

11 July 2017

Tania McGrath Building Consent Officer

Christchurch City Council ,

Christchurch.

Building Consent: BCN/2017/201380 Byron Street, Sydenham

Addition to Factory – New Offices, Meeting and Store Room

RFI Items

GEN – 006 Provide on the site plan, sufficient levels to establish compliance with [B1, E1, E2, G13, City Plan]. These should include new and existing finished floor levels and site levels to Christchurch Drainage Datum, including datum point location. LIST

Refer to Sheets A1, A2 of Consent Drawings and survey drawing from Staig & Smith supplied in supporting documents.

GEN – 007 Please indicate the location of the block wall on the site plan in relation to the boundary to demonstrate that this building will be constructed within the boundaries of the property (including foundations).

Note: Structex cantilever footing does not project outside the far face of the masonry block, so if the building superstructure is flush with the existing building and the existing building is within the property boundary, so is the foundation

GEN - 010 Please provide a site specific sediment control plan taking into consideration any drainage outlets that may be existing on site hard standing area.

Refer to Sheets

GEN – 012 Please provide schedule of construction monitoring that will be conducted by the structural engineer and confirm that a PS4 will be provided when construction complete.

Refer to the Construction Monitoring Statement provided with the Structex Documentation.

B1 – 016

1. Please provide a copy of the structural engineering calculations to allow for assessment of compliance with the requirements of B1.

Refer to the structural calculations provided with the Structex engineering report Document.

2. Please provide details of how it is intended to connect the new walls to the existing external walls of the building sufficient to demonstrate compliance with requirements of B1 taking into consideration that the design features report indicates that the buildings will be seismically separated however the foundations have been tied together.

Refer to sheet A22 of the consent drawings, Sectional Detail 24

3. The information available to Council indicates the presence of external metal structures that appear to be potentially providing additional structural support to the existing building. Please confirm if this is occurring and if so how will that structural element continue to be maintained when the new addition is added.

The metal poles and cross members are aesthetic elements only and provide no structural support and can be remove without any detriment to the existing building.

4. Please provide detail demonstrating how the roof brace is connected to structural elements on Grid line 2 and the central SHS post on Gridline 1 sufficient to demonstrate compliance with the requirements of B1.

Refer to Sheets A22 of the consent drawings Plan Detail 22

5. Please provide documentation to demonstrate that the lateral stability of the stack bond block walls has been achieved sufficient to demonstrate compliance with B1.

Refer to the structural calculations provided with the Structex engineering report Document.

6. Please provide a bracing plan and calculations sufficient to demonstrate compliance with the requirements of B1.

Refer to the structural calculations provided with the Structex engineering report Document.

7. The lintel above the sliding door appears to be specific design. Please provide documentation to support the size of the lintel indicated in detail 17 sheet A16.

Refer to the structural calculations provided with the Structex engineering report Document.

8. The drawings indicate that the opening in the existing wall will be significantly extended. Please provide details of the support for this opening and evidence that the bracing of the existing building can be maintained with this new opening.

Refer to the structural calculations provided with the Structex engineering report Document.

B1 - 020 As this project involves connection with the existing building please provide a Detailed Engineering Evaluation (DEE) for the existing building.

Refer to the DEE report from Holmes Consulting

B1 – 049 Please review the internal wall framing spacing's taking into consideration the wall height of 2.7m. 90x45 @ 600mm centres does not meet the requirements of Table 8.2 NZS3604:2011.

Refer to Notes on sheet A6 and sheet A11 sections A-A & B-B

B1 – 055 Detail 11 sheet A15 indicates the presence of outriggers please provide sufficient details to demonstrate compliance with B1. A roof framing plan may be appropriate which includes length of outrigger over hang and the support for the metal roofing at the eave.

Refer to Sheet A15 detail 11

B2 – 064 Please provide finished floor level for the addition. Whilst it is noted that the building does not need to meet the requirements of E1, it will be required to achieve compliance with 50 year durability requirements. As the internal of the building consistent of structural elements which are susceptible to the impact of moisture please provide details of how it is intended to ensure the structural integrity of these elements.

Refer to Sheets A2 F.F.L and A13 Detail 21

D1 – 074

- 1 Please provide finished floor level between the existing and new floors sufficient to demonstrate compliance with the requirement of D1 in relation to isolated steps.

Refer to Sheets A2, A8, A11 cross section B-B & A16 Detail 18 of consent drawings.

- 2 Please review detail 18 sheet A16. The installation of the channel drain 100mm below the finished floor level and also door sill indicates the presence of an isolated step at this entrance which does not comply with the requirements of D1.

Refer to Sheets A16 Detail 18

D1 – 078 Please provide a sill detail for door indicated on the East side of the addition sufficient to demonstrate compliance with the requirements of D1 and E2 in relation to accessible route.

Refer to Sheets A8 & A22 of consent drawings Detail 24

E1-089 Please provide FFL and the ground to floor separation.

Refer to Sheet A8 of consent drawings North Elevation

E1-090 Authorization For The Discharge Of Storm water Into CCC Network: To comply with the New Zealand Building Code storm water discharge from this property must avoid the likelihood of damage to the outfall in a manner acceptable to the Council's Assets And Network Unit. In addition, the Council requires storm water discharge compliance with Environment Canterbury's regional rules and holds a number of discharge consents throughout its territory which it may use to authorize the discharge of storm water into its network. Compliance with relevant consent conditions may require onsite storm water mitigation (treatment and/or attenuation/disposal). Before a Building Consent can be issued you must seek authorization from Council's Assets And Network Unit by contacting Stormwater.Approvals@ccc.govt.nz. If Council does not authorise the storm water discharge under one of its global consents, separate authorization from Environment Canterbury may be required prior to a Building Consent being issued. The obtained authorization must be included with the supporting documents of your building consent application.

As discussed on the phone 10th July 2017 with Tania McGrath.

E1-091 Please provide the grade and pipe size of the existing storm water pipe to be disconnected so that the adequacy of the proposed design draining the additional proposed building can be ascertained. In addition please provide the pipe grade of the proposed storm water pipe on drawing A4.

Refer to Sheet A4 11/04/2017 RFI's Issue 3 storm water main pipe calculations.

E1-095 Please provide the size of the proposed overflows on drawing A19

Refer to Sheet A19 11/04/2017 RFI's Issue 3

E2-098 Please note on elevations the surface finish for the block walls sufficient to demonstrate compliance with the requirements of E2.

Refer to Sheet A8 of consent drawings

E2-100

- 1 Please provide cladding details for all junctions sufficient to demonstrate compliance with requirements of E2. This should include but is not limited to the vertical metal cladding to block wall both vertical junction and internal corner and internal corner for existing metal cladding to new block wall.

Refer to Sheets A15 Detail 20, A16 Details, 17,18, 19 & A22 Details 23, 24.

2. If it is intended to have the new element structurally seismically separate from the existing building (as identified in the structural engineers design features report), please provide details for the junctions between the new and existing walls sufficient to demonstrate compliance with the requirements of E2.

Refer to Sheet A22 Details 23 & 24 of consent drawings

E2-103

1. Please provide apron flashing detail for where existing vertical metal wall cladding junctions with new metal roof cladding sufficient to demonstrate compliance with the requirements of E2 and taking into consideration the seismic separation of the new and existing building if appropriate.

Refer to Sheet A22 Detail 24 of consent drawings

2. Please provide rainwater head penetration detail sufficient to demonstrate compliance with the requirements of E2.

Refer to Sheet A32 Detail 26 & 27

3. The North elevation indicates the potential for a clash between the existing external steel (braced) poles and the eave to the east elevation. Please provide sufficient detail to demonstrate compliance with the requirements of E2 at this location.

The external metal pole braced façade (non structural) is to be demolished in the area of the proposed office addition and will be a non-issue

E2-104

1. Please provide wall to soffit junction for the raking soffit (greater than 90 degree eave) sufficient to demonstrate compliance with the requirements of E2.

Refer to Sheet A15 Detail 11 of consent drawings.

2. Please provide barge detail for junction with both block wall and vertical metal wall cladding sufficient to demonstrate compliance with the requirements of E2.

Refer to Sheet A23 Detail 26 & 27

E2-108 Please provide internal gutter detail which indicates extent and all material layers sufficient to demonstrate compliance with the requirements of E2.

Refer to Sheet A13 Detail 1 of consent drawings.

E2-109

1. Please review skylight penetration detail A sheet A20. It appears to reflect skylight located near roof edge (barge) which is not applicable for this application. The drawings appear to suggest the use of a diverter/cricket flashing which there has been no details provided.

Refer to Sheets A19 & A20 of the consent drawings

2. Please provide pipe roof penetration detail for the terminal vent penetration indicated on sheet A19 sufficient to demonstrate compliance with the requirements of E2.

Refer to Sheet A19 of the consent drawings

E2-114

1. Please confirm that the membrane extends beyond the block wall window sill sufficient to demonstrate compliance with the requirements of E2.

Refer to Sheet A16 Details 15

2. Please review the head flashing detail for the block wall penetrations sufficient to demonstrate compliance with the requirements of E2. ie no drip edge provided.

Refer to Sheet A16 Details 14

F2-122 Please confirm the presence of manifestation to glazing panels capable of being mistaken for an unimpeded path sufficient to demonstrate compliance with the requirements of F2 ie side panels for sliding doors.

Refer to Sheet A8 North Elevation the original double slider with fixed pain sidelights has been replaced with a ranch slider and awning windows to allow for the ranch slider to be dropped below the 140x100 nib wall for access purposed. No manifestation required.

F3-124 Please advise if it is intended to store or use any hazardous substances within this new building element, if so please provide sufficient documentation to demonstrate compliance with the requirements of F3.

There will be no hazardous substances stored in the new administration addition.

F5-129 Council records indicate the presence of other properties (businesses) within this complex which are likely to continue operating during the construction of the addition. Please provide details of barriers that will be provided to protect the public and restrict access sufficient to demonstrate compliance with the requirements of F5.

All hoardings and barriers will be the responsibility of the main contractor as He/She will be in the best position to ascertain their effective deployment for site safety and security, this

matter is covered in detail within the project specification document specifically under 1.2 Project Overview.

G10 – 162 Please revise the standard referenced on sheet A8 in relation to the gas supply. The current standard for gas installation is AS/NZS5601:2013.

Refer to Sheet A8 North Elevation of consent drawings.

G12 – 165 Council records show this property to be industrial, however there are no records indicating the presence of backflow prevention device. The Council waters department requires all commercial properties to have a backflow prevention device at the boundary to protect the network water supply. Installation of the backflow preventer requires a building consent. Please advise if you would like to increase the scope to include the installation of a backflow prevention device, if so all supporting documentation identifying type and model will also be required.

Refer to Notes Sheet A4 of the consent drawings, Specification data sheet.

G13 – 170 Please review the plumbing design taking into consideration that AS3500 requires all drains within slabs to be minimum of 65mm diameter.

Refer to Sheet A4 of consent drawings.

G13 – 171

1. The plumbing plan indicates the presence of two existing inspection bends (IB) for the existing sewer pipe. Please review the requirement and if necessary provide sufficient details to demonstrate that these can be maintained to demonstrate compliance with the requirements of AS3500.

Refer to Sheet A4 11/04/2017 RFI's Issue 3 as the existing sink will be removed the inspection bends in question will be redundant so they will be removed at the time of excavation of the slab.

2. Please review the location of inspection points for the existing wastewater connection - note at least one required outside the edge of building.

Refer to Sheet A4 of consent drawings.

G13 – 172 Please provide sufficient information to demonstrate compliance with the requirements of AS3500 in relation to implications of trenches close to building and drains under buildings.

Refer to Sheet A4 of consent drawings.

H1 – 180

1. Please provide details of the extent of conditioned space for the new addition taking into consideration the opening between the new and existing building sufficient to demonstrate compliance with the requirements of H1.

Refer to Sheets A6 & A11 cross section B-B of the consent drawings

2. Please review the H1 calculations provided. The reference heat loss for the vertical glazing appears excessive in relation to the proposed vertical glazing.

Refer to reworked H1 calculations within these documents

Specialist Review: Geotechnical (Margaret Stoffel)

GEO – 001

- a) Please provide Engco geotechnical report for 83 Byron St.

Refer to the EDC Geotechnical report supplied within these documents

- b) Please compare foundation for existing building to the foundation for the proposed extension since the two will be structurally connected.

Refer to the structural calculations provided with the Structex engineering report supplied within these Documents.

- c) Specification section 2.4.1 Excavation states: “Below slabs on ground the general intent is to excavate to a stable undisturbed subgrade (of 300kPa ultimate bearing capacity).” This is inconsistent with the PS1 and the geotechnical letter which indicates the foundation was designed for a safe bearing of 50kPa (which I understand to be equivalent to an ultimate bearing capacity of 150kPa which was recommended by the geotechnical letter). Please amend specification.

Refer to Project specification document section 2.4.1

- d) Specification section 2.4.1 Excavation also states “As soon as excavation and filling is complete foundation material will be inspected by the Architect...”. Please amend specification for foundation subgrade to be verified by the geotechnical engineer.

Refer to Project specification document section 2.4.1

- e) Specification section 2.4.2 Hardfill & Blinding states “Hardfill under slabs on grade shall be 150mm of standard TNZ AP40 basecourse...” The geotechnical letter recommends a 300mm thick layer of AP65 below the concrete slab if placed on organic fill with UBC

150kPa, with geotextile (Bidim A19 or equal) on base & sides of excavation, geogrid (Cirtex Duragrid 30/30 or equal) over the textile; extending beyond the building footprint a distance equal to the depth of the gravel. Please address why geotechnical recommendations were not followed.

Refer to Project specification document section 2.4.2

GEO - 001A f) The geotechnical letter also recommends that where it is not possible to extend the gravel layer beyond the building footprint on the South & West sides of the building because the site boundary does not provide adequate space, a new slab section must be designed. Please address this issue.

Refer to the structural calculations provided with the Structex engineering report supplied within these Documents.

Specialist Review : Fire (Adrienne Slattery)

FIR – 005 The existing use listed on the compliance schedule is WL FHC2 and the building in part is provided with sprinkler coverage. Please reassess the building and update the fire report to reflect the change of use occurring and specified systems within the building. We cannot amend the compliance schedule without further information provided on the sprinkler system.

Refer to email from Nick Chen (senior fire engineer for Cosgroves Ltd) with in these documents, Structex will coordinate a response with Cosgrove Ltd

FIR - 010 As this application meets the criteria in NEW ZEALAND GAZETTE, No. 49 under 'Notice that Copies of Certain Applications for Building Consent Must be Provided to the New Zealand Fire Service Commission', the application has been sent to NZFS for them to provide a memorandum in accordance with section 47 of the Building Act. Once we receive their memorandum we will give regard to the memorandum and send to you for your response.

Refer to DR memo 2013 supplied within these documents.

FIR - 025 Please provide further justification for the occupant load density for the workshop area and please update the fire report.

Refer to email from Nick Chen (senior fire engineer for Cosgroves Ltd) with in these documents, Structex will coordinate a response with Cosgrove Ltd

FIR – 031 The fire report requirements include replacing key locks with snib locks. To demonstrate that the design is coordinated please provide a door hardware schedule as part of the architectural set of drawings

Refer to email from Nick Chen (senior fire engineer for Cosgroves Ltd) with in these document, Structex will coordinate a response with Cosgrove Ltd

FIR – 037 The fire report states that the wall and ceiling linings in the new office extension is painted plasterboard, however it appears that plywood is noted. Please update the fire report / architectural plans as applicable to demonstrate that the design has been coordinated.

Refer to email from Nick Chen (senior fire engineer for Cosgroves Ltd) with in these documents, Structex will coordinate a response with Cosgrove Ltd

FIR - 044 Please provide an emergency lighting design to demonstrate compliance with F6 of NZ Building Code as required in the Fire report. Please refer to paragraph 1.7 of F6/AS1 for the documentation you need to supply. Please provide full technical justification of the design and a PS1 from a CPEng engineer with assessed area being electrical engineering, or from a professional lighting consultant.

Refer to email from Nick Chen (senior fire engineer for Cosgroves Ltd) with in these documents, Structex will coordinate a response with Cosgrove Ltd

FIR - 046 We believe it is more appropriate for your emergency lighting designer to carry out the necessary inspections and provide a PS4 for the emergency lighting design at the completion of the project. Please confirm this is to be arranged.

Specialist Review : Mechanical Ventilation (Nick Waddington - 7/4/17)

SER - 001The specialist services reviewer of this application requires the following additional information:

Please provide PS1 (Design) and associated design details, showing Compliance with Clauses G4 and H1.3.6 of the New Zealand Building Code. Also, a schedule of inspections to be undertaken by the engineer with confirmation that 'as built' drawings and a PS4 will be provided on successful commissioning of the ventilation systems.

Refer to email from Nick Chen (senior fire engineer for Cosgroves Ltd) with in these documents, Structex will coordinate a response with Cosgrove Ltd

Yours sincerely

Adrian Ellis

From: **Nick Chen** nick.chen@cosgroves.com
Subject: RE: 80 Byron Street Christchurch Clip N Climb
Date: 16 June 2017 4:24 pm
To: Adrian adrian@architecturaldesigngroup.co.nz

Hi Adrian,

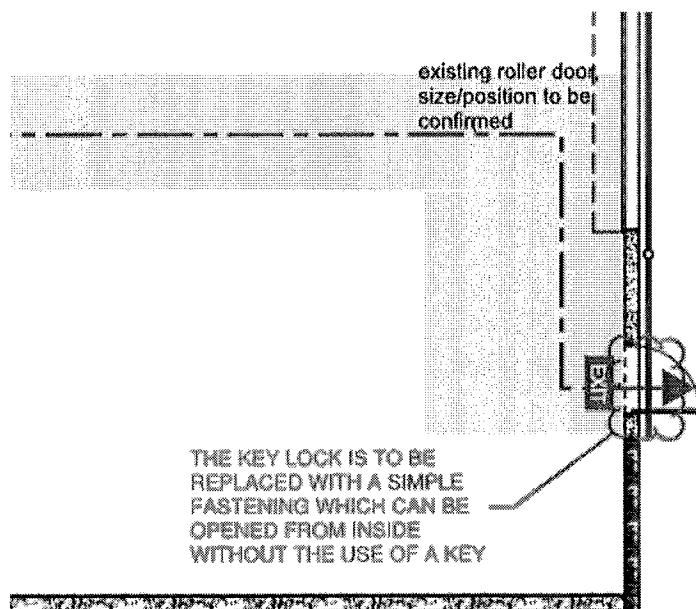
Apologies for not getting back to you sooner. I was trying to clear the backlog in the past month after my annual leave but still found myself snowed under. Anyway, I have gone through the RFIs and suggested a few words for you to reply to the BCO and some questions for you to answer.

FIR005 – My understanding is that the building is not protected with a sprinkler system at all and the proposed extension is for office and meeting rooms only. I don't believe the proposed extension constitutes a "Change of Use".

FIR010 – Awaits response from NZFS

FIR025 – The workshop is used to assemble indoor climbing equipment and majority of the floor area is occupied by the storage on a single wood pallet. Also, the occupant number 7 calculated based on 100m²/person number of employees is a more accurate representation for the space.

FIR031 – Please provide a door schedule to show the below door lock to be changed.



FIR037 – Is plywood really necessary? Can we not go for the plasterboard ceiling? Council will look for test datasheet for the plywood achieving a Group Number of 3.

FIR044 – The fire report called up for installation of emergency lighting and exit signage. Has this been designed by an electrical engineer? We can provide that service in-house. Please advise.

FIR046 – We can also provide necessary inspections on a time basis. Is the client willing to engage us to provide that service? Please advise.

Kind Regards

Nick Chen | Senior Fire Engineer BE(Hons), ME(Fire), CPEng, MIPENZ
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