li>• A copy of the Asset Performance MAT 07 – Designing for robustness criteria from the BREEAM Technical Manual</li> <li>• Photographic as-built evidence of asset protection infrastructure listed by the client; and</li> <li>• Plans, studies, reports, or other documentation that reflect that robustness was taken into consideration during the design process.</li> <li>• A copy of this FAQ</li> </ul>
General	V1.0	7/21	29.5	Global Sustainability	<p>There are 2 pathways available for project teams to target the credit 'Integrated Public Art' credit from the DGNB CORE 2014 rating tool under 'Global Sustainability'.</p> <p><b>Pathway 1: DGNB certification</b> The project has achieved this credit in an associated DGNB certification.</p>

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					<p>Documentation Requirements:</p> <ul style="list-style-type: none"> <li>• A copy of this response.</li> <li>• A copy of the results from DGNB showing that this credit has been achieved.</li> </ul> <p><b>Pathway 2: No DGNB certification available</b></p> <p>Projects teams may target one (1) point under 30 E - Global Sustainability by demonstrating compliance with the criteria SOC 3.2 "Integration of Public Art" from the DGNB CORE 2014 rating tool.</p> <p>To target the point, a total minimum of 60 checklist points (CLP) must be achieved across the 4 evaluation criteria. The GBCA notes that partial points are not applicable for this initiative.</p> <p>In order to assist the assessor(s) with their assessment, the project team is required to justify how they comply with the DGNB criteria.</p> <p>Documentation Requirements:</p> <ul style="list-style-type: none"> <li>• A copy of this response.</li> <li>• A short report describing (at a minimum): <ul style="list-style-type: none"> <li>o the number of CLP achieved per evaluation criteria. The 4 evaluation criteria are: <ul style="list-style-type: none"> <li>§ Funding</li> <li>§ Procurement</li> <li>§ Awareness-raising</li> <li>§ Alternative: Minimum public art requirement</li> </ul> </li> <li>o how the project has achieved the CLPs claimed for the above categories. This includes a description of the artwork, and the initiatives undertaken and implemented.</li> </ul> </li> <li>• Supporting documentation to evidence the claims above. This could include, but is not limited to: <ul style="list-style-type: none"> <li>o media announcements</li> <li>o artist statements</li> <li>o individual CVs</li> <li>o tour itineraries</li> <li>o exhibition or tour booklets</li> </ul> </li> </ul> <p>The GBCA provides the following interpretation of the requirements of the DGNB evaluation criteria to aid the project team and assessor(s):</p> <ul style="list-style-type: none"> <li>• Procurement <ul style="list-style-type: none"> <li>o "Art expert" is interpreted to mean an individual suitably qualified and experienced to provide art critique.</li> <li>o "cooperation" is interpreted to mean meetings and/or workshops.</li> <li>o "art competition" is interpreted to mean a public competition process in line with local, state or national competition guidelines.</li> <li>o "appropriate selection process" is interpreted to mean with a panel of judges</li> <li>o "Young artist" is interpreted to mean an individual under the age of 35.</li> </ul> </li> <li>• Awareness-raising <ul style="list-style-type: none"> <li>o "publications" may be interpreted as online or print media</li> <li>o "labelling" must be a physical plaque or similar on-site label.</li> </ul> </li> </ul>

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					For design assessment, if evidence of implementation is not available, commitment-style documentation may be more appropriate provided it sufficiently details how the CLP will be achieved.
General	V1.0	8/21	29.5	Global Sustainability	<p><b>Criteria:</b>  3 innovation points can be awarded for projects offsetting the embodied emissions associated with the construction of the building. To be eligible, projects must fulfil the following:  - The building's upfront carbon emissions calculated from Modules A1 to A3 must be at least 10% less than those of a reference building  - All remaining emissions from Modules A1-A5 must be offset through verified offset schemes.  Note: These innovation points are awarded specifically for the offsetting element. Further reductions in upfront carbon emissions in addition to the 10% requirement should be demonstrated by submitting through the existing LCA credit in Design and As-Built.</p> <p><b>Additional Guidance:</b>  The building's upfront carbon emissions reductions must occur through good design and material selection.  Carbon offsets purchased against the building's upfront carbon emissions from construction cannot be used to show compliance against the 10% reduction compliance.  To demonstrate compliance, project teams should model the proposed and reference buildings following the methodology of the Life Cycle Assessments credit. Projects must document a reduction in upfront carbon according to the materials and products in the scope.  If a project team has completed a LCA in accordance with the LCA credit, results of the global warming potential impact from that assessment can be used to demonstrate compliance with this innovation.  All claims of carbon in products must be accompanied by 3rd party verified data, such as in Environmental Product Declarations (EPD)  A calculation of upfront carbon emissions reduction should include but not be limited to the following materials:  - Concrete (total)  - Steel, structural and reinforcement  - Structural timber and frames  - Internal and external glass and glazing, including framing.  - Façade materials and cladding  - Masonry (brickwork and blockwork) and stone including grout;  - Pipes and conduits, including plastic and metal;  - Internal wall and ceiling lining including plasterboard, fibre-cement, timber cladding  - Roofing including tiles and sheet metal, and  - Floor coverings for example, carpets, ceramic tile and floor panels  Materials used in the calculator must capture at least 90% of physical materials and 90% of financial value of building products. Any materials not listed above that may be significant to the project's upfront carbon emissions must be captured.  Demolition works are excluded from the calculation scope for the current stage.</p> <p><b>Supporting Information:</b>  Green Star Buildings (Australia): credit for Upfront Carbon Emissions  Green Star Design &amp; As Built NZ v1.0: credit for Life Cycle Assessment.</p>

