planz CONSULTANTS
PLANNING AND RESOURCE MANAGEMENT

Bayhill Developments Ltd

Demolish the Hydro Grand Hotel building and develop a mixed use office, apartment, retail, and hotel complex

10 The Bay Hill, Timaru

Resource Consent Application to the Timaru District Council

July 2016

Planz Consultants

Quality Assurance Statement:

Application Prepared By:

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APPENDICES:

APPLICATION FOR RESOURCE CONSENT

SECTION 88 OF THE RESOURCE MANAGEMENT ACT 1991

To: the Timaru District Council

1. **Bayhill Developments Ltd** applies for **land use consent** for the following activity:

   Demolish the Hydro Grand Hotel building and develop a mixed use complex including retail, office, hotel, and residential activities and associated car parking and landscaping.

   The proposal is more fully described in the attached AEE and plans which form part of this application.

2. The site at which the proposed activity is to occur is **10 The Bay Hill, Timaru**

3. The site is comprised of the following lots:

   - **Lot 1 DP3530; area = 592m^2**
   - **Part Lot 3 DP3530; area = 837m^2**
   - **Part Lot 2 DP3530; area = 118m^2**
   - **Part Lot 2 DP3530; area = 45m^2**
   - **Part Lot 3 DP11427; area = 937m^2**
   - **Total site area = 2,529m^2**

4. The name of the owners and occupiers of the land to which the application relates are:

   Bayhill Developments Ltd

5. No additional land use resource consents are needed for the proposal to which this application relates. In the event that construction-phase stormwater consents are needed from the Canterbury Regional Council, then they will be applied for separately following a decision on this application.

6. The building was constructed in 1912-13 and therefore does not require an Archaeological Authority from Heritage New Zealand Pouhere Taonga for works to, or removal of, the structure down to ground-level. It is likely that the site will have been occupied by humans prior to 1900 and therefore an Authority will be required for works that disturb the ground, including the removal of foundation footings. This will be applied for following a decision on this application.

7. In accordance with the Fourth Schedule of the Resource Management Act 1991 (as amended 3 March 2015), an assessment of the environment effects in the detail that corresponds with the scale and significance of the effects that the proposed activity may have on the environment is attached.

8. No other information is required to be included in this application by the District Plan, the Resource Management Act 1991, or any regulations made under that Act.

   The required deposit will be paid upon receipt of the invoice.

_____

Jonathan Clease, Associate

Planz Consultants Limited
On behalf of **Bay Hill Developments Ltd**

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Resource Management Act 1991

Fourth Schedule

Assessment of Effects on the Environment

1 Introduction

Bayhill Developments Limited applies for consent to demolish the existing Hydro Grand Hotel building, and develop a replacement mixed use complex including retail, food and beverage, offices, hotel, and residential apartments, with associated car parking and landscaping. Certificates of Title for the site are attached in **Appendix 1** and plans for the site are attached in **Appendix 2a**.

2 Site Description

2.1 Application Site

The site is located on the corner of The Bay Hill and Sefton Street East. The existing Hydro Grand hotel building is constructed to the corner road boundary along a portion of the site's southern and eastern frontages, with the footprint occupying the majority of the 837m^2 title in which the building sits. The wider development site is vacant and is predominantly used for surface carparking on an asphalt surface.

The Hydro Grand building is listed in the Timaru District Plan ("the Plan") as a Category B heritage building, and is also registered under the Heritage New Zealand Pouhere Taonga Act 2014 as a Category II item (registration number 2052). The history and heritage significance of the Hydro Grand are described in a heritage assessment undertaken by Mr Jeremy Salmond, (attached as **Appendix 6**). In summary, the Hydro Grand is a three-storey structure with a large gable roof and copula that was completed in 1913. The triangular shape of the site is reflected in the design of the building which has an open air central service core/light well and a visually prominent cupola feature on the Bay Hill-Sefton Street corner. All exterior walls comprise unreinforced brick masonry, and the building is finished in plaster on the exterior. The building has been unoccupied for over a decade and as such is in a somewhat dilapidated condition, with its seismic strength having been assessed at no more than 10% New Building Standard. The building is therefore categorised as being earthquake prone.

2.2 Surrounding area

The site is bounded to the north by a two storey motel block. Further to the north are two storey residential apartments and then a mix of travellers' accommodation, residential dwellings, and cafes and restaurants towards the northern end of The Bay Hill.

The Bay Hill is a quiet local road that has been narrowed to form a pedestrian-friendly environment that is characterised by slow vehicle speeds and relatively modest traffic volumes. The eastern side of The Bay Hill runs along the top of an old sea cliff, and has been developed into a large public piazza, with stairs and a lift providing public access from the top of The Bay Hill to Caroline Bay. On the southern side of the intersection with Sefton Street, The Bay Hill becomes Stafford Street and runs down the hill to form Timaru's prime retail 'high street'. The

site is therefore located at the 'top' of both the Piazza and Timaru's primary retail high street and as such plays an important urban design role as a visually prominent site that links both the beach and the retail area to an emerging restaurant and café strip located further north along The Bay Hill.

Sefton Street East on the site's southern boundary is an arterial route to the Port, and forms part of the State Highway network (S.H. 78). As such it carries relatively high volumes of traffic, and in particular a higher than normal proportion of heavy vehicles that are travelling to and from the Port. On the southern side of Sefton Street are a range of commercial buildings, reflecting the site's location at the northern end of the town centre.

3 Proposal Description

The proposal consists of removing the existing Hydro Grand Hotel building and replacing it with a mixed use development made up of three separate but linked buildings oriented around a northeast facing public courtyard. The three buildings will contain a mix of retail, food and beverage, office, hotel, and residential activities.

The three proposed buildings comprise an office building on the corner of the site adjacent to the intersection between The Bay Hill and Sefton Street East, an apartment building located to the north and west of the office building, and a hotel and parking building located to the west side of the apartment building, and fronting onto Sefton Street. All three buildings are connected at ground floor level.

The office building has a maximum height of 21.6m, and contains 2,608 GFA across 6 floors. The ground floor contains food and beverage tenancies, with office activities proposed on the upper floors. The top floor has been flexibly designed so that it can be utilised for either office or apartment activities, depending on market demand. The office building has been designed to consciously reference the form of the Hydro Grand through emphasising the corner and the triangular shape of the site.

The apartment building has a maximum height of 23m, and contains 5,295 GFA across 7 floors. The ground floor contains a food and beverage tenancy at the northern end of the building fronting The Bay Hill. The lobby and main entrance to both the apartments and hotel is located in the centre of the building facing out towards the proposed courtyard, with the ground floor also providing a connection to the proposed car park in the hotel building. A retail tenancy is also proposed on the south side of the ground floor, facing Sefton St East. At first floor level the apartment building contains a second retail or food and beverage tenancy facing The Bay Hill, and a second hotel lobby and meeting room area. The upper 5 levels of the apartment building contain residential apartments. Each floor generally contains 7 apartments, providing a total of 32 apartments. The apartments have a mix of one, two or three bedrooms, with individual apartments ranging in size from $48m^2$ to $110m^2$. All apartments have private balconies in addition to these internal floor areas.

The hotel building has a maximum height of 21m, and contains 5,204 GFA across 6 floors. The basement, ground and first floors contain car parking and service areas, with vehicle access from Sefton Street East. A secondary pedestrian entrance to the hotel is also located on the Sefton Street frontage. The hotel rooms are located on the upper 4 floors. Each floor contains 17 rooms, providing 68 rooms in total. The parking area provides spaces for 63 vehicles, secure cycle and storage areas for the apartments, and loading and service areas for the various ground floor tenancies.

An open courtyard area is proposed to be created on the east side of complex between the office and apartment buildings, overlooking Caroline Bay. The courtyard will contain outdoor seating areas for the ground floor food and beverage tenancies. Whilst the courtyard is intended to remain in private ownership, it will be publicly accessible and has been designed to fully integrate with the adjacent public space at the top of the piazza.

The new buildings are all described in more detail in the architectural design statement attached as **Appendix 2a**, with plans of the proposed development attached as **Appendix 2c**.

4 District Plan Assessment

4.1 Zoning

The entire site is zoned Commercial 1A. The zone description states that the zone covers Timaru's main retail area, and seeks to retain the existing heritage and townscape values to provide an attractive pedestrian oriented environment for a wide range of activities including specialty shopping, commercial services, tourist and residential accommodation, and recreational and community facilities.

The Commercial 1A zone north of Sefton Street East allows new development to a height of 20 m, in contrast to the greater balance of the zone, where it is restricted to only 12 m. This is the only area in central Timaru where the District Plan permits buildings of this height, which clearly anticipates the 'top' of The Bay Hill being developed for large, landmark buildings.

Under Map 39, and the "Schedule of Heritage Buildings, structures and Sites", the existing Hydro Grand building is classified as a Category B building. There are four buildings in the Plan classified as Category A, and 31 buildings classified as Category B. As noted above, the building also has a Category II classification from Heritage New Zealand Pouhere Taonga.

The proposal's compliance with the District Plan is set out in the table below:

Rule	Assessment	Activity status
Part D 3 Commercial zones		
1.A.1 Permitted activities 1.1 Shops 1.2 Offices 1.3 Household Units 1.4 Travellers' Accommodation	The proposal includes retail, office, hotel, and residential activities.	Permitted
1.A.2 Controlled activities 2.1 Restaurants and licensed premises	The proposal includes restaurant/bar tenancies.	Controlled
1.A.3 Discretionary activities 3.2 The demolition of any building visible from a street frontage.	The proposal is to demolish an existing building visible from a street frontage, and erect 3 new buildings along a street frontage.	Discretionary

3.2 The erection of any new building along a street frontage. 3.4 Car parking provided access is not from Stafford Street. 3.5 Any activity listed as a permitted, controlled or discretionary activity which does not comply with the performance standards for this zone.	The proposal includes car parking where access is not from Stafford Street. The proposed building fails to comply with some of the performance standards for the zone	
1.A.5 Performance Standards		
5.1 street frontage – buildings shall not be set back from The Bay Hill	The Office and Apartment buildings are partially set back from The Bay Hill	Discretionary
5.2 Maximum building height: 20m	All three buildings are just over the 20m height limit as follows: • Office building = 21.6m; • Apartment building = 23m; • Hotel building = 21m	Discretionary
5.7 Exterior light shall be directed away from residential zones and roads	The site does not adjoin any residential zoned land. A detailed exterior lighting plan has yet to be developed. The applicant would be happy to accept a condition that any such lighting is to be directed away from roads.	Permitted
5.10 Noise – Maximum noise levels shall be 55dBA during daytime and 45dBA at nighttime, measured at the nearest boundary with the Res2 zone	Noise from the site will comply with the permitted limits when measured at the boundary with the residential zone.	Permitted
Part D 6.7.2 Rules for vehicle access and loading		
(1)(a) Parking space dimensions	The proposed aisle width does not meet the required dimensions.	Discretionary
(2) Parking and loading spaces shall be located on the same site as the activity it relates to, shall be available at all times, and shall have adequate useable access.	The parking is located on the same site but will not be available at all times for visitors.	Discretionary

6.7.3 Performance standards for all zones (13) Sites fronting National, regional or district arterial roads and a secondary road shall have vehicle access from the secondary road	The proposed development has access from the State Highway and also has frontage to a local road.	Discretionary
6.7.5 Discretionary activities (2) Restaurants and retail activities with vehicle access from a state highway are a discretionary activity.	The proposed development includes retail and restaurant activities and has vehicle access from a State Highway	Discretionary
Part D 6.8 Parking		
6.8.3 Parking requirement: Approximately 90 parking spaces are required on the site.	63 parking spaces are proposed	Discretionary
Part D 6.12 Heritage		
Rule 6.12.2.7 Category B Buildings - Discretionary activities 3) Demolition or removal of the buildings from current sites.	The proposal is to demolish the existing Hydro Grand	Discretionary

4.2 Activity Status

Overall, the proposal falls to be considered as a **Discretionary Activity** under the Timaru District Plan.

5 Statutory Framework

5.1 Section 104 RMA

Section 104 of the RMA provides the statutory requirements for the assessment of the application and sets out those matters that the Council must have regard to when considering the application. Subject to Part 2 of the RMA, it is considered that the relevant matters for the assessment of this application include:

> *Any actual or potential effects on the environment of allowing the activity;*
>
> *The relevant objectives, policies, rules and other provisions of the District Plan; and*
>
> *Any other matter that the Council considers relevant and reasonably necessary to determine the application.*

Section 104 (2) allows the Council when forming an opinion in relation to any actual or potential effects on the environment of allowing the activity to disregard an adverse effects of the activity on the environment if the District Plan permits an activity with those effects.

Under Section 104B of the RMA the Council may grant or refuse an application for a discretionary activity, and if it grants the application, may impose appropriate conditions in accordance with section 108.

6 Assessment of Effects on the Environment

6.1 Heritage Effects

Section 6 of the Resource Management Act specifies matters of national importance. Relevantly, it states that "*in achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance….*

(f) the protection of historic heritage from inappropriate subdivision, use, and development".

The elevation of heritage to a Section 6 matter was the result of a 2003 amendment to the Act. Section 6 does not in itself require that all heritage buildings be preserved, and the degree of protection offered to them will depend on the relative qualities of the particular building or place as reflected in the District Plan. The Hydro Grand is listed as a Group B building in the District Plan. It is the District Plan (in the absence of a heritage order) that provides statutory protection for a heritage building or place. A lower category listing cannot be taken as meaning that the heritage qualities of the building can be disregarded, although in this case the building is not in the highest echelon of heritage buildings in Timaru, or under the Heritage New Zealand listing system. The building's status in the District Plan results in demolition being a discretionary, rather than a non-complying, activity. The proposal is not therefore subject to the two 'threshold tests' under s.104D, and likewise the discretionary status of demolition means that demolition of Group B heritage buildings is contemplated at a policy level by the Plan, subject to the merits of a case-by-case assessment. Such a case-by-case assessment requires consideration as to whether the demolition is 'inappropriate', given both the state of the building, the ability to utilise it for economically sustainable ongoing use, and the wider balancing required under section 5 regarding the social and economic needs of the community.

Criteria for the listing of heritage buildings in the Plan are contained under Part B, Section 10 "Heritage Values", Policy 6, and comprise the following;

a. *whether a building, object or site is one of the few remaining from a particular period in history;*

b. *the degree to which a building retains a high proportion of its original fabric and is generally unmodified, allowing for the alterations or additions that may be expected given its historical use or uses;*

c. *whether a building, object or site has strong associations with significant events or notable people,*

d. *whether the building, object or site has value in terms of landscape, streetscape or precinct values. In the Timaru Inner City area account will be taken of the Timaru Inner City Heritage Audit (1995);*

e. *whether the building, object or site reflects past skills, technology, style or workmanship which makes it of educational, scientific or architectural value.*

A heritage assessment prepared by Jeremy Salmond is attached as **Appendix 6**. The heritage assessment, summarises the history of the building, the work of the building's architect, and the building's current condition. It is undisputed that the building does contain heritage value, with these values reflected in the fact that the building is listed in both the District Plan and by Heritage New Zealand. It is also recognised that the building is not at the higher end of the significance spectrum giving its respective Group B and Category II listings respectively. The heritage assessment notes that the heritage values of the building have been degraded over time as the building's fabric has deteriorated and been altered and its associations as a hotel diminished by its being vacant for more than a decade. It is nonetheless accepted that the building is of some heritage value. Demolition of the building cannot therefore be justified by mere convenience, and is not a matter to be undertaken lightly. The applicant has therefore undertaken a robust assessment of the options available for the repair, strengthening, and reuse of the Hydro Grand as a key component in the redevelopment of the wider site.

The process of considering reuse and retention options has been undertaken as follows:

1) The project architects explored a number of reuse scenarios, with these options outlined in **Appendix 2b**;
2) The engineering works (structural, fire safety, and building services) necessary to implement the various options are then explored in **Appendix 3a**;
3) These engineering reports also reference the building Health & Safety Report attached as **Appendix 3b**;
4) These engineering works were then costed by a quantity surveying firm, with the cost estimates set out in **Appendix 4**;
5) The cost estimates for the various repair and reuse options have then been the subject of a business case set out in **Appendix 5** to examine whether they are financially plausible;
6) Explore whether grants are available to bridge the financial gap. Unlike some of the larger urban territorial authorities, the Timaru Council does not have any heritage grants available, as set out in the Council's Long Term Plan 2015-2025. Financial assistance from Heritage New Zealand via the Government's 'National Heritage Preservation Incentive Fund' is limited to only those buildings of national significance that have a Category 1 listing;
7) The findings of the above reports are then considered in the Heritage Impact Assessment attached as **Appendix 6**.

6.1.1 Current Building Condition

Significant changes have been made to the interior of the building over the years, with the interior having been substantially modified to the point that few original fixtures, fittings, or internal heritage fabric remains beyond the floorplates and internal partition walls. The exterior has also been modified including the removal and replacement of the original roof and cupola and the loss of previously existing gable windows along the Bay Hill frontage, the installation of arched windows below the veranda at ground level, the removal of the veranda at street level, and the addition in the 1970s of an unsympathetically-designed single storey bottle store fronting onto Sefton Street East.

The building has been unoccupied for over a decade, and as a consequence is in a dilapidated condition. Health and Safety issues associated with the building have been assessed as part of the process in enabling engineers to access the building to undertake their assessments. The health and safety report is attached as **Appendix 3(b)**. This report sets out a number of hazards

resulting from water ingress and subsequent rot and mould issues, asbestos linings potentially having been dislodged, and the risks of inhalation disease from pigeon excrement. The building has also been assessed as having a structural strength that is as low as 10% New Building Standard ('NBS') and therefore is well below the 33% NBS threshold for a building to be categorised as being earthquake prone.

The building is not fitted with a sprinkler or fire suppression system, is not centrally heated or air conditioned, and is not thermally or acoustically insulated. The engineering report identifies that all building services (electrics, plumbing, lift, fire suppression) need to be replaced and that all glazing units are single glazed and need renewal. Kitchen and bathroom facilities are not original, are nonetheless dated, and are not fit for meeting modern expectations.

6.1.2 Reuse Options

The applicant has carefully considered whether there are any economically viable uses for the existing building, were it to be refurbished. The most plausible future occupiers for a refurbished building are considered to be traveller's accommodation, office use, or residential uses, with any of these activities being complemented with retail and hospitality activities on the ground floor. The design team have therefore explored a number of repair and reuse options. In summary, three broad options considered:

1) Retention of the existing floorplates and footprint and reuse as a hotel, apartments, or offices. A variant of this option included the insertion of additional floorspace into the attic and the re-establishment of a series of gable windows;

2) Retention of the façade and installation of a new building to the same height as the existing structure;

3) Retention of the façade and the installation of a new building up to the permitted 20m height limit.

All reuse options necessitated the removal of all internal wall partitions in order to achieve a floor plan with rooms and layout of an acceptable dimension for modern use.

6.1.3 Engineering Assessment

The building is constructed from unreinforced masonry, with the internal floors timber framed with tongue-in-groove floorboards supported on timber joists. There is no observed earthquake damage to the building, with visible cracking to the external and internal linings not considered to be earthquake-related. The building does however meet the definition of "earthquake prone", being less than 33% NBS.

The engineering report has confirmed that any reuse of the existing building will require a complete internal stripping and renewal of all fixtures, fittings, services, and glazing. The roofing iron needs replacing, as will the ground floor flooring and the entirety of the existing stair well. Asbestos linings need to be carefully and appropriately removed and disposed of. Seismic, fire, thermal and acoustic insulation, and access upgrades will be required for all uses, with such upgrades especially significant for traveller's accommodation and residential purposes where people will be sleeping in the building overnight. The internal fabric of the building has been substantially modified over the years, to the point that there is little original heritage fabric remaining beyond the internal partitions and the floorplates themselves. In order to both comply with Building Code requirements, and to enable modern, functional internal spaces, it is likely that most of the internal walls would need to be removed and reconfigured, thus further compromising heritage values.

The engineering report identifies that building would require substantial structural upgrading. In practice this would mean upgrading to at least 67% of the current code requirements for earthquake risk, fire, and accessibility. Where there is a change of use, the Building Act requires that a building comply with the provisions of the current building code as close as is "reasonably practicable", or as close as reasonably practicable to 100% NBS.

The engineering report considers the building's suitability for strengthening. The report identifies that "*internal walls mean that any floor diaphragms are required to be stopped and started on each side of the walls. This requires plywood fixings and steel in excess of that that would be expected in a more typical plywood diaphragm building. As these walls also form the gravity support for the upper level floors the option of removing them to make the diaphragm easier to place is not available. Removal of the internal walls, while most likely desirable from a room layout planning point of view, would require the placement of new structure to re-support the floor. This would require structural steel beams to be placed to achieve the required support conditions. Depending on the proposed arrangement of the beams and wall removal, it may be necessary to carry new posts through the height of the building and form new foundation pads to support them*".

In essence, the engineering report confirms that extensive and intrusive works are necessary in order to bring the building up to code and to re-establish functional building services. These works mean that the only original fabric able to be retained is the external walls (with their structural function altered so that they in essence become a brick veneer over a new structural wall system, and potentially some internal floors.

6.1.4 Quantity Surveying Assessment and Commercial Viability

The quantity surveying assessment concluded that the costs of repairing and strengthening the existing building to 66% NBS or 100% NBS are $14m or $15.2m respectively. Conversely, the costs of erecting a new building of a similar size and built to 100% NBS is approximately $9m. These costs were then assessed in terms of their commercial viability. The commercial assessment has concluded the following:

> *Demolition of heritage buildings is never undertaken lightly, and the reuse of heritage buildings can be an important opportunity to add character and value to a wider development. The client has therefore fully explored options for the retention, strengthening and repurposing of the Hydro Grand. The building is currently at less than 33% NBS and therefore needs significant structural strengthening works. These works necessitate extensive internal strip-outs of partitions, fabric, and all building services need replacing. Due to the greater complexity of working within a brittle external facade, the cost of retention and strengthening is significantly higher than the costs of a new build, with the new build option also providing certainty that 100% NBS will be achieved with attendant benefits in the ease with which tenants can be secured. Unlike the large urban territorial authorities, Timaru Council does not have any large funds available for heritage grants that could bridge the significant gap between retention and new build options.*
>
> *The wider development likewise does not generate sufficient profits to be able to in effect subsidize a large loss-making element. Instead any commercially plausible development of the wider site is considered likely to consist of development on the vacant land with the Hydro remaining unoccupied. The client brief has been focussed on securing a high quality urban outcome for Timaru. The client has therefore committed considerable resources towards first fully exploring retention options, and then secondly ensuring a well-designed*

and specified replacement group of buildings as a positive long-term contribution towards Timaru. Such development has to be commercially realistic in order for it to proceed, and unfortunately retention of the Hydro Grand is not commercially possible, as reflected in the fact that the building has sat vacant for over a decade.

6.1.5 Heritage Assessment

As set out above, the heritage assessment describes the building's history and significance. The assessment recognises that retention and reuse is a preferable heritage outcome to demolition and that replanning the internal floorplates for use as a hotel is theoretically possible. Mr Salmond has then gone on to review both the engineering and commercial assessments of the building and has concluded the following:

The existing Hydro Grand Hotel building is a notable architectural feature of the Timaru business district. Although its original roof gables have been removed, it remains a distinctive building. As a hotel, however, it is a building which was planned for standards which are not those of today. The facilities and amenities of the building are wholly unsuited to modern use, and all will require renewal. In addition, décor and finishes are unacceptable.

If the building is to be able to meet modern standards of hotel accommodation and amenity, it will be necessary to comprehensively re-plan each floor to achieve adequate room sizes and operational support facilities.

If, however, it is determined that existing floor plates are not capable of reuse –whether as structure, or because of the functional programme for a hotel – this would leave only the existing external walls of the building. The result would be effective "façadism" and could not be seen as an appropriate conservation option for the building.

I reluctantly acknowledge the conclusions of the economic analysis obtained by the Applicant, which appear to demonstrate that the cost of retention of the existing building, and adapting this to meet the contemporary performance standards of a modern hotel, cannot achieve a commercial return on that investment.

6.1.6 Planning Conclusions on Heritage Matters

Section 6 requires decision makers to protect historic heritage from "…… inappropriate subdivision, use and development", not development per se. The assessment then turns on what is 'inappropriate', with reference to the objectives and policies of the District Plan (discussed in more detail below), and the wider sustainable management outcomes sought in section 5 of the RMA.

It is acknowledged that demolition of heritage buildings should only be considered in circumstances where practical alternatives have been fully explored and retention is either not financially possible or where the works necessary to ensure retention are so intrusive as to significantly diminish heritage values. Buildings must be kept safe for the public and neighbouring landowners and put to economically viable uses for owners. An ongoing, financially plausible use is fundamental to ensuring the long-term protection and retention of heritage buildings, for the benefits this brings to both the individual building owner and to the wider community. This is particularly the case with this proposal where the site is located at a critical fulcrum in Timaru's urban fabric at the head of the town's prime commercial main street

and the town's key public open space. The building's poor condition, and its ongoing vacancy, currently results in a significant negative effect on Timaru by severing the activity linking the main retail street in Timaru with both the Caroline Bay Piazza and the emerging café and restaurant strip further north along The Bay Hill.

Removal of the existing building and its replacement with a modern, high quality building as part of a major mixed use development is considered to be appropriate for the following reasons:

1) The Hydro Grand building has heritage values, but these cannot be described as outstanding or nationally significant, as recognised by its Group B listing under the District Plan, and its Category II classification by the HNZPT respectively. The demolition of Category A buildings listed under the district scheme is a non-complying activity and subject to the test under section 104D of the Act; whereas the demolition of the Hydro Grand building is a discretionary activity, recognising that the test is one of balancing potentially competing values;

2) The building has been substantially modified, such that original fabric is now largely limited to only the structural walls and floor plates. There are no heritage features that are considered to be worthy of salvage, however the applicant is happy to offer a condition that a photographic record of the building be undertaken prior to demolition occurring, with a copy of the record provided to both Council and HNZPT;

3) The building has been unoccupied for over a decade, is in a dilapidated state, and poses risks to occupant health and safety, as well as passers-by in an earthquake event. The building's structural strength has been assessed as being some 10% NBS and therefore the building is categorised as being earthquake prone. As such it cannot be occupied without significant repair and strengthening works;

4) These works require the removal of all existing building services, all of which are no longer fit for purpose. The structural strengthening solution involves intrusive works to the building's fabric, which combined with the need to re-plan internal partitions to enable functional use, mean that the retained original fabric would be reduced to little more than the façade;

5) The Heritage assessment confirms that "facadism" is not generally considered to be an acceptable heritage outcome;

6) A comprehensive set of retention scenarios have been explored. The costs of retaining either just the façade, or the façade, floorplates, and roof form are commercially prohibitive under a range of possible uses that include hotel, apartments, or offices;

7) There are no heritage grant funds available from either Timaru Council or Heritage New Zealand that are sufficient to enable a meaningful bridging of the significant financial gap;

8) The District Plan provides for replacement buildings, provided the quality of such replacements is of a high standard[1]. The high degree of visual prominence associated with the site means that a new iconic building can also be built on the site. The design of the replacement building consciously references the form of the Hydro Grand and the proposal includes the reintroduction of a hotel onto the wider site so that the site's landmark and functional roles in a prominent location are able to be maintained.

[1] Policy 3.3.2.3

6.2 Urban Design & Building Height

The proposed replacement buildings trigger three non-compliances with the District Plan. These relate to a 'catch-all' urban design assessment of all new buildings, a height limit of 20m, and a requirement that all new buildings be constructed up to the road boundary. Given the intertwined nature of urban design matters, these three matters are assessed as a package.

A number of larger urban Councils have long had a process of urban design review of major applications by an independent Urban Design Panel ('UDP'). These panels provide advice to both applicants and the Council on urban design matters, with this advice being voluntary. Prior to the lodgement of this application, the Council facilitated such a review. Given that the Council does not have an established UDP, the membership was drawn from the long-established Christchurch UDP and comprised of 4 experienced architects and urban designers. The Panel's feedback on the application is attached as **Appendix 8**. It is important to note that at the time of the peer review the hotel building had not been finalised, and therefore the reviewed scheme was limited to the office and apartment buildings and rear carpark.

The UDP feedback was generally supportive of the proposal, and in particular noted the strategic nature of the site and the importance of achieving a good design outcome for Timaru's town centre. A key matter raised for further consideration was the need for the design of the office building to better emphasise the corner of The Bay Hill and Sefton Street given the visual prominence of this corner and to reference the cupola feature of the existing Hydro Grand. Feedback also emphasised the need to ensure that the proposed courtyard area integrated with the adjacent public realm and piazza and was readily accessible, functional, and attractive.

All feedback from the UDP has been carefully considered through a subsequent review of the overall design. The design rationale for the proposal and discussion of the various buildings, their function, and the interrelationship between both the buildings within the site and with the wider surrounding urban fabric are set out in detail in the Architectural Design Statement attached as **Appendix 2(a)**.

In summary, the site currently has very poor urban design qualities. Whilst the Hydro building in its day provided an attractive landmark, this is no longer the case with the building's dilapidated condition and ongoing vacancy detracting from, rather than enhancing, the amenity of the area. The balance of the site comprising surface car parking is likewise an inefficient use of this key site that does nothing to improve Timaru's urban fabric.

The proposed development is designed as three independent buildings that are connected at ground level. The development contains a wide mix of activities, as are anticipated in a city centre commercial context. The diverse upper level activities are complemented by cafes, restaurants, and retail activity at ground level, oriented around a publicly accessible courtyard that provides elevated views out across Caroline Bay. Car parking is intentionally located to the rear of the site and adjacent to the lower amenity Sefton Street, whilst the public face and main building entrances to the site reinforce the pedestrian-prioritised piazza.

The urban context of the site is recognised through both the scale of the buildings and their location either directly onto the road boundary, or directly onto the courtyard. The publicly accessible nature of the courtyard means that the urban design outcome of buildings directly facing and opening onto road boundaries or public realm is therefore achieved. The 'front' of the site being towards Caroline Bay is emphasised through the heavily glazed nature of the buildings at ground level facing into the courtyard and along The Bay Hill Road boundary. The Sefton Street frontage is conversely designed as the side of the development, providing privacy and shelter to building occupant's from the heavy vehicle traffic accessing the Port. The Sefton

Street elevations have none-the-less been designed to contain a variety of cladding materials, with well-articulated building facades to provide an attractive yet functional built edge to Sefton Street. The carpark is clad with a permeable woven metal screen to provide an appropriate level of amenity whilst also enabling ventilation of the structured parking area.

All three buildings are generally built up to the permitted height limit of 20m, with roofline elements and services intruding above 20m by a further 1-2m. These higher elements are all located behind the parapet line and will not therefore be readily visible by pedestrians or neighbours beyond what is otherwise permitted. Long-distance views to the site from Caroline Bay or from other ridgelines within Timaru are sufficiently separated that an additional 1-2m in height will not be visually perceptible, especially in a town centre context where there is considerable variety in both building heights and in the underlying topography of a town built on rolling hills.

There are no daylight recession plane controls in the Commercial 1A zone, reflecting the commercial centre outcomes anticipated in this zone of buildings erected to their internal boundaries. Both the apartment and hotel buildings are however set back from their internal boundaries to the north and west in order to enable daylight access to windows and balconies and to provide a greater degree of separation to neighbours than what would otherwise be permitted if commercial buildings were constructed immediately on the boundary. The additional height intrusions of 1-2m are located back within the roof form and therefore do not result in any perceptible increase in shading compared to a compliant 20m building constructed to the site boundary.

The office building design has been careful to reinforce the corner of The Bay Hill and Sefton Street, as recommended by the UDP. The building terminates in a dramatic glazed ribbon down the apex of the triangle, providing a modern reinterpretation of the corner landmark role provided by the existing building's cupola.

Overall, from an urban design perspective, the proposal constitutes an attractive addition to Timaru's urban fabric, with appropriately detailed and proportioned buildings set around a new publicly accessible space that integrate with and emphasises the existing piazza and views out over Caroline Bay.

6.3 Restaurants and licensed premises

Restaurants and licensed premises are a controlled activity within the Commercial 1A zone, with Council discretion limited to environmental effects associated with noise and cleansing of the locality. The application site is some distance from the boundary with a residential zone and therefore it is anticipated that the proposal will comply with the Plan's noise standards set out under rule 5.10.

The proposed licensed premises are anticipated to be focussed on café and restaurant offerings rather than having a strong emphasis on liquor sales. The inclusion of apartments and hotel accommodation within the proposal likewise means that it is anticipated that the behaviour of patrons, the level of noise, and the cleanliness of the immediate street environment will be extremely well managed. The noise from bars that are part of larger hotel complexes is generally well managed by the hotel to ensure that guests and apartment residents sleeping nearby are not disturbed. Likewise it is reasonable to anticipate that the hotel management will take an active interest in ensuring that the footpath immediately outside the hotel is kept in a clean and tidy manner.

It would appear that the rule has been drafted primarily with 'standalone' pubs in mind, where there can be varying levels of management effectiveness. Licensed premises that are integral to 3-4 star hotel and apartment complexes seldom experience liquor licensing and general disturbance issues due both to active on-site management and the nature of the clientele that such facilities attract. In the extremely unlikely event of issues with the management of the premises, it is noted that there are remedies available through both the noise control and liquor licensing processes that Council can use to achieve an appropriate level of behaviour.

6.4 Transport

Transportation engineer Chris Rossiter of TDG has prepared a comprehensive assessment of the car parking, traffic and access matters. Mr Rossiter's Transportation Assessment Report is attached in **Appendix 7**.

The transport assessment has concluded that the effects on the road network are acceptable. The increase in traffic movements to and from the site will not have any noticeable effects on the safety and efficiency of intersections, with the site's only access point being located in a mid-block location with clear sight-lines in both directions. A flush (painted) median strip is recommended on the street to ensure that right-turning vehicles can safely stop clear of traffic while waiting to turn into the car park. The applicant is happy to accept a condition that such a flush median be provided, noting that this is subject to the approval of the road controlling authority (NZTA).

Car parking demand can be accommodated on-site and within the surrounding area, where there is sufficient capacity on-street and within Council-controlled public carparks to accommodate the anticipated overflow parking. The proposed on-site car park is sufficient for meeting the day-to-day needs of apartment residents and hotel guests, with some additional spaces available for use by office workers. No on-site parking is proposed for retail or café/ restaurant patrons, as is the case for the fast majority of retail premises along Stafford Street where most shops rely on on-street and public carparks, and likewise customers do not expect on-site parking in a town centre context. The Transport Assessment concludes that overall the proposal provides an appropriate level of on-site parking and that the effects of any overspill parking can be appropriately managed.

6.5 National Environmental Standard relating to soil contamination

The Canterbury Regional Council Listed Land Use Register ('LLUR') notes that there may be a 1000lt diesel tank on the site. It is unclear whether the tank has been removed, with the LLUR noting that it may have been filled with slurry. If such a tank has previously existed, it has not been actively used for several decades and its location will not be able to be identified until site works commence and the existing asphalt carpark is removed. Geotechnical investigations have been undertaken as part of the design process. These investigations also included ground testing for possible asbestos contamination (given that asbestos is known to be present in the existing building). These tests all came back negative, as attached in **Appendix 9**.

Given the likelihood that the diesel tank has either been removed, or is empty and filled with slurry, it is not considered that the site poses a risk to human health during the construction phase. The applicant would nonetheless be happy to accept a condition that if the tank is discovered during ground works that the tank be removed and the soil around the tank be tested and if contaminated either be disposed of to an approved facility or encapsulated on-site in a clearly marked location.

6.6 Positive effects

Positive effects are relevant under s.104 to the consideration of resource consent applications. The positive outcomes anticipated should the proposed activity be established will be the replacement of existing vacant premises with a much more intensive site development which provides high quality offices, traveller's accommodation, residential accommodation, and dining facilities which will increase foot traffic in the area and reinforce the commercial viability of the Town Centre and the Centre's links with Caroline Bay and the restaurants to the north. The proposal will provide a collection of new landmark buildings of substantial presence, and re-establish and continue the traditional activities undertaken on part of the site in the heyday of the Hydro Grand Hotel.

Overall, the positive effects of the proposed development are summarised as follows:

- Provides high quality hotel accommodation in close proximity to the Town Centre and to maintain the site's historic association as Timaru's 'premier' hotel. Timaru does not currently contain a hotel of the size or standard of that proposed in a town centre location and as such the proposal fills an important space in Timaru's accommodation offering;
- Provides residential apartment living options adjacent to the Town Centre that are not currently available in Timaru. Timaru does not currently have high quality apartments with elevated views. The proposed apartments provide a new and important housing choice to the Timaru community and enable people to live within an easy walk of the town centre;
- Provides high quality office space of a grade that is not readily available in Timaru, reinforcing Stafford Street as the town's premier commercial area;
- Ties these three activities together through creation of a new publicly accessible space and café and dining precinct with views out over Caroline Bay. The space has the potential to become a landmark destination for both visitors and residents of Timaru;
- Provides for and encourages a connection between the Stafford Street retail area and both the restaurant strip further north on The Bay Hill and the Piazza and Caroline Bay. The proposal introduces a range of uses and activities, including hotel guests and apartment residents, to a location adjacent to the main retail street, which will support the vibrancy and commercial vitality of the town centre;
- Replaces a currently derelict, unsafe, and unoccupied building and an adjoining large vacant site with modern, well-designed facilities providing a significantly superior urban design outcome compared with the existing environment;
- Provides economic stimulus and employment to Timaru through both construction and developed phases.

7 Objectives and Policies

The discretionary status of the proposal means that it is broadly anticipated by the Plan at an objective and policy level, with each proposal needing to be assessed on its merits. As a discretionary activity the proposal is not subject to the s.104D 'threshold test' of whether or not adverse effects are 'minor' and whether or not it is 'contrary' to the Plan's objectives and

policies. The Plan's objectives and policies are instead a matter to be 'had regard to' under s.104(1)(b)(vi).

7.1 Heritage

The heritage objectives and policies are set out in Part B, Section 10. **Objective 1** seeks to "*Identify and protect items of heritage importance which contribute to the character of the district"*, with **Policy 1** being to promote public awareness and the sympathetic renovation and reuse of historic places, and **Policy 2** then seeking to protect such buildings through the District Plan. The criteria for identifying significance and subsequent listing is set out in **Policy 6**. The key policy for considering applications to modify heritage buildings is **Policy 7** which sets out the following matters:

(a) the impact the proposal has on the integrity/value of the heritage item;
(b) the importance attributed to the heritage item by the wider community;
(c) the effect on the landscape, townscape or precinct value of the proposal;
(d) the extent to which the proposal is consistent with any conservation plan or other strategy for the maintenance or enhancement of the heritage value of the building, object, site or area;
(e) any recommendations made by the NZ Historic Places Trust;
(f) any recommendations made by the Takata Whenua;
(g) alternative or viable uses for the building, object or site;
(h) public health or safety.

The "explanation and principal reasons" for Policy 7 go on to say that:

"These criteria give guidance to Council as to matters to take into account in making decisions on resource consent applications affecting scheduled items. Council has obligations under Part II of the Act to address heritage. The opportunity to make viable use of heritage buildings is an important consideration as is any risk to users of the building or to the public."

Taking each of the criteria listed in turn:

(a) & (d) - As set out in the engineering reports and condition assessments, the building has been heavily modified over time, with original fabric limited largely to the structural walls and framing. Due to the dilapidated state of the building and its earthquake prone strength significant and intrusive repair and structural strengthening works are required. These works will necessarily result in further substantial loss of the remaining fabric to the point that even if a repair and strengthening package was financially plausible the remaining heritage fabric would be little more than facadism. Whilst the application involves total demolition of the building and hence none of the heritage fabric would be retained, the alternative of retention (even if it were viable) likewise means that only a relatively small amount of original fabric would survive.

(b) and (c) - Although not having the highest TDC/NZHPT heritage classification, the building has a landmark presence which is to a large extent magnified by its very prominent site and location. One of the key design outcomes sought in the replacement building has been the need to continue the role of this site as providing a replacement local landmark through careful design of the new building to address the street and in particular the corner and to be of an appropriate height and scale;

(e) Through preliminary consultation with HNZPT relating to an earlier proposal to replace the Hydro Grand, HNZPT have, as could only be expected, expressed the view that the existing

building should ideally be retained. Given their mandate it is difficult to anticipate HNZPT stating any other position;

(f) This building has not been identified as being on a site of particular significance for Maori;

(g) As discussed above, the applicant has considered a range of alternative uses for the building, however none of these options is economically viable. Whilst there are no viable alternative uses for the building, the site upon which it is located does lend itself to a range of potential activities, with the applicant intending to perpetuate the travellers accommodation function of the old Hydro Grand, within the mixed use complex, along with a new landmark building on the corner that has architectural references to the Hydro design;

(h) The existing building comprises unreinforced masonry construction and has been assessed at being no more than 10% NBS. The building also contains asbestos, mould and animal excrement and disease health risks. The building requires extensive works to strengthen it to at least 66% NBS. Even were such upgrades to be economically viable, they would still result in a building that was not built to current code requirements compared with the proposed replacement building that would meet current structural, fire, and access requirements.

In circumstances such as this, it becomes a matter of fact and degree in terms of the relative merits of the case. It involves a balancing exercise between the remaining heritage values of the building in its current dilapidated and dangerous state, the ability and plausibility of the building being returned to an economically viable use, and the development opportunities anticipated by the Plan and the positive effects of such development for the town centre and the community. Whilst demolition of a heritage building will never sit easily against objectives and policies seeking the protection of such, in specific instances where it can be demonstrated that there is no plausible retention and reuse options and the building is in a significantly degraded state, proposals to replace the building with a high quality alternative are not considered to be contrary to the overall policy direction.

7.2 Commercial

Complementing the District Plan's specific heritage provisions, **Part D, Section 3** sets out further direction for the management of heritage outcomes in the town centre's commercial area. **Objective 3.3.1.1** seeks to recognise and protect the heritage values in commercial areas of the district. This objective is supported by three policies as follows:

Policy 3.3.2.1 *"To promote the protection and enhancement of heritage resources including historic places and other features of historic or cultural value in Timaru's inner city and Temuka's main street area".*

Policy 3.3.2.2 *To protect the most important heritage resources in commercial areas from development which threatens the visual, cultural or heritage values of these areas.*

Policy 3.3.2.3 *To protect the heritage character and visual quality of Commercial Zones in the district by ensuring new buildings in identified areas of Timaru and of an appropriate scale to retain the continuity of areas with townscape values and that buildings in such areas are not demolished until a consent for a replacement building has been approved.*

There is no rule implementing policy 3.3.2.3, which requires consent for a replacement building prior to demolition consent. The proposal is nonetheless based on an integrated end outcome of the entire site and as such includes plans for the replacement buildings as part of the same application to demolish the existing building.

The proposed building complex has been designed to be in broad conformity with the standards set out in the Commercial 1A zone, which anticipates intensive development particularly on this site which forms part of the area north of Sefton Street East. In particular, the height of development which is provided for in the Plan clearly exceeds what is currently established on the site by a wide margin. The application for the demolition of the Hydro Grand, and that for the construction of the proposed new buildings in this application have been lodged as a single integrated consent, specifically in recognition of that part of the above policy which seeks to ensure that new buildings respect the townscape of the area concerned and that consent for a replacement building has been obtained prior to demolition of existing buildings being actioned.

As discussed above, the proposed demolition of the Hydro Grand is not consistent with provisions seeking the retention of heritage. Given the scale of development anticipated by the District Plan in the block containing the Hydro Grand, the proposal is however consistent with **Policy 3.3.2.3** which anticipates the possibility of heritage buildings being replaced, subject to design considerations; and also **Policies 3.2.1.1 and 3.2.2.1**, which provide for development along the Bay Hill/Stafford Street corridor in a way which enhances the amenity and quality of the commercial environment, in order to promote retail viability and public use.

Policy 3.1.2.1 explains the zoning framework for commercial areas within the district, including the Commercial 1A Zone. Commercial activities are anticipated by the Plan in this part of the zone in large-scale buildings of up to 5 or 6 storeys, and containing a diverse range of activities as provided for under the list of permitted and controlled activities under Rule 3.5.1/1.A.1. The site does not adjoin a Residential Zone, and is at least 125 m from the Residential Zone in 'The Terrace' to the southeast, across the intervening port access road. There are eight 1950's residential units and a motel adjoining the site to the north of proposed building 3, which are also located within the Commercial 1A zone.

The site is one which is adjoined by other commercial zones or busy arterial roads. In this context, there is little likelihood of conflict with sensitive activities on nearby sites or in other zones.

Objective 3.2.1.1 and **policy 3.2.2.1** respectively seek to provide for the amenity and quality of the environment in retail areas; and to protect the amenity enjoyed by the public while providing for the development of retail areas.

The intention of these provisions is to ensure that the retail viability of the Town Centre is protected and enhanced, and that activities are established which maintain 'street life' and the protection of amenity values. These values can be threatened by the establishment of activities that generate little or no foot traffic, or have unattractive, blank, street frontages and dark alcoves at night. It is considered that the development will actively promote the achievement of this objective and policy as it will provide intensive development on the site, the majority of which has been vacant for a number of years, provide for a range of different activities, and offer an attractive building frontage. The rejuvenation of this highly visible and strategically located site above Caroline Bay would be of significant benefit to the wider Timaru community and will make a positive contribution to the ongoing viability of the Town Centre.

Policy 3.1.3.5 seeks to "*Require compliance with performance standards for bulk and location (see rules for commercial zones*)". This policy contains somewhat unusual wording, in that it is unlikely that the Council anticipated that activities which did not comply with the bulk and location rules (by whatever margin) be *required* to comply, particularly given the ability under the Act to apply for resource consent, and especially in situations where such breaches are controlled or discretionary activities as opposed to non-complying. The proposed building

complex is nonetheless largely compliant, with only minor breaches relating to building height and continuous street frontage. As discussed above, the proposed buildings are largely built to the street frontage, with the step-in-plan between the hotel and apartment elements helping to visually break up the massing of the building, physically differentiate the apartments from the hotel, and enable the inclusion of an outdoor cafe seating area and the inclusion of landscaping. Whilst the proposal does not therefore comply with all of the relevant rules, it is nonetheless considered to result in a positive environmental outcome that is consistent with the purpose of the rules.

Objective 3.4.1 seeks to "*promote the sustainable use and development of physical resources in Commercial Zones*". This Objective is to be implemented through **Policy 3.4.2.2** which is "*To provide for commercial activities and development and encourage the sustainable use and development of physical resources in Commercial Zones*". The explanation to this policy states that "*In many instances this will require the redevelopment of existing commercial land guided by performance standards".* **Policy 3.4.2.5** aims to "*promote the efficient use of existing services and the efficient servicing of future commercial development*", with the explanation to this policy stating that "*Servicing of commercial development can be more efficiently provided for where commercial activities are concentrated or limited to specific areas of the District. Commercial land that is fully serviced is itself a resource which should not be unnecessarily duplicated.*

The objective and policies has a strong preference for new commercial activities to be located and concentrated within existing commercial areas to ensure that the land resource and associated existing infrastructure within these areas is efficiently utilised rather than being duplicated elsewhere in the District. The application site has been largely vacant for a number of years. As noted above, the site is of strategic importance to Timaru. The proposal will enable the site to be developed for an intensive range of activities and will enable the provision of a number of facilities that are not currently provided for in Timaru. The Policies note that redevelopment of sites "in many instances" is necessary to enable them to be effectively used. The proposal is therefore considered to be consistent with this objective and associated policies as redevelopment will enable more intensive use of a commercially zoned site in a town centre location, with the subject site readily able to be serviced.

Overall, the Plan's objectives and policies seek two, potentially competing, outcomes. The first is the identification and protection of historic heritage, subject to various criteria. The second outcome is the efficient use of land within the commercial town centre zone to reinforce the role and amenity of the town centre and to ensure that new buildings are well designed and make a positive contribution towards the vitality and attractiveness of the town centre.

The existing Hydro Grand therefore presents something of a conundrum, whereby in its current dilapidated and vacant state the current use of the site is contrary to the Plan's objectives of a vibrant and attractive town centre. Conversely its protection is also sought. The heritage policy 7, and the commercial policy 3.3.2.3, in combination present a road map through these potentially competing policy goals. Both policies in the first instance rightly seek the protection of heritage buildings. Such protection is not however absolute, with redevelopment contemplated provided various criteria are assessed and the design of the replacement building is considered at the same time as demolition to ensure that the urban design quality of the town centre is maintained. The applicant has invested considerable effort in exploring retention options and detailing both the existing condition of the building and potential repair and strengthening solutions. Unfortunately the evidence is that there is an unsurmountable financial gap. The applicant has then commissioned the design of an attractive new building complex that makes a significant positive contribution to the town centre and references the

form, massing, activities and role of the Hydro through envisaging the site as Timaru's premier destination. Whilst the proposal is not therefore consistent with some individual policies, overall it is considered to achieve the outcomes anticipated by the Plan for Timaru's town centre.

7.3 Transport

The transport objectives and policies are set out in **Part B, Section 8**. The Objective and associated policies seek a safe and efficient road network that provides for different road users. This includes minimising conflicts between land use and the roading network, and ensuring that the parking impact of activities on the capacity and safety of the roading system is adequately catered for. Private access onto major roads is discouraged, or where it occurs to ensure that any such access is designed to a high standard.

As set out in the Transport Assessment, the proposal has been carefully designed to maintain the pedestrian-oriented function of The Bay Hill and the adjacent piazza area. Site access has been minimised to a single crossing, with this crossing located in a mid-block location where it is some distance from intersections and has clear sight-lines available in both directions. The transport assessment has concluded that the proposal will not have any adverse effects on the safety or efficiency of these intersections or the wider function of the road network, including the through-traffic role of Sefton Street that provides access to the Port.

The proposal provides sufficient parking on-site to meet the reasonable needs of the hotel, apartment, and office components of the site. Patrons or customers to the proposed retail and hospitality businesses will be required to park on street or in nearby council-managed parking lots. This solution is consistent with that commonly adopted elsewhere in the Town Centre 'main street' retail environment where on-site parking is not generally provided or anticipated. The proposal enables hotel, apartment, and office workers to be located immediately adjacent to the town centre thereby enabling easy pedestrian access to a wide range of retailing, services, pubic facilities, and the recreational opportunities provided in Caroline Bay. As such the proposal is considered to be consistent with the transportation-related objectives and policies of the Plan.

7.4 Part 2 of the Act

Section 6(f) was introduced after the Timaru Plan became operative, with the 1 August 2003 amendments to the Act adding to the list of matters provided under Section 6 'the protection of historic heritage', which previously was a matter to which regard must be had under Section 7. The provision states:

"In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance…

(f) the protection of historic heritage from inappropriate subdivision, use, and development."

The elevation of this provision to Section 6 does not extend to recognising every item of historic heritage as being nationally significant. Rather, that within the scheme of the Act, historic heritage is to be 'recognised and provided for', as compared to the pre August 2003 requirement to be 'had regard to' as a Section 7 matter. All Part 2 matters remain however subservient to the overall balancing of sustainable management encapsulated within Section 5, that is, historic heritage as a matter of national importance does not override other relevant matters.

The Timaru Plan recognises and provides for heritage through the application of the provisions identified above. These identify a framework that seeks to encourage the long term conservation of historic heritage, of which the Hydro Grand is a local element, but not at any cost. Weighing these matters requires balancing the value to the community of retaining these heritage items, against the cost maintaining that heritage fabric for the benefit of the wider community while securing its ongoing economic use.

As set out in the above assessment of effects, the various expert reports have concluded that it is not economically viable, by a wide margin, to retain the existing building. The ongoing retention of a vacant and deteriorating building prevents the comprehensive redevelopment of the wider site which would retain the site's historic association as the location of Timaru's premier hotel.

It is considered that in balancing the effects associated with demolition and the loss of heritage values with those associated with full redevelopment of the site, that the purpose of the Act would be better served by its comprehensive redevelopment. In the circumstances of this case, redevelopment of the site is not considered to be "inappropriate" and would enhance amenity values and the quality of the environment, as well as making a more efficient use of the land resource available on the development site as a whole. The proposal will provide a range of activities which should significantly contribute to revitalising this part of the Town Centre and will enable the wider South Canterbury area to meet its economic needs for a 3-4 star hotel and conference venue, plus new A grade office space and apartment housing choices where such facilities are either extremely limited or do not currently exist.

7.4.1 Section 7 'Other matters'

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to—

(a) The ethic of stewardship;

(b) The efficient use and development of natural and physical resources;

(c) The maintenance and enhancement of amenity values;

(f) Maintenance and enhancement of the quality of the environment;

(g) Any finite characteristics of natural and physical resources.

With regard to Section 7(a), the ethic of stewardship, as exercised by the Council, extends to the identification of heritage items in the Plan, and the encouragement of their retention. The Plan itself does not however require protection in all instances.

In terms of a property owner, the principle of stewardship does not impose an obligation to maintain a heritage item for community benefit in any / all circumstances. The evidence set out above demonstrates that genuine efforts have been made to investigate whether the retention of the Hydro Grand as part of a wider development is economically viable. The building is presently not tenantable and has not generated an income stream in some years.

Sections 7(b) and 7(g) matters are to a large extent intertwined as they relate to this proposal. Section 7(b) introduces the principle of efficient use. It is considered that this must involve aspects of economic enablement given the anticipated commercial environment provided by the Plan for the site. That is not to say that the heritage values to the community, as represented

by the Hydro Grand, are not an efficient use of the site, but more that where these are degraded and the productive uses associated with these physical resources undermined, then the principle of Section 7(b) would be better met through redevelopment.

The extensive efforts made by the owners to find further adaptive re-use for the building have demonstrated that economic use of the building is not feasible. Retention is therefore likely to result in the continued degradation of an empty building, and the prevention of the comprehensive redevelopment of the wider site. If such a future is the inevitable outcome for the Hydro Grand, it is difficult to conclude that a drawn out decline is in any way less offensive to Section 7(g) than its more imminent demolition. Section 7(b) can be better achieved through the reuse of the site for the enablement of a commercial entity that has the potential to meet the social and economic needs of the community whilst concurrently retaining the site's historical association and role as the location of Timaru's premier hotel.

In terms of Sections 7(c) and 7(f), it is acknowledged that the character of the immediate area will change markedly from its current appearance. If the continued decline of the physical resources of the Hydro Grand is an inevitable outcome of the building's retention, it is considered that such an outcome less successfully achieves the maintenance of amenity values, or the quality of the environment, than the alternative which is the replacement of the current derelict building and the redevelopment of the wider site for the provision of a high quality office, hotel and apartment complex.

7.4.2 Section 5 and balancing conclusion

That the Hydro Grand contains heritage values and occupies a landmark site in Timaru are undisputed. Against these values is the lack of any economically plausible reuse of the building, with the ongoing economic burden of retention needing to be met by the landowner alone. Retention also produces an economic opportunity cost through the inability to develop the site in the manner proposed and as anticipated by the zoning within the Plan.

If the continued retention of the Hydro Grand inevitably leads to its continued degradation as an empty monument, it is considered that the sustainable management in the sense of providing for the cultural, social, and economic well-being of the community would not be provided for. A drawn out deterioration of the building, where all other avenues for retention appear to be exhausted, would result in a decline in the significant heritage and cultural associations currently held for the Hydro Grand. A judgment therefore has to be made as to whether the purpose of the Act would be better achieved by the retention of the Hydro Grand building in its current and deteriorating condition or its demolition and replacement with a comprehensive commercial development over the wider site.

For the reasons set out above, it is considered that in balancing the effects associated with demolition and the loss of heritage values, with those associated with full redevelopment of the site that the purpose of the Act would be better served by the proposed comprehensive redevelopment. In the circumstances of this case, redeveloping the site is not considered to be "inappropriate" and would at least maintain, and more likely enhance, amenity values and the quality of the environment, as well as making a more efficient use of the land resource available on the development site as a whole. The proposed redevelopment will provide a range of activities which will make a significant contribution to the revitalisation of this part of the Town Centre. Consequently, whilst being a difficult conclusion to reach given the heritage and community values that are attached to the Hydro Grand, it is concluded that allowing demolition and thereby enabling the site to be redeveloped for commercial purposes better achieves the purpose of the Act than retaining the building.

8 Consultation/Notification

The applicant has not directly consulted with any adjoining landowners or occupiers as these parties are not considered to be adversely affected by the proposal, relative to the level of development otherwise permitted under the Commercial1A zoning.

Given the heritage status of the Hydro Grand, even in its dilapidated state it is considered that its removal may result in adverse effects that are minor. As such the applicant **requests that the application be publicly notified under s.95**, thereby enabling all interested parties to have an opportunity to have their say on the proposal through the submission and hearing process as set out in the Act.

9 Conclusion

Demolition of heritage buildings is never undertaken lightly, and the reuse of heritage buildings can be an important opportunity to add character and value to a wider development. The applicant has therefore fully explored options for the retention, strengthening and repurposing of the Hydro Grand. The building is currently at no more than 10%NBS and is in a dilapidated state. A combination of past internal alterations, combined with the intrusive works necessary to seismically upgrade the building mean that even were a repair and reuse option financially sustainable, the amount of original heritage fabric remaining would constitute little more than facadism. Due to the greater complexity of working within a brittle external facade, the cost of retention and strengthening is significantly higher than the costs of a new build, with the new build option also providing certainty that 100% NBS will be achieved with attendant benefits in the ease with which tenants can be secured.

The proposed replacement development is of a high quality and introduces new hotel, office, and residential accommodation options that are not readily available in Timaru. The three new buildings are oriented around a new publicly accessible courtyard that integrates with eh existing piazza to in combination create an exception public space that has the potential to become a key attraction and community hub for Timaru. The proposal will make an important contribution towards sustaining the role and vibrancy of the town centre as the main shopping and commercial area of Timaru and represents a significant improvement in terms of design outcomes, amenity, and activity compared with the existing environment. Overall the proposal is considered to result in net positive outcomes for the community and is consistent with the overall sustainable management purpose of the Act as set out in section 5.

APPENDIX 1:

Certificates of Title

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

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R.W. Muir
Registrar-General
of Land

Identifier	**CB357/167**
Land Registration District	**Canterbury**
Date Issued	18 July 1924

Prior References
CB277/183

Estate	Fee Simple
Area	119 square metres more or less
Legal Description	Part Lot 2 Deposited Plan 3530

Proprietors
Grand Piazza Limited

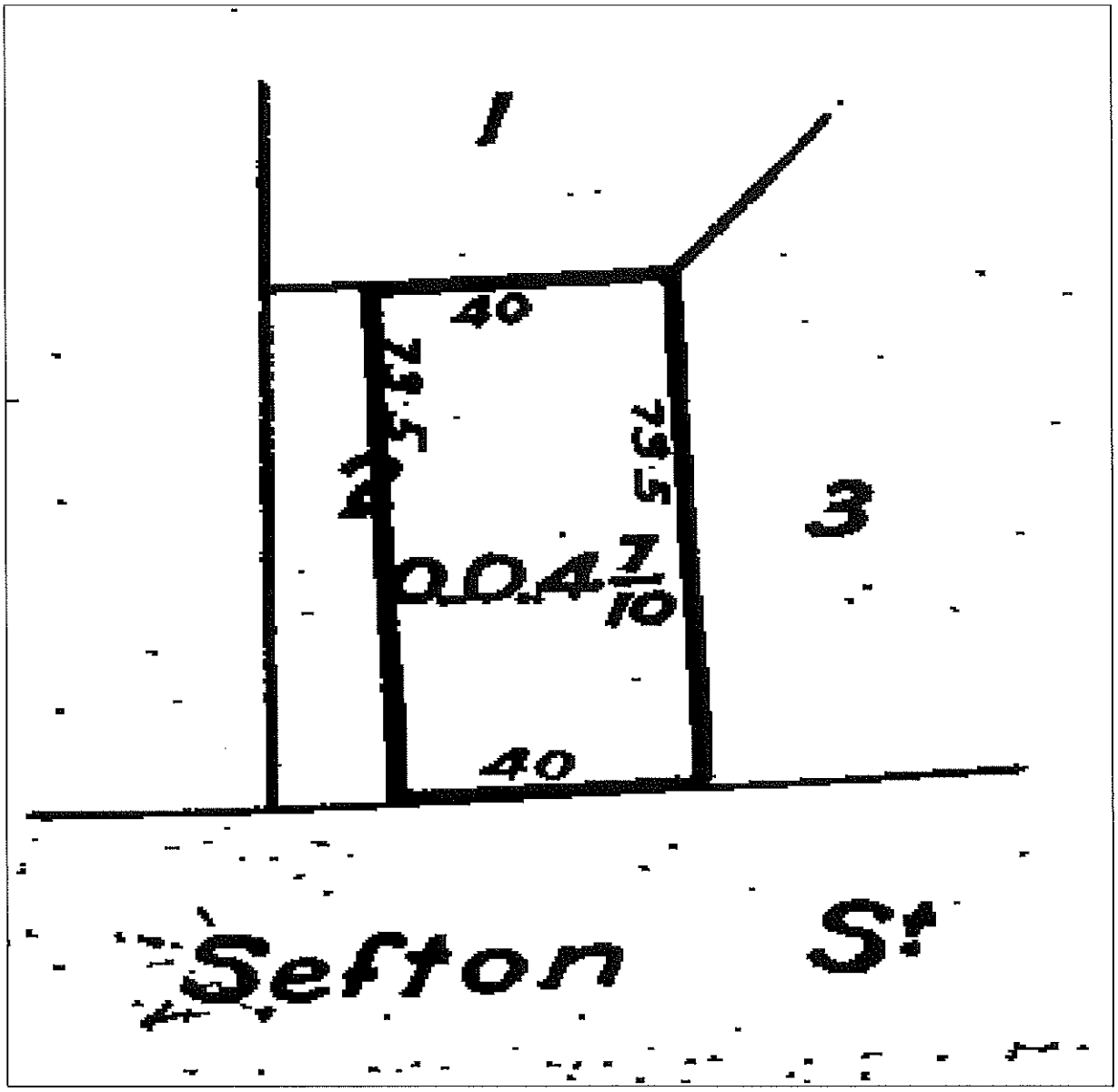
Interests

819214 Transfer creating the following easement - 22.12.1970 at 1.30 pm

Type	Servient Tenement	Easement Area	Dominant Tenement	Statutory Restriction
Right of way	Lot 2 Deposited Plan 3530 - CT CB344/219	Yellow Transfer 819214	Part Lot 2 Deposited Plan 3530 - herein	

5558139.4 Mortgage to Bank of New Zealand - 16.4.2003 at 9:00 am

Identifier **CB357/167**



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Identifier	**CB10F/253**
Land Registration District	**Canterbury**
Date Issued	16 March 1971

Prior References
CB277/182

Estate	Fee Simple
Area	837 square metres more or less
Legal Description	Part Lot 3 Deposited Plan 3530

Proprietors
Grand Piazza Limited

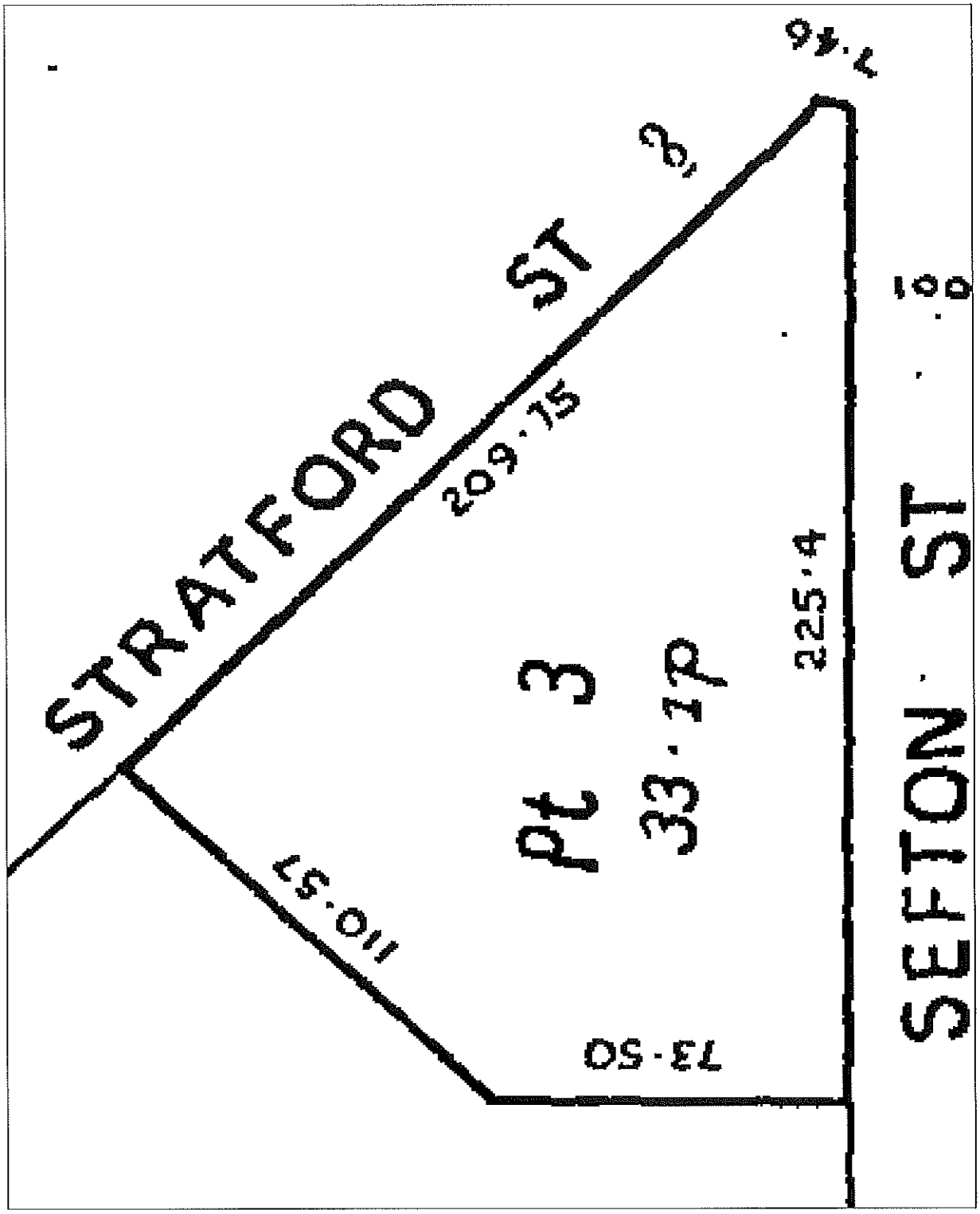
Interests

819214 Transfer creating the following easements - 22.12.1970 at 1.30 pm

Type	Servient Tenement	Easement Area	Dominant Tenement	Statutory Restriction
Right of way	Lot 2 Deposited Plan 3530 - CT CB344/219	Yellow Transfer 819214	Part Lot 3 Deposited Plan 3530 - herein	

5558139.4 Mortgage to Bank of New Zealand - 16.4.2003 at 9:00 am

Identifier **CB10F/253**



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UNDER LAND TRANSFER ACT 1952

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Identifier	**16217**
Land Registration District	**Canterbury**
Date Issued	18 October 2001

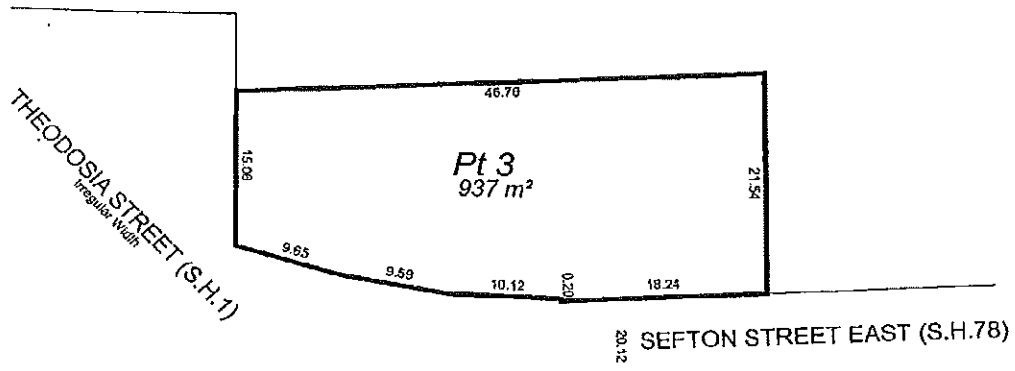
Prior References
5836

Estate	Fee Simple
Area	937 square metres more or less
Legal Description	Part Lot 3 Deposited Plan 11427

Proprietors
Grand Piazza Limited

Interests
Subject to Part IVA Conservation Act 1987
The minerals contained in Section 11 of the Crown Minerals Act 1991 affecting the within land remain in cancelled CT 177/93
7391557.2 Mortgage to Bank of New Zealand - 7.6.2007 at 10:42 am

Identifier **16217**



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UNDER LAND TRANSFER ACT 1952

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R.W. Muir
Registrar-General
of Land

Identifier	**CB10K/1061**
Land Registration District	**Canterbury**
Date Issued	26 July 1971

Prior References
CB344/219

Estate	Fee Simple
Area	637 square metres more or less
Legal Description	Lot 1 and Part Lot 2 Deposited Plan 3530

Proprietors
Grand Piazza Limited

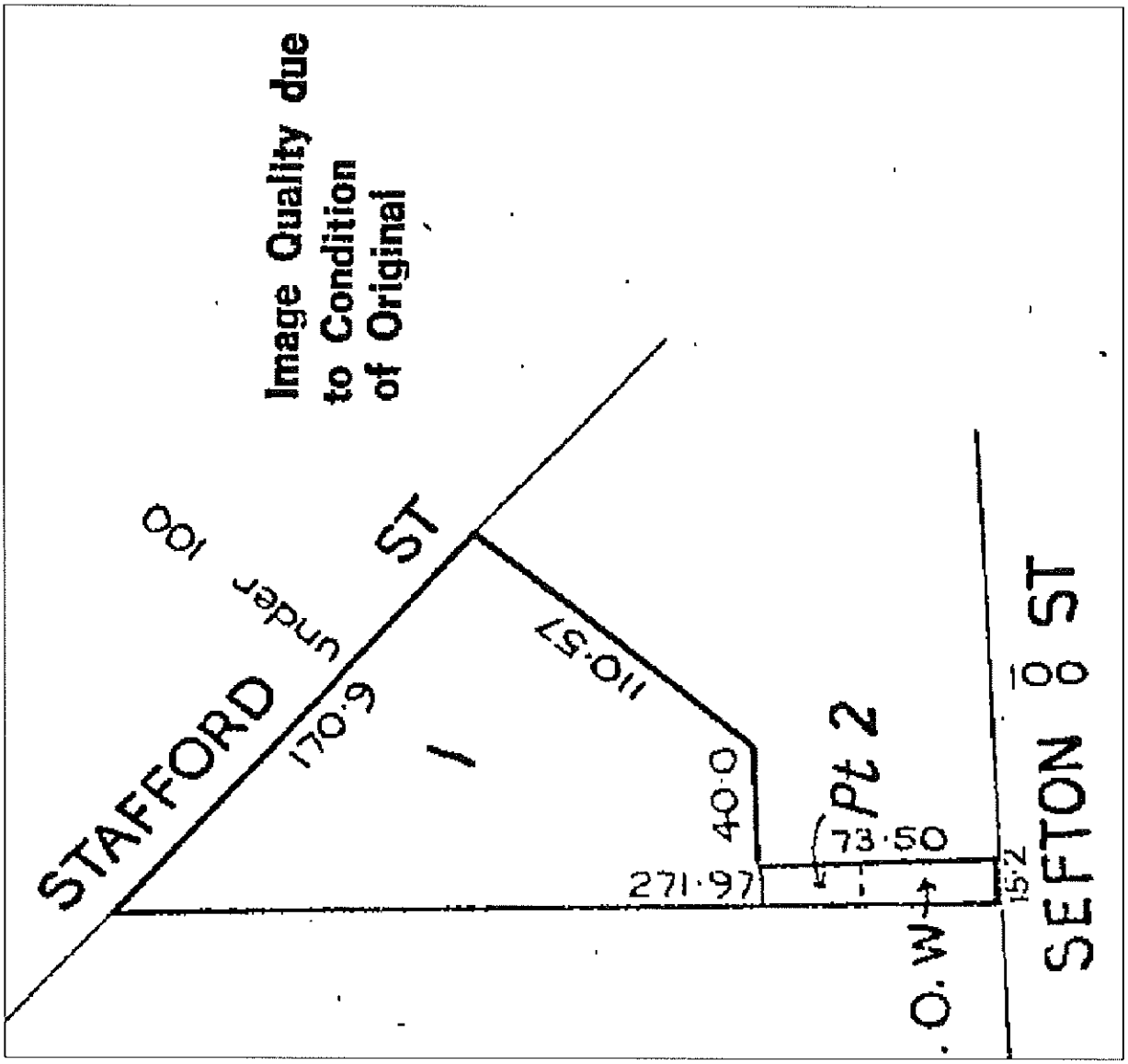
Interests

819214 Transfer creating the following easements - 22.12.1970 at 1.30 pm

Type	Servient Tenement	Easement Area	Dominant Tenement	Statutory Restriction
Right of way	Lot 1 and Part Lot 2 Deposited Plan 3530 - herein	Yellow Transfer 819214	Part Lot 2 Deposited Plan 3530 - CT CB357/167	
Right of way	Lot 1 and Part Lot 2 Deposited Plan 3530 - herein	Yellow Transfer 819214	Part Lot 355 Deposited Plan 1 - CT CB277/182	

7407863.1 Mortgage to Bank of New Zealand - 7.6.2007 at 2:25 pm

Identifier **CB10K/1061**



APPENDIX 2:

(a) Architectural Design Statement

(b) Hydro Grand Retention Options

(c) Proposed Plans

Appendix 3:

(a) Engineering Assessment

(b) Health & Safety Report

PRELIMINARY DESIGN REPORT
THE HYDRO GRAND
TIMARU

P 03 366 1777
W www.pfc.co.nz

383 Colombo St, Sydenham,
Christchurch

PO Box 7110, Sydenham 8240
Christchurch

STRUCTURAL
BUILDING SERVICES (MECHANICAL AND ELECTRICAL)
FIRE

FOR:
BAY HILL DEVELOPMENTS LIMITED
PO BOX 2041
WASHDYKE 7941

13 April 2016 | Issue C | 151140/SMEF/1

Table of Contents

1. INTRODUCTION

This report has been prepared by Powell Fenwick for Bay Hill Developments Limited to provide expert evidence to review the condition of the existing building and then provide commentary of the scope of work required to assess the following refurbishment options available:

1. Retention and restoration of existing building within the existing building envelope (the primary use).
2. Retention of façade – demolishing all internal elements and building new within existing building envelope.
3. Retention of façade – demolishing all internal elements and building new to 20m height limit.

The report also addresses the potential of alternative uses which include:

A. Hotel (the primary use)

B. Commercial office with complementary ground floor retailing.

C. Residential apartments.

The report focusses upon option 1 the retention and restoration of the existing building envelope with the retention of the primary hotel use.

Alternatives 2 & 3 and use changes B & C will be explored through headline commentary to determine whether these options would offer viable alternatives to the primary use.

The report is based upon the architectural drawings prepared by The Buchan Group Architects.

The recommended upgrade requirements are based on the current NZBC requirements, electrical wiring regulations and current standard practise for a modern hotel facility.

1.1 Background

This report references the work that was done in 2009 by Powell Fenwick Consultants Ltd[1] at the property, which is included as Appendix C of this report. This earlier work included a thorough structural assessment of the existing building, including seismic analysis. In light of the recent earthquakes in the Canterbury region, engineering "best practice" has evolved and it is prudent to review the original report to ensure the conclusions and recommendations drawn in it are still relevant.

We have extracted passages from the original report, some in their entirety, to produce a full and comprehensive document. For additional information not included here, please refer to the original report by Powell Fenwick Consultants Ltd Titled "Hydro Grand Hotel, Stafford Street, Timaru – Structure, Fire, Electrical and Mechanical Report for the existing building," dated 24 April 2009.

[1] **Powell Fenwick Consultants Ltd, "Hydro Grand Hotel, Stafford Street, Timaru – Structure, Fire, Electrical and Mechanical Report for the existing building," 24 August 2009.**

2. STRUCTURAL

2.1.1 Building Description

The building is a three-storey structure occupying a corner site on the main street of Timaru. The Bay Hill Street frontage has commanding views of Caroline Bay, the open sea and the Southern Alps.

The shape of the site makes the building a nominally triangular shaped building, constructed around an open air central service core / light well area.

All of the external walls of the building, including those that face the enclosed central area are unreinforced masonry (red brick). Additionally, some of the internal walls at the ground floor level are also unreinforced masonry.

The walls of the building which face onto Sefton and Bay Hill Streets have a painted plaster finish. All of these walls are supported on concrete foundations. None of the building materials are unusual or especially unique (such as stone) and the street and external finishes could be replicated in a more durable and stronger form with modern materials.

The floors throughout the building are timber framed and consist of tongue-in-groove floor boards supported on timber floor joists. These in turn are supported on a mixture of timber framed walls, unreinforced masonry walls and steel beams depending on the location within the building.

Along the northern side of the building the upper two levels have balconies that overlook the street. These are also timber framed floors with an asphalt type material forming the wearing surface over the top of the timber structure.

The roof is clad with lightweight iron over a framed timber structure. The pitch of the roof is such that there is a relatively large space within the roof structure which houses several water tanks and other plant items.

In the South-East corner of the building there is a circular domed turret which extends to the roof height. This is formed from plastered brick parapets extending to balustrade heights with a domed roof sitting on columns above.

In the centre of the building there is a lift shaft around which there is a staircase that services all of the upper levels.

The building has been constructed and used as a hotel, with dining, lounge, and bar facilities at the ground floor, and rooms at the upper floors. The rooms situated around the exterior sides of the building are typically setup as sleeping rooms with those facing the internal courtyard setup for staff and service use.

From photographs of the original building it is apparent that the roof structure of the current building is not original. The photographs indicate that the street facades of the building had large gables at the roof level.

There have also been other alterations to the building façade at some time in the past including removal of a veranda which covered the footpath around the building, and the installation of the arched openings on the street frontage. Some of the internal walls have also been removed and the layout altered. Refer to the appended drawings, originals drawn by The Buchan Group, for the current floor plan layouts.

2.1.2 Building Condition

The following observations were made during an inspection by Powell Fenwick Consultants completed in 2008:

"In the areas where the foundations could be viewed, the concrete was in good condition and showed no signs of visible degradation. Around the outside of the building there is some minor visible cracking to the walls. These appear to be localised cracks in the plaster rather than having been caused by any significant settlement or movement in the foundations of the building.

All of the masonry that was able to be viewed was in reasonable condition. The exception of this, is in the area of the central courtyard areas, where the mortar has degraded forming grooves into the mortar joints. It is likely that this has been caused by the dampness in this area due to it being an enclosed space. It was noted during our inspection that there were only small areas of masonry wall where header blocks were apparent. These are bricks that are laid at right angles to the wall themselves in order to lock together various skins of masonry that in total form the wall.

There were… some areas that were noted on our inspection. These are:

- *The first landing of the main staircase. This landing forms the roof to a toilet below. The timbers in this location have failed due to rot leading to the staircase being boarded off. These timbers have a significant amount of fungus growth on them when viewed from the outside. This is indicative of water damage to this area.*
- *There are areas where mould growth on the skirting boards of the external walls has occurred. It is not apparent if this is significant enough to have caused damage to the timber floor structure.*
- *The floor in the raised bar area in the western bar is soft. This appears to be a built up area of floor above what would be the original floor structure. Because of this we are unable to comment on the condition of the floor structure below.*

The structure of the roof is in a good condition. There were no signs of damage or degradation to any of the visible timbers. There were however a few timber struts that are bowed and have warped over time. The roofing itself has some areas where there are signs of rust in the iron sheet material. There were no areas noted where this had caused holes in the roof.

Around the building generally there are a large number of locations where there is water damage to the plaster and paint on the walls. These are largely on the external walls of the building indicating that they have been caused by water ingress either at the top of the wall, through window frames or through the wall itself. Generally, this damage manifests as cracking in the plaster, mould growth or bubbling of the paintwork. Several of the window sills to the building area also showing signs of having been effected by water, either with the paint flaking of the frame or the timber becoming soft in some areas.

Other areas where significant water damage was noted are:

- *The main stair case to in the building around the lift shaft. This appears to be from water entering from the wall of the building that faces the internal courtyard. The damage has occurred over the full height of the stair, but is worst at the lowest landing level where the paint is coming away from the wall and the floor structure is rotting as mentioned above.*
- *In the former lounge area, between the main entrance and the eastern bar area, there is a large area of ceiling and wall where the paint is falling off the wall and the timber appears to be rotting beneath it."*

A more recent detailed inspection of the premises was completed by Brian Schimke on behalf of Powell Fenwick Consultants Ltd on 6th November, 2015. The observations made during this inspection are included in the draft letter titled "Post Inspection Summary of Building at Corner of Sefton East Street and the Bay Hill, Timaru," dated 09 November 2015. Generally this inspection corroborated the observations made during the inspection in 2008, though further inspection

revealed that the water damage and rot is worse than reported in 2009, to the point that we consider much of the existing timber framing will require replacement, especially at the ground floor.

There was no observed earthquake damage to the building. Cracking to the external and internal linings were noted in 2008 and do not appear to be related to seismic movement. The overall structure of the building does not appear to have been affected by the Canterbury earthquakes.

2.2 Seismic Strengthening

2.2.1 Legislation

The Timaru District Council Earthquake-Prone, Dangerous & Insanitary Buildings Policy requires that a building be checked for structural compliance with the current code when any one of the following occurs:-

- When application for building consent is received; or
- When a change of use occurs; or
- When application for Certificate of Acceptance is received (subject to the building work having been carried out after the introduction of this policy); or
- When complaints or concern is received about the state of a building and the Council considers there are grounds for further investigations and assessment.

The Policy refers to the Building Act in defining "Earthquake-Prone" buildings as those that "will have its ultimate capacity exceeded in a moderate earthquake; and would be likely to collapse causing injury or death to persons in the building or to persons on any other property; or damage to any other property." A "moderate" earthquake is defined as "an earthquake that would generate shaking at the site of the building … that is one-third as strong as, the earthquake shaking …that would be used to design a new building at that site." The comparison of the structural strength of existing buildings to new buildings, or new code provisions, at the same site is referred to as a percentage of New Building Standard, or %NBS.

The Timaru District Council requires that any building identified as earthquake prone be strengthened to a degree sufficient to remove the earthquake prone status. Thus, where earthquake prone is defined as 1/3 NBS, any building identified as earthquake prone must be strengthened to a minimum of 34%NBS.

We note that the requirements to strengthen an earthquake prone building to a minimum level of 34%NBS is an absolute minimum requirement under the legislation. The Timaru District Council policy goes further to state that the New Zealand Society for Earthquake Engineering's (NZSEE) guidelines are the preferred basis for defining technical requirements and criteria for strengthening existing buildings. This document specifies that strengthened buildings should in all cases be upgraded to approximately 67% of current code. This reduced strength of building still poses a risk of severe damage in a full code-level earthquake; however, it is considered acceptable to the wider community for this to happen in order to accommodate the economic reality the older buildings pose to owners and the society in general.

For the case where the building is to undergo a change of use, the Building Act requires that the building comply with the provisions of the current building code as close as is "reasonably practicable," or as close as is "reasonably practicable" to 100%NBS.

Powell Fenwick Consultants has completed a structural assessment of the existing Hydro Hotel building and confirm that, in accordance with the definitions presented above, the building is earthquake-prone. We have estimated the strength of the existing building to be as low as approximately 10%NBS.

2.2.2 Suitability for strengthening

The structure of the building is such that although it could be strengthened using a traditional approach there are several factors that would impact on the level of difficulty for this building and hence would impact on the cost of the upgrade work and the future use of the building space.

The internal walls mean that any floor diaphragms are required to be stopped and started on each side of the walls. This requires plywood fixings and steel in excess of that that would be expected in a more typical plywood diaphragm building. As these walls also form the gravity support for the upper level floors the option of removing them to make the diaphragm easier to place is not available. Removal of the internal walls, while most likely desirable from a room layout planning point of view, would require the placement of new structure to re-support the floor. This would require structural steel beams to be placed to achieve the required support conditions. Depending on the proposed arrangement of the beams and wall removal, it may be necessary to carry new posts through the height of the building and form new foundation pads to support them.

We note that the typical rooms facing Caroline Bay at first and second floor currently run parallel to the Bay Hill, limiting the available accommodation units with views. To alter this would require a significant change in structural form internally.

The lack of sufficient header bricks tying the skins of the brick walls together requires steel members to provide the face load support. These members are required at relatively close spacing around all the masonry walls over the full height of each level. In some cases these posts will interfere with the current window opening locations. Additionally, the placement of these members will cause a significant reduction in the useable floor area over the three levels of the building.

As described in a subsequent section of this report, all services will require replacement as part of the strengthening and refurbishment of the existing building. This would require numerous new penetrations to the floor diaphragms, walls and linings to achieve the required fit out. It would also affect the internal linings of the building as any development would most likely include the concealment of any new services requiring new bulkheads or cavity spaces to run services. This could again see a reduction in the useable floor area of the building.

A building that has been strengthened in accordance with the NZSEE guidelines will be sufficient to achieve the desired level of code specified earthquake load for a new building *at the time of design*. This means that although strengthened, it cannot be guaranteed that in the future the building will not require additional strengthening to meet any future regulations as the building codes grow and change in light of increased engineering knowledge and experience, as has been very recently exhibited in the Canterbury Earthquake region.

2.2.3 Compulsory Repairs

Regardless of the strengthening requirements of the building, the following items must be repaired in response to the damage, deterioration, dilapidation, of the building in its current state, to satisfy the requirements of the New Zealand Building Act (NZBA):

- Replacement of all rotted timbers: throughout the building, all rotted timbers must be replaced. We anticipate this will require the replacement of the timber floor structures at the ground floor and stair wells in their entirety, and in portions at the upper floors. New timber framing will have to comply with current building code requirements and must be fit for purpose. Consideration will need to be given to allowable depth of the new framing to ensure the finished floor levels and ceiling levels match that of the existing. If this cannot be accomplished, all floors must be replaced in their entirety
- Replacement of internal linings: All internal linings, including walls linings, ceiling linings, floor linings, must be replaced. At all levels of the building, there is evidence of water damage, animal faeces, and mould. Furthermore, we understand that there may be asbestos in the ceiling linings at several locations throughout the building. Given the health issues associated with these, the hotel in its current condition is

unsanitary and unfit for occupation and must be “gutted.” All substrates and framing must be treated appropriately prior to installing new linings.

- Replacement of roof: the existing roof shows signs of rust and deterioration, and leaking has been noted in the upper floors. The roof must be replaced with new corrugated metal cladding.
- Replacement of broken windows: several windows throughout the property have been broken. These will need to be replaced and may be done so on a like-for-like as there is no code requirement to replace them with double-glazing, or similar. There may, however, be strong hotel operator requirements for windows to be double glazed in order to meet modern expectations of thermal and acoustic insulation.

2.3 Option 1A - Retention and restoration of existing building within the existing building envelope

The Hydro Grand Hotel in Timaru has been assessed as earthquake-prone. To remove the earthquake-prone status of the building, strengthening works will be required.

The first option explored is the retention and restoration of the existing building, using the existing structural elements and building fabric as much as possible. We note, however, that in consideration of the compulsory repairs previously described, as well as the requirements described in the following sections, very little of the original structure may remain, primarily, the roof structure, some floor joists (where they have not been effected by water damage and rot), and the brick exterior.

In consideration of the legislation described in the previous section, we have analysed the strengthening requirements to 34%NBS, 67%-80%NBS, and 100%NBS of the current code. These various schemes are detailed below. Drawings associated with the various schemes are included in appendix A.

2.3.1 Levels of strengthening

2.3.1.1 34% New Building Standard

This is the absolute minimum level of strengthening required to remove the earthquake-prone status of the building.

New diaphragms are required at all levels of the building with positive fixings into the masonry walls around the edges of the building. This would be achieved using screw fixed 20mm plywood fixed either as a ceiling or floor overlay. Around the masonry walls an angle would be required to enable the placement of drilled and epoxied fixings to transfer the load from the plywood diaphragm into the masonry walls. At any internal walls, the plywood would be required to stop each side of the walls. Smaller angles would be required at the wall lines to effectively provide continuity of the plywood through the timber top or bottom plate. Alternatively, the plywood could pass above or below the wall plates although this is likely to require a large amount of disruption to the wall linings and structure.

New vertical SHS posts would be required to be attached to the masonry walls to provide the strength required to hold up the walls under seismic face loads. These would be required to all of the masonry walls over the three levels of the building at approximately 1m centres and would be fixed into the wall using drilled and epoxied fixings.

The dome structure at the corner of the building would require strengthening by installation of a concrete portal frame structure over the full height of the building. In the dome itself a further structure would be required to provide the required connection between the domes roof and the supporting structure. This concrete frame may be used to further strengthen this corner of the

building as it is currently an acute angle with little lateral bracing available for loads perpendicular to the angle.

The bricks in the internal courtyard area will also require re-pointing to bring them back into line with the rest of the masonry walls.

The existing foundations require underpinning to provide the required strength to the brick walls for both in-plane and out-of-plane loads. At the location of the proposed concrete portal frame, a large pad sat upon steel screw piles is required to resist large potential uplift loads.

2.3.1.2 67%-80% New Building Standard

As previously mentioned, the Timaru District Council refers to the NZSEE guidelines as the basis for establishing strengthening requirements for existing buildings. These guidelines specify that buildings should be strengthened to a level of approximately 67%NBS. Furthermore, we expect that any insurer considering issuing a policy for the property will require the building to be strengthened to a level between 67%NBS and 80%NBS, as a minimum. For these reasons, we provide a scheme for the strengthening of the building to 67%-80%.

For costing purposes, the scheme provided here will achieve 67%NBS; achieving 80%NBS will incur a 20% increase in materials (NB: values included here as % increase in materials are based upon the code-based values used for design; 20% premium is calculated as 80/67 = ~20% increase in required design strength, thus resulting in ~20% increase in materials).

Using the 34%NBS as a baseline scope of works, the strength of parts of the masonry walls require further upgrade. This can be achieved by applying a concrete skin to the inside face of the walls. This could be done either as poured or sprayed concrete, reinforced with approximately 150 kg/m^3 of reinforcement. In these noted locations, the SHS posts required elsewhere may be foregone.

We note that these skins are required full-height of the building, which will require the existing floor structure to be altered to allow complete access to these walls. These alterations may include cutting short the existing framing and fitting new ribbon plates, joist hangers, blocking, etc. Additionally, some existing windows may have to be in-filled with concrete and steel to allow the walls to run full height, uninterrupted.

The foundations noted for this scheme will require larger underpins and additional reinforcing to those sizes and quantities indicated in the 34%NBS scheme.

2.3.1.3 100%+ New Building Standard

Strengthening the building to 100%NBS requires a substantial amount of additional work beyond that of the 67%NBS-80%NBS scheme. The requirement to strengthen to 100%NBS may be triggered if the building is to undergo a change of use and be used for any purpose other than a hotel. It may also be required to satisfy hotel operator requirements. This level of strengthening will provide for structural performance equivalent to that of a new building designed and constructed to all of the current and relevant provisions of the New Zealand Building Act.

In addition to the new diaphragms, foundations, and concrete skins already discussed, all remaining brick walls will require new in-situ concrete skins on the internal face to provide the strength against in-plane and out-of-plane seismic loads. The installation of these concrete walls will lead to the brick walls behaving as a brick veneer contributing seismic weight but not seismic resistance to the building. This additional weight will require more frequent fixings in the plywood diaphragms and into the supporting walls, as well as enhanced foundations at the ground floor. We note that the steel posts described in the previous sections may be foregone as all walls will be reinforced with the concrete skin.

These skins are required full-height of the building, which will require the existing floor structure to be altered to allow complete access to these walls. These alterations may include cutting short the existing framing and fitting new ribbon plates, joist hangers, blocking, etc. Additionally, some

existing windows may have to be in-filled with concrete and steel to allow the walls to run full height, uninterrupted.

2.3.2 Retention and restoration of existing building within the existing building envelope, convert the attic space into additional accommodation space

To use the attic space as additional accommodation space requires additional strengthening and will likely require the addition of new lateral load-resisting elements. The use of the attic effectively converts the ceiling of the building into a serviceable floor which has greater associated design seismic mass that must be accounted for. This additional mass at the top of the structure will result in greater force demands on the lateral systems of the building. We further note that the conversion of the attic space into floor space may be interpreted as a change of use, and so the entire structure may require strengthening to 100%NBS.

The 100%NBS strengthening scheme may be used as a baseline scope of works for this option. We would then expect that internal bracing walls or steel frames will be necessary to resolve the increased loads from the attic conversion. These bracing elements will have to extend up the height of the building, internally, and be set on new foundations.

2.3.3 Option 1B and 1C - Retention and restoration of existing building within the existing building envelope

The design loads of an office occupancy are greater than those of a hotel or apartment building and so additional strengthening work will be required to facilitate this conversion. Additionally, as previously noted, a change of use will require the building to be strengthened to 100%NBS, as near as reasonably practicable. Thus, we expect that provisions of the 100%NBS strengthening may be used as a baseline scope of works, but materials may increase by approximately 50% to compensate for the additional load of an office occupancy.

If converting to an apartment building from a the hotel, the building will need to be strengthened to 100%NBS as a change of use; however, as the design loads of an apartment occupancy are effectively the same as those for a hotel, no further strengthening will be required on this account. Therefore, the 100%NBS scheme may be used for this option.

2.4 Option 2A and 3A - Retention of façade: demolishing all internal elements and building new within existing building envelope, up to 20m

To retain the existing façade and remove the interior structure will require the installation of a new steel skeleton supported on new foundations and tied into the remaining masonry façade. This will be accomplished by introducing a skin of in-situ concrete to the back of the brick façade, and using steel RHS posts as regular centres to connect to the façade and the supporting steel structure at the floor levels, similar to the work described in the 100%NBS scheme. New floors may be constructed of timber joists with plywood flooring to create structural diaphragms, as previously described. These diaphragms will lend strength and stiffness to the steel frames to better resist the seismic mass of the retained façade. Steel braced frames will be used as the primary lateral load resisting elements and will be distributed regularly throughout the building footprint to ensure a predictable and reliable performance in future earthquakes.

We note that this new structure must be designed to 100%NBS, as a brand new building, in accordance with section 17 of the New Zealand Building Act.

If increasing the building height to 20m, the same principle of a new steel skeleton and strengthening works to the facade as described above will be required. To facilitate the construction of the additional height, the steel skeleton will have to extend full height. Heavier steel columns will be required throughout the building, and foundation sizes will increase. The steel frames used to brace the structure will also need to be appropriately upsized. New floors may be constructed of timber joists and steel beams. We note that this will result in significant additional costs, in all aspects of the structure, including material, labour, design, etc., as 20m is approximately twice the height of the existing building.

Again, this new structure must be designed to 100%NBS, as a brand new building, in accordance with section 17 of the New Zealand Building Act.

2.5 Options 2B and 3B – Retention of Façade Only with a Commercial Office with Ground Floor Retail Use, up to 20m

The design loads for an office occupancy are greater than those of a hotel, or apartment, building and so work beyond that of the Option 2A scheme will be necessary. Additionally, as previously noted in this report, a change of use will require the building to be strengthened to 100%NBS, as near as reasonably practicable; however, as this new structure must be designed to 100%NBS anyway (see section 2.4), the fact that it is a change of use does not have any appreciable effect on the structural requirements beyond those to support the heavier occupancy load.

For Option 2B, to retain the façade and build a new structure internally, using the Option 2A strengthening scheme as a baseline scope of works, we anticipate a 50% increase in materials, including heavier steel sections, additional reinforcing in the foundations, larger fixings, etc. This is due to the requirement that the new steel structure support the heavier design load associated with the office occupancy as opposed to the hotel occupancy.

To retain the façade and build a new structure internally to 20m height, while converting the facility to office space, will require the same degree of work as described for Option 3A, but will require heavier steel sections, larger foundations with more reinforcing steel, larger and more frequent fixings, etc., again, in response to the heavier occupancy load. This could be in the order of a 50% increase in material over the Option 3A work.

2.6 Options 2C and 3C – Retention of Façade Only with a Residential Apartments Use

As the design loads of commercial apartments are equivalent to that of a hotel, the same structural strengthening requirements of Options 2A and 3A will be required.

3. FIRE SAFETY AND FIRE PROTECTION

3.1 Design Assumptions and Limitations

The concept assessment focusses upon Option 1 - the retention and restoration of the existing building envelope with the retention of the primary hotel use.

The building assessment is based on the Acceptable Solutions for Buildings with Public Access and Educational Facilities C/AS4 (Amendment 3) and Acceptable Solutions for Buildings with Sleeping (non-institutional) C/AS2 (Amendment 3) as a means of showing compliance with NZBC Clauses C1-C6 Protection from Fire on an as nearly as is reasonably practicable basis (ANARP). A Verification Method: Framework for Fire Safety Design C/VM2 may result in a cost benefit to the client and / or a more favourable design approach.

This concept fire design addresses the requirements of the Building Act 2004 only and does not address owner's property protection. Nor does it cover F3 Hazardous Substances and Processes, which is separate and the Hazardous Substances and New Organism Act applies.

The fire design is specific to the current building geometry and layout and allows for the following assumptions:

- Transient accommodation is allowed for.
- It is assumed that all of the sleeping occupants can recognise a fire and egress the building unaided. No assisted evacuation is allowed for.
- Occupant loads need to be confirmed by the client. The current occupant loads for the various areas in the building are based on the allocated floor areas and Fire Code densities.
- A 'one out, all out' evacuation strategy where all occupants leave the building in a fire event is assumed. This is typical for this type of building. No delayed or staged evacuation is allowed for.
- The design is based on a significant Section 112 of the NZ Building Act 2004 building consent and does not allow for any change of use (section 115 of the NZ Building Act 2004) or any alterations to the external walls, except for when considered in Options B and C as outlined in this report's introduction. Therefore, fire spread to the relevant boundaries is not considered for Option 1.
- It is assumed the building is under one ownership and does not include Unit or Strata titling.
- This report is based on a site inspection carried out in December 2008.

Any deviations from the current building design or the above assumptions may result is changes to the fire safety design philosophy.

This report shall be read together with the Concept Fire Drawing FC1 – FC3.

3.2 Option 1A - Retention and Restoration of Existing Hotel Building

3.2.1 Firecells

The building is made up of multiple firecells. The general philosophy is that each bedroom is a separate firecell and all non-sleeping firecells are separated from the sleeping firecells and their escape routes. Non-sleeping spaces may be lumped together in the same firecell. The stair, including lobby, is a separate firecell. The proposed design currently shows large openings between the stair lobby and other ground floor spaces, which is not permitted.

3.2.2 Occupant Load

The design occupant loads of the various spaces are indicated on the Concept Fire Drawings. These are based on the C/ASx Table 1.2 Occupant density and corresponding floor area or the number of bed spaces where appropriate.

The assumed design occupancies of the floors are:

- Ground floor: Reception, Restaurant/ Café and Kitchen- 275 people.
- First Floor: Transient accommodation- 50 people (maximum).
- Second Floor: Transient accommodation- 50 people (maximum).

Note that if more than 50 people are required on either the first or second floors then a second means of escape is required from these floors.

3.2.3 Egress Routes and Egress Doors

The proposed egress routes are shown on the Concept Fire Drawings appended to this report.

The general egress philosophy is as follows:

- The central stair is acceptable as an egress route, provided it includes a fire separated route at ground floor level to outside. All areas on the upper floor shall have access to both sides of the stair.
- The rear stair between first and ground floor is not an acceptable egress stair as it empties into a different firecell on the ground floor. Thus, this stair is not used for egress.
- Egress doors shall include keyless hardware in the direction of egress. Modification of existing hardware is required.
- All doors which include electronic locking systems must also include a battery backed up emergency door release system. The existing system must be checked to ensure this exists. If not, it shall be provided.
- Egress doors are required to the ground floor areas, as shown on the Concept Fire Drawings. The doors shall provide a minimum clear opening width of 760mm and opening height of 1955 and open outwards. The doors when serving more than 100 people shall be fitted with panic push bars.
- Doors into the central stair shall provide 875mm clear opening.

3.2.4 Sprinkler and Fire Alarm Systems

3.2.4.1 Sprinkler System

An automatic sprinkler system complying with NZS 4541 is presently installed throughout the entire building.

The Type 6 sprinkler system shall be modified / altered as necessary to allow for the building alterations, all to comply with NZS 4541:2013, including the SSC's Technical Directives, to from part of a Type 7 system.

Note that a significant amount of existing pipework will need to be removed and new pipe work reinstated due to the structural demolition work required.

Backflow prevention and a drain to sewer shall be provided if required by the local Council, if these do not presently exist.

The 'Summary of Findings' section in the latest FPIS report shall be carried out as part of these works.

3.2.4.2 Fire Alarm System

The existing manual alarm system with bells shall be removed completely.

A new Type 5 smoke detection and manual alarm system complying with NZS 4512:2010 is required throughout the entire building, except on the ground floor which shall include a Type 4 system, to form part of a Type 7 system. This includes:

- A fire alarm panel facing the Street,
- Remote display unit in the Reception area,
- Smoke and heat detectors throughout,
- Call points, and
- Sounders with voice message.

3.2.4.3 Brigade Connection

The sprinkler and fire alarm systems shall be connected to the NZ Fire Service. NZ Fire Service Connection is not required for the smoke detectors.

3.2.5 Fire Hydrant System

A fire hydrant system is not required where the hose run length from the NZ Fire Service attendance point(s) to all parts of the building do not exceed 75m. An internal fire hydrant system is not required for this project.

3.2.6 Hand Held Fire Fighting Equipment

No hand held fire fighting equipment is required for compliance with the NZBC. However, hand held fire fighting equipment is required for compliance with NZS4541.

Remove the existing fire hose reels and fire extinguishers completely.

Provide new fire extinguishers throughout the building in accordance with NZS4508:2005 as required by NZS4541:2013.

3.2.7 Emergency Lighting

Emergency lighting complying with NZS 2293 and F6/AS1 of the NZ Building Code is required throughout the following areas:

- Accommodation corridors on the first and second floors,
- The central stair and ground entry lobby,
- All other stairs, and
- Any other change in level and where egress lengths exceed 20m.

The emergency lighting shall provide 1 lux for 30 minutes.

Emergency lighting is not required to the Guest Rooms or any Manager's Residence.

3.2.8 Exit Signs

The existing exit signs shall be removed.

Maintained illuminated exit signs are required above egress doors and along egress routes in accordance with F8/AS1. Provide directional arrows as necessary.

The proposed egress routes are shown on the Concept Fire Drawings.

3.2.9 Stairs

The existing stair on the second floor into the roof space is 600mm wide and does not include a handrail. The stair will need to be rebuilt to allow for the proposed structural works. If required, and rebuilt, the stair shall include a handrail and be lined on the underside with one layer of 16mm Fyreline in accordance with the GIB GBUC30 fire rated system.

The existing central stair is 1400mm wide and includes a handrail on one side. The stair is in poor condition.

The underside of the central stair landing and flight on the ground floor shall be lined with one layer of 16mm Fyreline in accordance with the GIB GBUC30 fire rated system.

Any light fittings shall be surface mounted or of a fire rated recessed type fitting.

Penetrations shall be appropriately fire stopped. All fire stopping of penetrations shall be completed in accordance with the manufacturer's instructions and comply with AS 1530.4.

3.2.10 Fire Rated Walls and Doors – 30 FRR

The walls as shown on the Fire Drawings require a 30 minute FRR.

Concrete walls will provide the required FRR and shall remain as is.

Fire rated walls shall be lined with at least either one layer of 10mm Fyreline or one layer of 13mm GIB Board in accordance with a GIB 30 minute fire rated system. Acoustic requirements may require additional linings.

The walls shall extend to the underside of the floor or fire rated ceiling above.

All doors in these walls shall be a certified -/30/-SM fire rated doors. These shall include: rebated intumescent smoke seals, door closers, latching hardware, certification labels and fire door signage. Double doors shall include a sequential door closing mechanism.

The doors between the Accommodation corridors and stairs shall include magnetic hold open devices and fire rated vision panels.

Lift doors shall include at least a -/30/- FRR.

Fire curtains may be required on the ground floor to close off the stair lobby from the adjacent spaces, if fire rated walls and doors cannot be provided. These shall include side guides and provide at least a -/30/- FRR.

Penetrations shall be appropriately fire stopped. All fire stopping of penetrations shall be completed in accordance with the manufacturer's instructions and comply with AS 1530.4.

A switchboard presently exists in the ground floor foyer. Fire rate this using a Firepro B351 or similar including timber framing lined with 10mm Fyreline fixed over existing wall linings to provide fixings for the access hatch to achieve at least a 30 minute FRR, or relocate to not be located within the stair.

Any glazing, including side/top lights, in these walls shall be fixed shut and include -/30/- fire resistant glazing in a certified frame, with certification labels.

The switchboard serving the lift shall be housed in fire separated enclosure with 30 minute fire rated wall plus -/30/30sm fire rated doors.

3.2.11 Fire Rated Floors – 30 FRR

The Level 01 and 02 floors, including their structural support systems, require a 30 minute FRR.

The undersides of the floors shall be lined with at least one layer of 13mm Fyreline in accordance with the GIB GBFC45 tested system. Acoustic requirements may require additional linings.

Any existing and any new structural steelwork supporting the floors shall be fire rated to achieve a 30/-/- FRR.

Light fittings shall be surface mounted, be fire rated recessed type fitting, or be recessed with fire rated cones fitted.

Penetrations shall be appropriately fire stopped at floor level. All fire stopping of penetrations shall be completed in accordance with the manufacturer's instructions and comply with AS 1530.4.

3.2.12 Fire Rated Ceilings – 30 FRR

The entire Level 02 ceiling, including its structural support system, requires a 30 minute FRR.

The ceiling is presently lined with lath and plaster with some recessed fittings. The linings are in poor condition and shall be removed and lined with one layer of 16mm Fyreline in accordance with the GBUC30 fire rated system. Solid block and stop all joins.

Timber framed support walls shall be lined with at least either one layer of 10mm Fyreline or one layer of 13mm GIB Board in accordance with a GIB 30 minute fire rated system.

Light fittings shall be surface mounted, be fire rated recessed type fitting, or be recessed with fire rated cones fitted.

Penetrations shall be appropriately fire stopped. All fire stopping of penetrations shall be completed in accordance with the manufacturer's instructions and comply with AS 1530.4.

Fire alarm speakers shall have fire rated cones fitted.

3.2.13 Interior Surface Finishes / Flooring / Suspended Flexible Fabrics

3.2.13.1 Interior Surface Finishes

Internal surface finishes of all walls and ceilings shall have Group Numbers less than or equal to the following when tested to either ISO 9705 or ISO 5660:

	Maximum Group Number
All Public Occupied Spaces – wall linings	3
All Public Occupied Spaces – ceiling linings	2
Exitways - Stairs and accommodation corridors – walls and ceilings	2
Staff only occupied spaces– walls and ceiling lining	3
Ducts for HVAC systems (internal surfaces)	2
Ducts for HVAC systems (external surfaces)	3

Note that surface finish requirements do not apply to: a) Small areas of non-conforming product within a firecell with a total aggregate surface area of not more than 5.0 m^2; b) Electrical switches, outlets, cover plates and similar small discontinuous areas; c) Pipes and cables used to distribute power or services; d) Handrails and general decorative trim of any material such as architraves, skirtings and window components, including reveals, provided these do not exceed 5% of the surface area of the wall or ceiling they are part of; e) Damp-proof courses, seals, caulking, flashings, thermal breaks and ground moisture barriers; f) Timber joinery and structural timber building elements constructed from solid wood, glulam or laminated veneer lumber. This includes heavy timber columns, beams, portals and shear walls not more than 3.0 m wide, but does not include exposed timber panels or permanent formwork on the underside of floor/ceiling systems; g) Individual doorsets; and h) Continuous areas of permanently installed openable wall partitions having a surface area of not more than 25% of the divided room floor area or 5.0 m^2, whichever is less; i) N/A; j) Uniformly distributed roof lights for Risk Group CA where: i) the total area does not exceed 15% of the ceiling area (in plan); ii) the minimum floor to ceiling height is not less than 6.0 m, and iii) the roof lights achieve a Group Number not greater than 3.

3.2.13.2 Foamed Plastics

Any foamed plastics forming part of a wall or ceiling system shall comply with the flame propagation criteria as specified in AS 1366 for the type of material being used, and the entire system including the foamed plastic shall meet the Group Number requirements above.

3.2.13.3 Flooring

Flooring shall be non-combustible or have a critical radiant flux not less than 1.2kW/m^2, except in the corridors, central stair or entry lobby which shall have a critical radiant flux not less than 2.2kW/$m^2$when tested to ISO9239-1:2010.

3.2.13.4 Suspended Flexible Fabrics

Any new suspended flexible fabrics that are part of the building construction shall have a maximum Flammability Index of 12.

Any roof underlay exposed to view shall have a maximum Flammability Index of 5.

3.2.14 Miscellaneous

3.2.14.1 House Keeping:

Remove all combustibles from the Accommodation corridors and the central stair and the ground floor entry lobby. This includes the rubbish bins, piano, office, etc in the entry lobby and the heaters in the second floor corridor.

3.2.14.2 Lightwell:

The lightwell in the centre of the building must remain open to the sky. No roof is permitted to enclose the space.

3.2.14.3 External Walkways:

The external fire escapes are not required for egress and may be removed.

3.2.14.4 Building Service Plant

The mechanical ventilation system shall be interfaced with the fire alarm system so that it shuts down on fire alarm activation.

3.2.15 Additional Roof Space Accommodation

The following fire safety features are associated with the additional level of accommodation. Refer also to the Fire Drawing FC4 for details:

- The central stair shall be extended to this floor.
- Each bedroom shall be a separate firecell and the corridors shall be a separate firecell to the stair.
- The Type 7 sprinkler and fire alarm system shall be extending into and throughout this floor in accordance with NZS4541:2013 and NZS4512:2010.
- A fire hydrant system in accordance with NZS4510:2008 is required as the hose run length from the NZ Fire Service attendance point to all parts of the building now exceeds 75m. Additional details can be provided as required.
- Provide new fire extinguishers throughout in accordance with NZS4508:2005 as required by NZS4541:2013.
- Emergency lighting complying with NZS 2293 and F6/AS1 of the NZ Building Code is required throughout the corridors and stairs. The emergency lighting shall provide 1 lux for 30 minutes.
- Illuminated exit signage along egress routes and above egress doors.

- Fire rated internal walls and doors are required as per the '*Fire Rated Walls and Doors - 30 FRR*' section above; however, the walls shall extend full height to the underside of the roof above. Note that some of the walls as shown on the Fire Drawing FC4 shall only extend to the lower Level 02 roof level (this is to prevent fire spread from the Level 03 unit and Level 02 roof space).
- Fire rated external walls shall include a two-way 30 minute FRR and extend full height to the underside of the roof above. The glazing shall be fixed shut -/30/- fire rated glazing in certified frames. All else is as per '*Fire Rated Walls and Doors - 30 FRR*' section above.
- The new floor shall have a 30 minute FRR as per '*Fire Rated Floors - 30 FRR*' section above.
- Interior surfaces finishes, flooring and suspended flexible fabrics shall be as per the above.
- The new exterior cladding of the new external wall within 1m of the NW boundary shall have a peak heat release rate not greater than 100kW/m^2 and the total heat release rate shall not exceed 25MJ/m^2.

3.3 Option 2A and 3A - Retention of Façade Only with a Hotel Use

This assessment is based on the Acceptable Solutions for Buildings with Public Access and Educational Facilities C/AS4 (Amendment 3) and Acceptable Solutions for Buildings with Sleeping (non-institutional) C/AS2 (Amendment 3) as a means of showing compliance with NZBC Clauses C1-C6 Protection from Fire. Given that this is essentially a rebuild, all works must comply in full.

The following fire safety features are associated with these options:

- A crowd use is allowed for on the ground floor and hotel on the upper floors. No unit or strata titling is allowed for.
- Each Sleeping Unit shall be a separate firecell. Each Sleeping Unit shall egress into a horizontal safe path before entering a vertical safe path. The stair(s) shall be a separate firecell(s) and egress directly to the outside.
- All non-sleeping firecells shall be separated from the sleeping firecells and their escape routes. Non-sleeping spaces may be lumped together in the same firecell. Egress from the ground floor spaces shall be directly to the outside and not via the egress stair, unless a suitably size smoke lobby proceeding the stair is provided.
- Sprinkler System / Fire Alarm System:
  - The Type 7 sprinkler and fire alarm system is required if the escape height exceeds 10m and the building is served by a single stair. The Type 7 system shall comply with NZS4541:2013 and NZS4512:2010.
  - The Type 5 fire alarm system is required if the escape height does not exceeds 10m if served by a single stair or if it exceeds 10m and served by two stairs. The Type 5 system shall comply with NZS4512:2010.
- A fire hydrant system in accordance with NZS4510:2008 is required if the hose run length from the NZ Fire Service attendance point to all parts of the building exceeds 75m.
- Provide new fire extinguishers throughout in accordance with NZS4508:2005 as required by NZS4541:2013, if a sprinkler system is provided.
- Emergency lighting complying with NZS 2293 and F6/AS1 of the NZ Building Code is required throughout the corridors and stairs. The emergency lighting shall provide 1 lux for 30 minutes.
- Illuminated exit signage along egress routes and above egress doors in accordance with F8/AS1.

- Fire Rated Internal Walls:
  - A 30 minute FRR is required for a sprinkler protected building. Doors shall be -/30/-SM doors. Fire rated glazing shall be -/30/-.
  - A 60 minute FRR is required for a non-sprinkler protected building. Doors shall be -/60/30 SM doors. Fire rated glazing shall be -/60/60.
  - General requirements applicable to both: walls shall extend full height and penetrations shall be appropriately fire stopped.
- Fire Rated External Walls: The extent of fire rating required is very dependent on the building design. However, if required:
  - A 60 / 30 minute FRR is required for a sprinkler protected building for walls on the ground floor and upper floors respectively.
  - A 120 / 60 minute FRR is required for a non-sprinkler protected building for walls on the ground floor and upper floors respectively.
- After fire support to the existing facades is required to prevent collapse over the street boundary in accordance with B1.
- Fire Rated Floors:
  - A 30 minute FRR is required for a sprinkler protected building.
  - A 60 minute FRR is required for a non-sprinkler protected building.
  - General requirements applicable to both: penetrations shall be appropriately fire stopped.
- Lower roof fire spread shall be considered for a non-sprinkler protected building. In this case, any lower ceiling within 5m of an adjacent Units higher wall or escape route requires a 60 minute FRR. Alternatively, the higher wall may be fire rated.
- Vertical fire spread shall be considered for a non-sprinkler protected building. In this case, spandrels or aprons are required to prevent vertical fire spread between floor levels. Spandrels are to be at least 1.5m deep, aprons are to extend at least 0.6m and include a 60 minute FRR. A combination of both is permitted.
- Interior surfaces finishes, flooring and suspended flexible fabrics shall comply with the relevant Acceptable Solutions.
- The exterior cladding of the new external wall within 1m of the NW boundary shall have a peak heat release rate not greater than 100kW/m^2 and the total heat release rate shall not exceed 25MJ/m^2. All other walls shall have a peak heat release rate not greater than 150kW/m^2 and the total heat release rate shall not exceed 50MJ/m^2.

Please note that the above is a very high level assessment and additional features may be required subject to proposed drawings being developed. Given that no plans have been supplied, there are no Fire Drawings associated with these options.

3.4 Option 2B and 3B – Retention of Façade Only with a Commercial with Ground Floor Retail Use

This high-level assessment is based on the Acceptable Solutions for Buildings with Public Access and Educational Facilities C/AS4 (Amendment 3) and Acceptable Solutions for Buildings used for Business, Commercial and Low Level Storage C/AS5 (Amendment 3) as a means of showing compliance with NZBC Clauses C1-C6 Protection from Fire. Given that this is essentially a rebuild, all works must comply in full.

The following fire safety features are associated with these options:

- A crowd use is allowed for on the ground floor and offices on the upper floors. No unit or strata titling is allowed for.
- Each floor shall be a separate firecell. Two stairs are required, separated by at least 8m, and each stair shall be separate firecell with egress directly to the outside. Egress from the ground floor spaces shall be directly to the outside and not via the egress stair. The lift shaft shall be a separate firecell.
- A Type 4 fire alarm system is required comply with NZS4512:2010.
- A Type 9 system is required. The fire alarm systems shall be interfaced with the HVAC system so that it shuts down on fire alarm.
- A fire hydrant system in accordance with NZS4510:2008 is required if the hose run length from the NZ Fire Service attendance point to all parts of the building exceeds 75m.
- Emergency lighting complying with NZS 2293 and F6/AS1 of the NZ Building Code is required where egress lengths exceed 20m, the occupant load exceeds 250 people on an escape route and in the safe path stairs. The emergency lighting shall provide 1 lux for 30 minutes.
- Illuminated exit signage along egress routes and above egress doors in accordance with F8/AS1.
- Fire Rated Internal Walls escape height greater than 10m: A 120 minute FRR is required for a non-sprinkler protected building. Doors shall be -/60/30 SM doors. Fire rated glazing shall be -/120/120. Walls shall extend full height and penetrations shall be appropriately fire stopped.
- Fire Rated Internal Walls escape height less than 10m: A 60 minute FRR is required for a non-sprinkler protected building. Doors shall be -/60/30 SM doors. Fire rated glazing shall be -/60/60. Walls shall extend full height and penetrations shall be appropriately fire stopped.
- Fire Rated External Walls: The extent of fire rating required is very dependent on the building design. However, if required a 120 minute FRR is required for a non-sprinkler protected building.
- After fire support to the existing facades is required to prevent collapse over the street boundary in accordance with B1.
- Fire Rated Floors: A 60 minute FRR is required for a non-sprinkler protected building. However, if the external walls are required to be supported by the floors, then a 120/60/60 FRR is required. Penetrations shall be appropriately fire stopped.
- Interior surfaces finishes, flooring and suspended flexible fabrics shall comply with the relevant Acceptable Solutions.
- The exterior cladding of the new external wall within 1m of the NW boundary shall have a peak heat release rate not greater than 100kW/m^2 and the total heat release rate shall not exceed 25MJ/m^2. All other walls shall have a peak heat release rate not greater than 150kW/m^2 and the total heat release rate shall not exceed 50MJ/m^2.
- Please advise if a sprinkler protected solution is required.

Please note that the above is a very high level assessment and additional features may be required subject to proposed drawings being developed. It has been provided to advise in general terms some of the key fire safety features for these options. Given that no plans have been supplied, there are no Fire Drawings associated with these options.

3.5 Option 2C and 3C – Retention of Façade Only with a Residential Apartments Use

The assessment is based on the Acceptable Solutions for Buildings with Sleeping (non-institutional) C/AS2 (Amendment 3) as a means of showing compliance with NZBC Clauses C1-C6 Protection from Fire. Given that this is essentially a rebuild, all works must comply in full.

The following fire safety features are associated with these options:

- An apartment use is allowed for on all floors with up to 50 occupants per floor. Unit titling is allowed for.
- Each Sleeping Unit shall be a separate firecell. Each Sleeping Unit shall egress into a horizontal safe path before entering a separate vertical safe path. The stair(s) shall be a separate firecell(s) and egress directly to the outside.
- Any non-sleeping spaces shall be separated firecells from the sleeping firecells.
- Sprinkler System / Fire Alarm System:
  - The Type 7 sprinkler and fire alarm system is required if the escape height exceeds 10m and the building is served by a single stair. The Type 7 system shall comply with NZS4541:2013 and NZS4512:2010.
  - The Type 5 fire alarm system is required if the escape height does not exceeds 10m if served by a single stair or if it exceed 10m and served by two stairs. The Type 5 system shall comply with NZS4512:2010.
- A fire hydrant system in accordance with NZS4510:2008 is required if the hose run length from the NZ Fire Service attendance point to all parts of the building exceeds 75m.
- Provide new fire extinguishers throughout in accordance with NZS4508:2005 as required by NZS4541:2013, if a sprinkler system is provided.
- Emergency lighting complying with NZS 2293 and F6/AS1 of the NZ Building Code is required throughout the corridors and stairs. The emergency lighting shall provide 1 lux for 30 minutes.
- Illuminated exit signage along egress routes and above egress doors in accordance with F8/AS1.
- Fire Rated Internal Walls:
  - A 30 minute FRR is required for a sprinkler protected building. Doors shall be -/30/-SM doors. Fire rated glazing shall be -/30/-.
  - A 60 minute FRR is required for a non-sprinkler protected building. Doors shall be -/60/30 SM doors. Fire rated glazing shall be -/60/60.
  - General requirements applicable to both: walls shall extend full height and penetrations shall be appropriately fire stopped.
- Fire Rated External Walls: The extent of fire rating required is very dependent on the building design. However, if required:
  - A 30 minute FRR is required for a sprinkler protected building.
  - A 60 minute FRR is required for a non-sprinkler protected building.
- After fire support to the existing facades is required to prevent collapse over the street boundary in accordance with B1.
- Fire Rated Floors:
  - A 30 minute FRR is required for a sprinkler protected building.
  - A 60 minute FRR is required for a non-sprinkler protected building.

- General requirements applicable to both: penetrations shall be appropriately fire stopped.

- Lower roof fire spread shall be considered for a non-sprinkler protected building. In this case, any lower ceiling within 5m of an adjacent Units higher wall or escape route requires a 60 minute FRR. Alternatively, the higher wall may be fire rated.
- Vertical fire spread shall be considered for a non-sprinkler protected building. In this case, spandrels or aprons are required to prevent vertical fire spread between floor levels. Spandrels are to be at least 1.5m deep, aprons are to extend at least 0.6m and include a 60 minute FRR. A combination of both is permitted.
- Interior surfaces finishes, flooring and suspended flexible fabrics shall comply with the relevant Acceptable Solutions.
- The exterior cladding of the new external wall within 1m of the NW boundary shall have a peak heat release rate not greater than 100kW/m^2 and the total heat release rate shall not exceed 25MJ/m^2. All other walls shall have a peak heat release rate not greater than 150kW/m^2 and the total heat release rate shall not exceed 50MJ/m^2.

Please note that the above is a very high level assessment and additional features may be required subject to proposed drawings being developed. It has been provided to advise in general terms some of the key fire safety features for these options. Given that no plans have been supplied, there are no Fire Drawings associated with these options.

4. BUILDING SERVICES

For the purposes of this report, Building Services incorporates Mechanical and Electrical Services.

4.1 Existing Mechanical Systems

The mechanical services in the hotel have been assessed by site inspection to ascertain the type and condition of the services and to assess if any of the systems were suitable for reuse.

The hotel was originally provided with heating by a central boiler. This boiler circulated hot water throughout the building for heating and domestic hot water. This boiler is now out of commission and has been redundant for many years. The photos below show the state of the old boiler. It would not be practical to reinstate any of this plant.

Since the decommissioning of the boiler the domestic hot water is now provided by localised hot water cylinders installed throughout the hotel building. These cylinders are also reaching the end of their economic life and it is recommended that these cylinders be replaced if the building is to be refurbished.

Photo 1 Original Boiler

Photo 2 Original Heating Water Cylinder

Heating is now provided by electric heaters located throughout the rooms and in the main areas. The use of individual heaters allows each room to be controlled separately to allow for different occupancy times and the preference of individual occupants. These heaters have also reached the end of their economic life and many have deteriorated to a state that would make them dangerous to reuse. Also there is no cooling available in the rooms. This is likely to be required in a modern hotel facility.

There are various extract hoods and extract systems in the kitchen areas. These systems could continue to be used but it is likely that major upgrade work would be required if the kitchens were reconfigured for a modern facility. Also most of the duct work and hoods will need to be removed for the structural strengthening works that are required.

Typical room ventilation is by opening windows. This is unlikely to meet the requirements of a modern hotel facility which would typically have ducted ventilation. This allows windows to be kept closed for reasons of security and noise control. There are also a number of internal rooms without any ventilation. It appears these rooms were occupied and therefore would not comply with current NZBC ventilation requirements. A new ducted mechanical ventilation system would be required, however this would be difficult to install due to restrictions in ceiling heights.

Photo 3. Existing Toilet

Photo 4. Typical Room heater, sink, opening windows

The plumbing and drainage systems throughout are very old and most components have deteriorated through lack of use. The potential corrosion and contamination inside the pipework means that all of these systems would require replacing.

4.2 Mechanical Upgrade Requirements

The mechanical services in the hotel consist primarily of a decommissioned central boiler, localised electric hot water cylinders, copper and cast iron plumbing pipe work, localised electric heating systems and various extract systems. All of these mechanical systems have reached the end of their economic life and would require replacement for long term future use. The potential corrosion and contamination in many areas mean that it would be dangerous to reuse the existing systems without major upgrades which are likely to be more expensive the installing new systems.

The internal courtyard area could be used to run new services up and down the building. However the overall style, construction and layout of the building would make it difficult to retrofit all the new mechanical services that would be required to meet current NZBC regulations and to meet the standards expected in a modern hotel building.

The new plumbing systems would be similar to the existing. The likely HVAC solution is a central heat pump system such as a Mitsubishi VRF or Daikin VRV system which allows the outdoor plant to be centralised on a single roof deck or plant platform. New extract ventilation and fresh air systems are required. These new systems could simply extend to an additional floor if required.

The costs of these new systems will be similar to a new building on the basis that a complete strip out of the existing internal fit out will be required if the building was to be reused. However depending on how much of the building is retained there will be some cost premium compared to a new build due to the additional installation costs incurred when retrofitting rather than integrating into a new-build construction. Building options and cost premiums are described in the later sections of this report.

4.3 Existing Electrical Systems

The Electrical Services in the hotel have been assessed by site inspection to ascertain the type and condition of the services and to assess if any of the systems were suitable for reuse.

Switchboard

All switchboards are old and use components that are no longer available and past their economic used by date.

The majority of switchboards do not meet the latest New Zealand wiring regulations.

All switchboards would have to be replaced.

Photo 1 Typical Existing Switchboard

Submains

The majority of submains use old VIR or pyrotenex cabling and could not be reused as they cannot be jointed or re-terminated.

The existing submain cables would have to be abandoned.

Subcircuit Cabling

A large amount of the existing 1950 subcircuit cabling remains. This utilizes VIR and / or TRS cabling which would have to be removed and replaced to comply with the new codes.

There are some new TPS subcircuits for kitchen equipment and new heating circuits, but this is minimal.

Termination Fittings/Luminaires/Heater

The majority of all termination fittings, luminaires and heaters are old and past their economic used by date.

The majority of luminaires use incandescent lamps which no longer allow the lighting solution to meet the energy efficiency codes outlined in the Building Code.

The majority of all termination fittings etc would have to be replaced.

Emergency Lighting

A new emergency lighting system would have to be installed throughout the building such that it meets the NZ Standard AS/NZS 2293. Any existing systems do not meet this standard.

4.4 Electrical Upgrade Requirements

As outlined above, the electrical systems in the hotel consist mainly of switchboards, cabling, luminaires and termination fittings that no longer meet current New Zealand Wiring Regulations and Standards or Building Code Energy Efficiency Standards.

All of the electrical components have reached the end of their economic life and would require full replacement for long term future use.

Subject to there being an adequate power supply at the street (refer later in this report), new works would include the following:

- Incoming service cable
- Main switchboard with metering and submain distribution
- Submains and distribution boards
- Internal and external lighting and controls
- Power requirements
- Emergency lighting
- Voice and data cabling
- Ancillary services including electronic security, CCTV (possibly), intruder detection, audio/visual requirements.

4.5 BUILDING USAGE OPTIONS – ALTERNATIVES A, B AND C

Because virtually all the existing mechanical and electrical services require replacing it can be assumed for the purposes of obtaining a budget that the cost estimates can be based on the typical square meters rates that would be used for a new building (albeit with different cost premiums depending on whether it's retrofitting into option 1 or the alternative new build behind a façade option).

Specific services considerations for each of the following building usages are also described below. Section 4.6 describes the cost premiums associated with each of the retrofit options for retaining the existing façade.

4.5.1 Hotel Redevelopment - Alternative A

Due to the hotel type usage, there would be a greater emphasis on ancillary electrical services such as MATV systems, electronic security etc.

Typically each room would have heating, cooling ventilation and bathroom extract systems. This requires a large number of services rises and services space in the corridor ceilings. This will be difficult to achieve in the existing building layout.

4.5.2 Office Development – Alternative B

An office development would require individual energy metering for individual tenants, and usually requires a greater emphasis on energy efficiency with regard to luminaire selection and automated lighting controls (e.g. occupancy sensing, daylight sensing).

A typical office environment would have a fully ducted air conditioning system. Also modern energy efficiency features would include options like night time fresh air purges and heat recovery units. These systems require significant ceiling space that will be difficult to achieve within the existing building layout.

4.5.3 Residential – Alternative C

A residential/apartment type usage would again require individual metering per tenant and would again require a considerable emphasis on ancillary services such as reticulated television, electronic security, CCTV etc.

The choice of HVAC systems can vary widely for a residential facility. This can range from electric heating with opening windows through to fully ducted HVAC systems. Typically the minimum level would involve the use of some form of heat pump system. For a building of this scale it is not normally practical to use multiple individual split systems as these all require their own outdoor unit. The more likely solution is a central heat pump system as also suggested for the hotel or office development options

4.6 FACADE OPTIONS – OPTIONS 1, 2 AND 3

Specific services considerations for each of the following façade/refurbishment options are as follows. Note that retaining more of the existing building will result in an increase in the estimated costs of the mechanical and electrical services due to the difficulties of retrofit work in and existing building compared to a complete new build which is designed to accommodate the required building services.

4.6.1 Reuse Building Layout Including Internal Layout – Option 1

It is important to note that reusing the building does not mean that any of the services can also be reused. As noted in the report earlier, virtually all of the services are past their economic life. Also the option of retaining the building will require significant structural strengthening as described in the structural section of this report. To complete the strip out and allow for the strengthening work to be completed it will be necessary to remove virtually all of the existing services in the building. New services must be provided.

Retaining the existing external and internal building layout would increase the cost of installing new services due to the lack of purpose made vertical risers and the limited ceiling space access. Also the additional structure required to strengthen the building will further obstruct the installation of new services. The premium for retrofitting services into existing spaces and forming new services risers etc. could be in the order of 25% compared to the cost of services in a completely new building.

4.6.2 Retain Façade with a New Internal Layout – Option 2

Electrically, a new internal building layout would allow the capital cost of the services (electrical and ancillary services) to be similar to a new building because a new layout could take into account required cable routes through the building, and make the installation of the services the same as a “greenfield” site.

For the mechanical services (heating, cooling and ventilation) a new internal layout will also be simpler than trying to retain the existing building layout. However there could still be a cost premium compared to a new building of approximately 10% due to the restrictions in existing ceiling heights, which are set by the façade, and the likely restrictions in making penetrations in the facade that may result in additional duct work.

4.6.3 Retain Façade and Build to 20m Height Limit – Option 3

If the building footprint increases, the electrical load will also increase, often on a pro-rata basis.

With an increased footprint, the new electrical load may exceed the electrical capacity at the street frontage and hence a power upgrade within the street may be required. This cost would often be passed on to the client by the local Power Authority.

Note: no matter which development occurs on the site, the new electrical load will need to be assessed against the existing capacity within the street.

For the mechanical services the scale and cost of the systems can also be increased pro-rata on the increased floor area of the building.

4.7 Services Summary

The mechanical and electrical services in the building are beyond their economic life and will need complete replacement for any future development of the building.

While it is possible to reuse parts of the existing building and façade, this will increase the cost of installing new services due to the added complexity of the retrofitting process and the obstruction caused by the structural strengthening requirements.

5. CONCLUSION

This report has been prepared by Powell Fenwick for Bay Hill Developments Limited to provide expert evidence to review the condition of the existing building and then provide commentary of the scope of work required to assess several revitalization options, including retaining and refurbishing the existing structure, retaining the façade and providing a new structure within the building envelope, and retaining the façade and building new structure to a height of 20m.

These options were further explored in relation to the occupancy of the building, including maintaining the most recent hotel occupancy, changing to a commercial office with ground floor retail, and changing to residential apartments.

Recommendations and commentary has been provided for all of the above in relation to the structural, fire, electrical and mechanical trades. The recommended strengthening and upgrade requirements are based on the current NZBA, including NZBC, requirements as well as current engineering best practices.

M P Gray, B S Davidson, P J Patterson, B A Schimke, G R Hill

Powell Fenwick Consultants Limited

Appendix A

Concept Structural Drawings SK1-SK8 for Option 1A

Powell Fenwick

Project name : The Hydro Grand - Option 1A
Job no. : 151140/S/1
Sketch title : 34%NBS
Sheet no. : SSK1

Issue : Concept
Sketch Rev : B
Date : 06 Apr 2016
Scale : 1:200 @ A3
Drawn : BAS

New plywood or particle board floor with new subfloor structure to replace rotted timbers. Nailed with 3.15d nails at 100mm oc edge nailing

New 75x75x5SHS posts at 1.0m oc with M12 chemset bolts at 900mm oc through all brick wythes. Required at all location where brick is to be retaine (no required over windows or doors)

New steel screw piles to support new concrete portal frame

Underpin existing concrete perimeter foundation, refer to sketch details

New concrete portal frame, full height, to strengthen this corner of the building

New concrete pad footing to support concrete portal frame, fix over screw piles

SEFTON STREET

NOTE:
- Documentation received from existing hardcopy drawings, non-surveyed.
- Suitable for Concept Assessment only.
- The Buchan Group will not be held for the dimensional accuracy of this documentation.

HYDRO - FOUNDATIONS AND GROUND FLOOR

A-SK-1300

THE BAY HILL - MIXED USE DEVELOPMENT, TIMARU
THE BUCHAN GROUP

FEBRUARY 2016

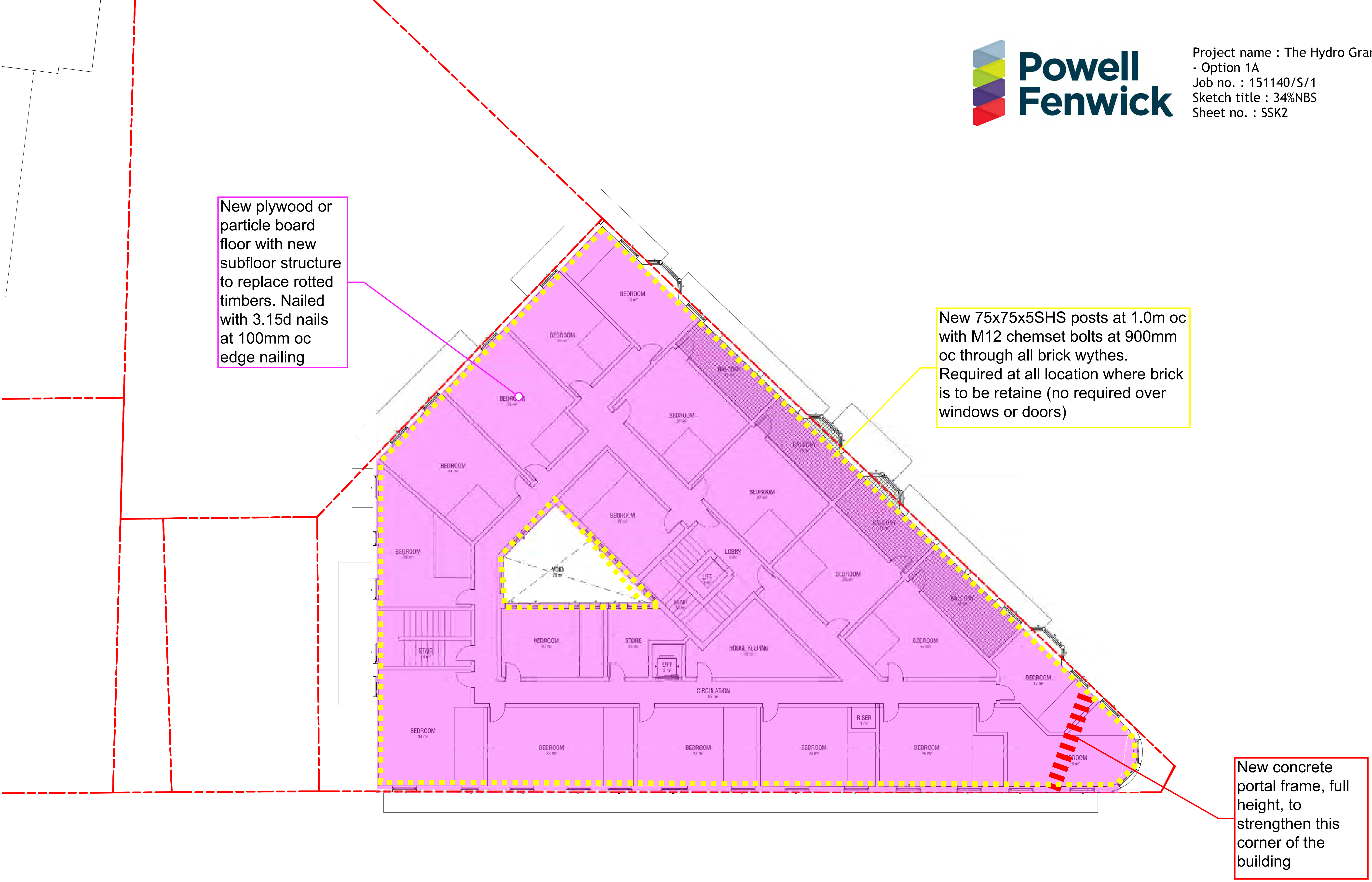
1:100 at A1 & 1:200 at A3

THE BUCHAN GROUP

Powell Fenwick

Project name : The Hydro Grand - Option 1A
Job no. : 151140/S/1
Sketch title : 34%NBS
Sheet no. : SSK2

Issue : Concept
Sketch Rev : B
Date : 06 Apr 2016
Scale : 1:200 @ A3
Drawn : BAS



NOTE:
- Documentation received from existing hardcopy drawings, non-surveyed.
- Suitable for Concept Assessment only.
- The Buchan Group will not be held for the dimensional accuracy of this documentation.

HYDRO - FIRST AND SECOND FLOOR

A-SK-1301

THE BAY HILL - MIXED USE DEVELOPMENT, TIMARU

THE BUCHAN GROUP

FEBRUARY 2016

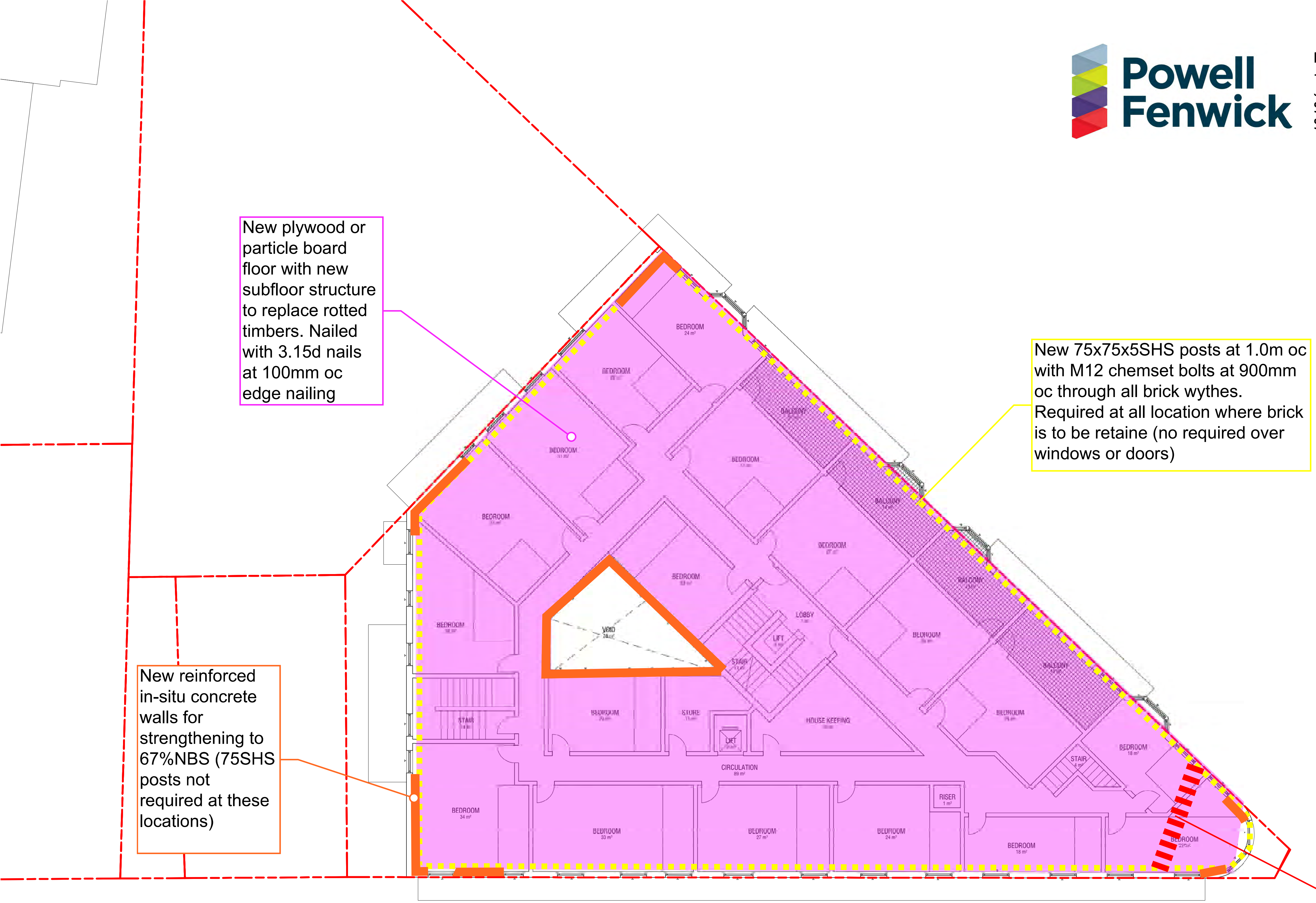
THE BUCHAN GROUP

1:100 at A1 & 1:200 at A3

Powell Fenwick

Project name : The Hydro Grand - Option 1A
Job no. : 151140/S/1
Sketch title : 67%NBS-80%NBS
Sheet no. : SSK3

Issue : Concept
Sketch Rev : B
Date : 06 Apr 2016
Scale : 1:200 @ A3
Drawn : BAS



NOTE:
- Documentation received from existing hardcopy drawings, non-surveyed.
- Suitable for Concept Assessment only.
- The Buchan Group will not be held for the dimensional accuracy of this documentation.

HYDRO - FIRST AND SECOND FLOOR

A-SK-1302

THE BAY HILL - MIXED USE DEVELOPMENT, TIMARU

THE BUCHAN GROUP

FEBRUARY 2016

THE BUCHAN GROUP

1:100 at A1 & 1:200 at A3

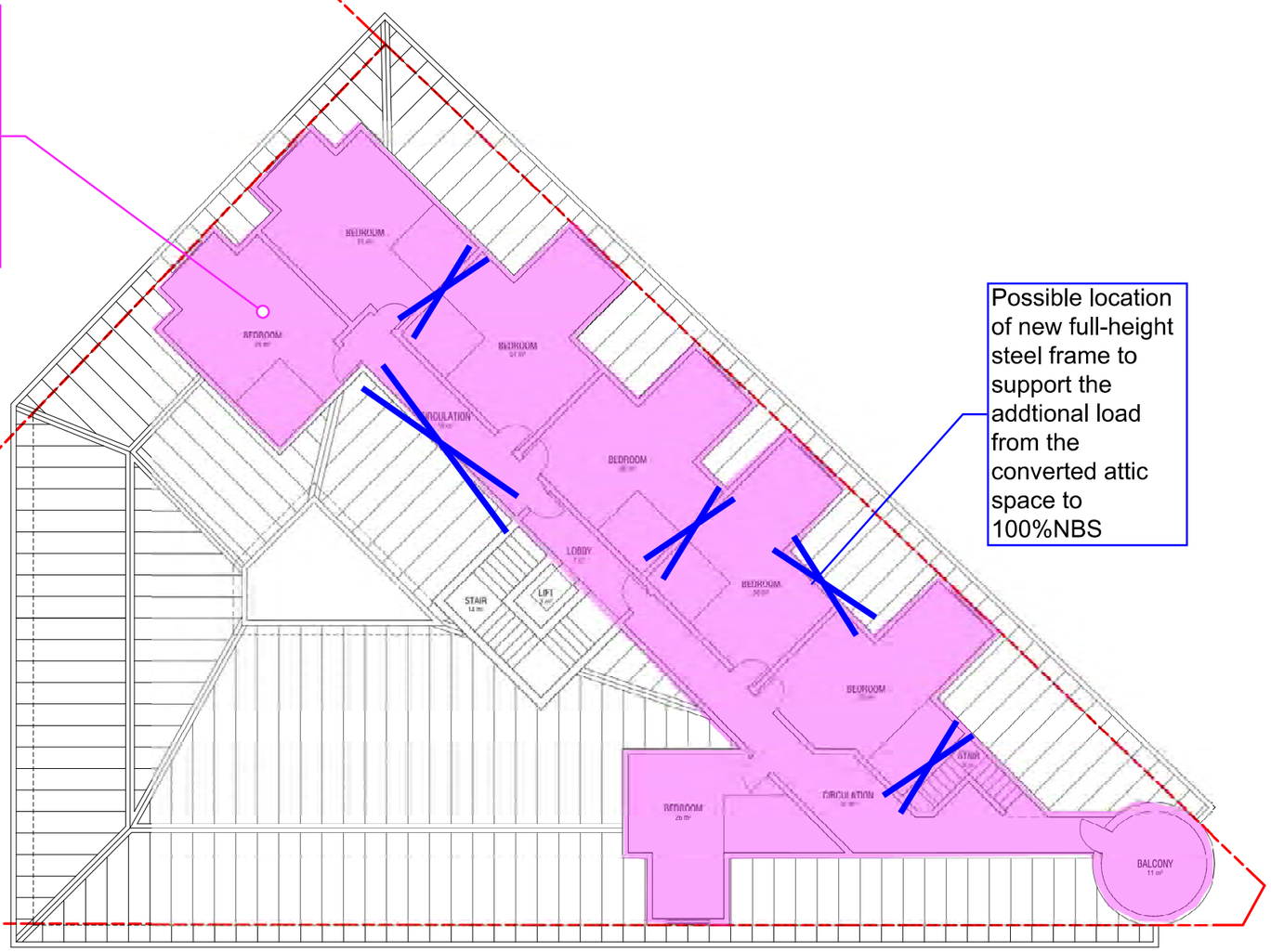
Powell Fenwick

Project name : The Hydro Grand - Option 1A
Job no. : 151140/S/1
Sketch title : Attic conversion
Sheet no. : SSK4

Issue : Concept
Sketch Rev : B
Date : 06 Apr 2016
Scale : 1:200 @ A3
Drawn : BAS

New plywood or particle board floor with new subfloor structure to replace rotted timbers. Nailed with 3.15d nails at 100mm oc edge nailing

Possible location of new full-height steel frame to support the addtional load from the converted attic space to 100%NBS



NOTE:
- Documentation received from existing hardcopy drawings, non-surveyed.
- Suitable for Concept Assessment only.
- The Buchan Group will not be held for the dimensional accuracy of this documentation.

HYDRO - ATTIC

A-SK-1303

THE BAY HILL - MIXED USE DEVELOPMENT, TIMARU
THE BUCHAN GROUP

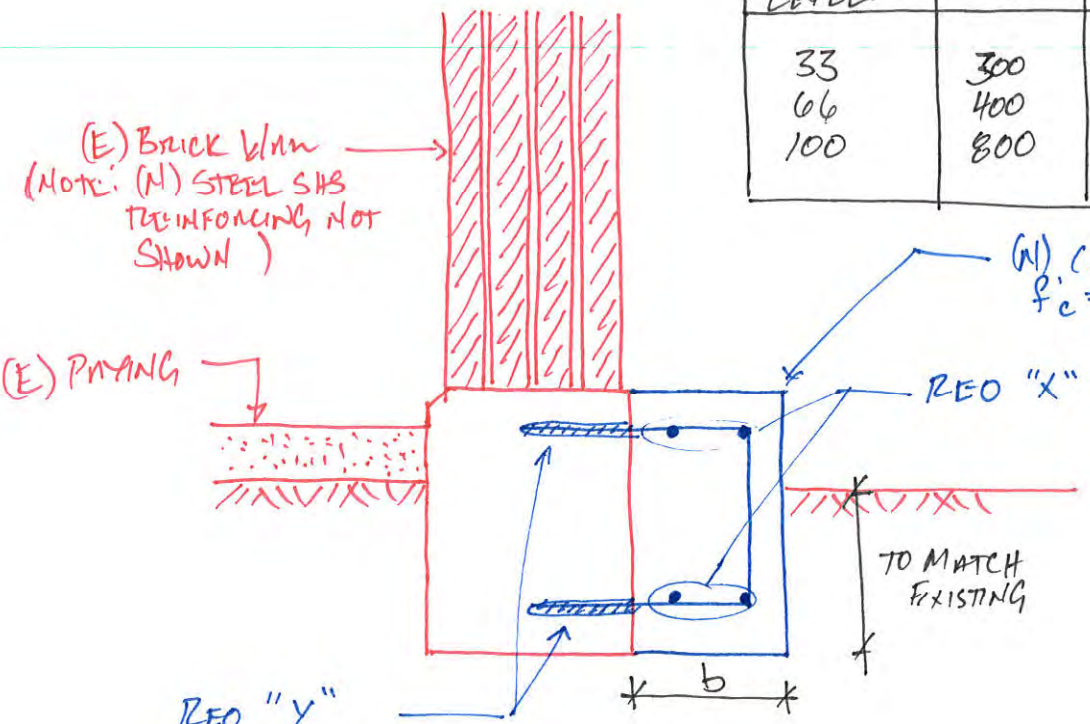
FEBRUARY 2016

1:100 at A1 & 1:200 at A3

THE BUCHAN GROUP

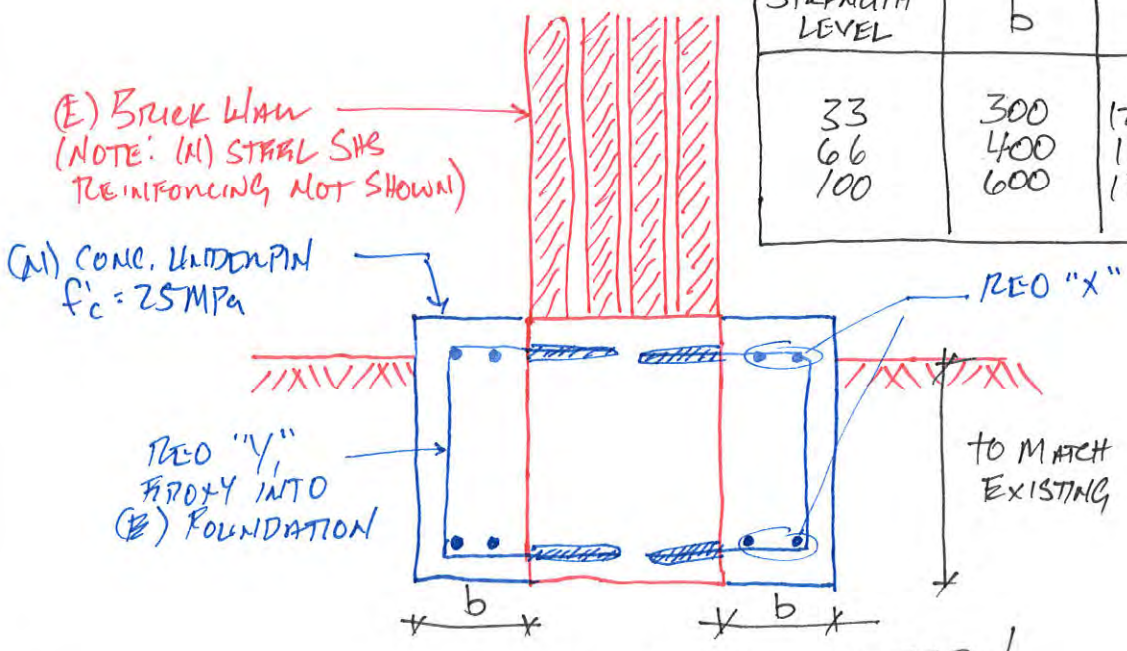
- CONCEPT ONLY, NOT FOR CONSTRUCTION. NO INFORMATION ON EXISTING FOUNDATIONS AVAILABLE. INFORMATION HERE IS CONCEPTUAL ONLY.

STRENGTH LEVEL	b	REO X	REO Y
33	300	(2) H16	D12@300
66	400	(3) H16	D12@300
100	800	(4) H20	D16@300



TYPICAL EXTERNAL UNDERPIN
SCALE: ~1:10

STRENGTH LEVEL	b	REO X	REO Y
33	300	(2) H16	D12@300
66	400	(2) H20	D12@300
100	600	(3) H20	D16@300



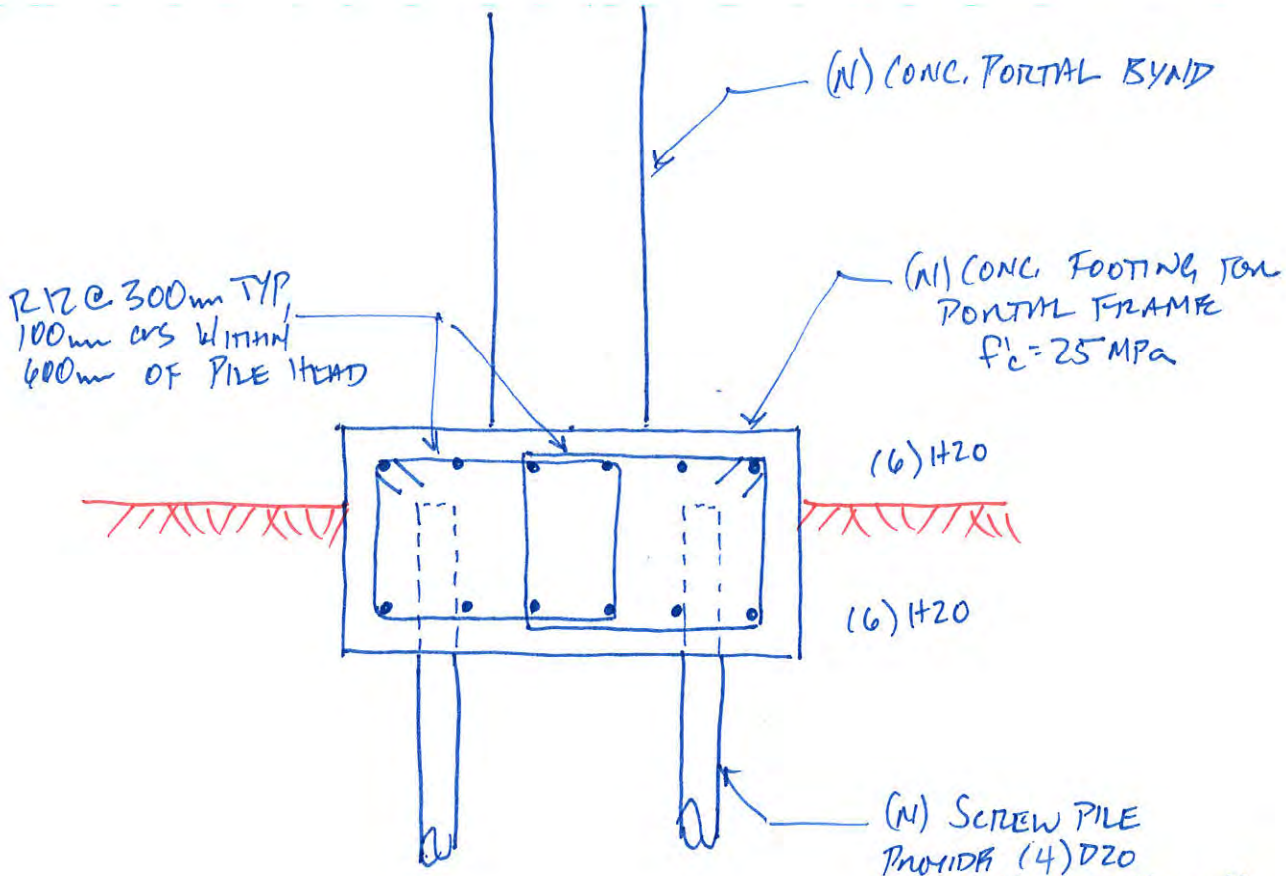
TYPICAL INTERNAL UNDERPIN
SCALE: ~1:10

383 Colombo St, Sydenham, Christchurch
PO Box 7110, Sydenham Christchurch 8240

Powell Fenwick

JOB NAME HYDROGRAND HOTEL
DATE 17/12/2015 JOB NO. 15/140
CALC'D BY BAS SHEET NO. SK6
ISSUE B

- CONCEPT ONLY, NOT FOR CONSTRUCTION



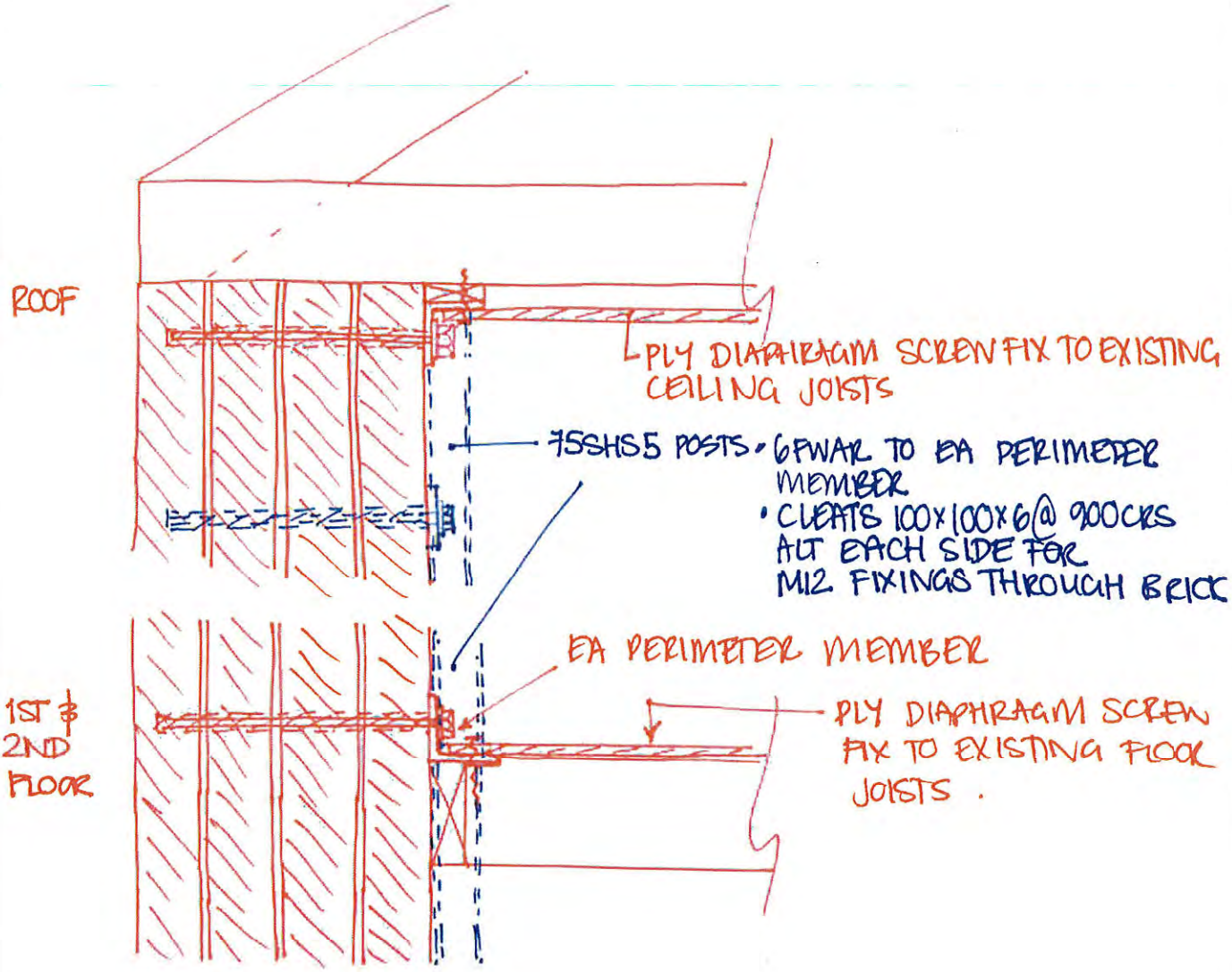
FOUNDATION AT PORTAL
SCALE: 1:20

383 Colombo St, Sydenham, Christchurch
PO Box 7110, Sydenham Christchurch 8240
P (03) 366-1777
E engineering@pfc.co.nz
W www.pfc.co.nz

Powell Fenwick

JOB NAME HYDRO GRAND HOTEL
DATE 17/12/2015 JOB NO. 151140
CALC'D BY BJS SHEET NO. SK7
ISSUE B

• CONCEPT ONLY, NOT FOR CONSTRUCTION



TYPICAL DIAPHRAGM EDGE FIXINGS

NOTE: ALL BOLTS TO BRICKWORK TO BE CHEMSET WITH MESH-SLEEVES.

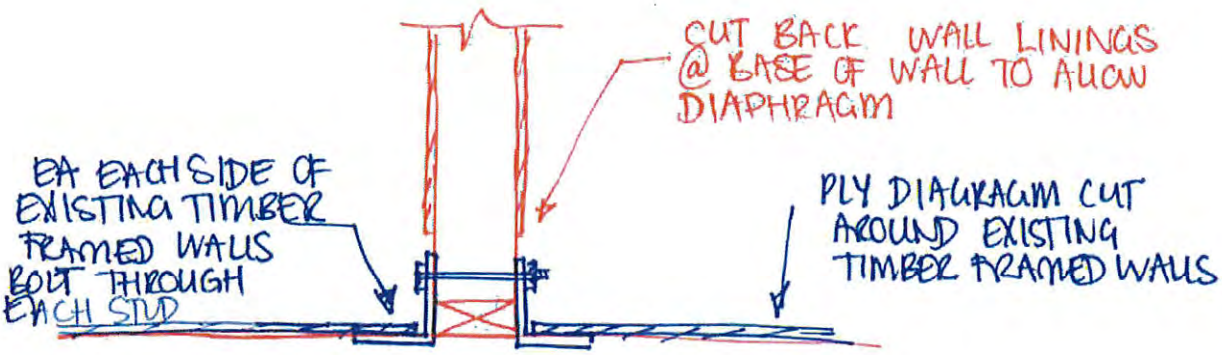
383 Colombo St, Sydenham, Christchurch
PO Box 7110, Sydenham
Christchurch 8240

P (03) 366-1777
E engineering@pfc.co.nz
W www.pfc.co.nz

Powell Fenwick

JOB NAME HYDROGRAND HOTEL
DATE 17/12/2015 JOB NO. 151140
CALC'D BY BNB SHEET NO. SK8
ISSUE B

• CONCEPT ONLY, NOT FOR CONSTRUCTION



DIAPHRAGM DETAIL @ EXISTING WALL

383 Colombo St, Sydenham, Christchurch
PO Box 7110, Sydenham
Christchurch 8240

P (03) 366-1777
E engineering@pfc.co.nz
W www.pfc.co.nz

Appendix B

Concept Fire Drawings FC1 – FC4 for Option 1A

Powell Fenwick

Project name : The Hydro Grand - Option 1A
Job no. : 151140/F/1
Sketch title : Fire Drawing
Sheet no. : FC1

Issue : Concept
Sketch Rev : B
Date : 05 Apr 2016
Scale : 1:200 @ A3
Drawn : GRH

Proposed Egress Route

X Design occupant load

30 Fire Rated Walls and Doors - 30 FRR

Egress door required.

No combustible items permitted within the stair, lobby and corridors

THE BAY HILL

CAFE 97 m² — 80
RESTAURANT 91 m² — 75
BAR 31 m² — 5
LOBBY 48 m²
RECEPTION 37 m² — 5
WC 10 m²
BoH 26 m²
BoH 19 m²
STAIR 14 m²
LIFT 3 m²
LIFT 3 m²
WC 28 m²
KITCHEN 209 m² — 25
CAFE 102 m² — 85

275 Floor Total

SEFTON STREET

NOTE:
- Documentation received from existing hardcopy drawings, non-surveyed.
- Suitable for Concept Assessment only.
- The Buchan Group will not be held for the dimensional accuracy of this documentation.

HYDRO - PROPOSED - GROUND FLOOR

A-SK-1300

THE BAY HILL - MIXED USE DEVELOPMENT, TIMARU
THE BUCHAN GROUP

FEBRUARY 2016

1:100 at A1 & 1:200 at A3

THE BUCHAN GROUP

Powell Fenwick

Project name : The Hydro Grand - Option 1A
Job no. : 151140/F/1
Sketch title : Fire Drawing
Sheet no. : FC2

Issue : Concept
Sketch Rev : B
Date : 05 Apr 2016
Scale : 1:200 @ A3
Drawn : GRH

Proposed Egress Route

X Design occupant load

30 Fire Rated Walls and Doors - 30 FRR

50 Maximum

NOTE:
- Documentation received from existing hardcopy drawings, non-surveyed.
- Suitable for Concept Assessment only.
- The Buchan Group will not be held for the dimensional accuracy of this documentation.

HYDRO - PROPOSED - LEVEL 01

A-SK-1301

THE BAY HILL - MIXED USE DEVELOPMENT, TIMARU
THE BUCHAN GROUP

FEBRUARY 2016

1:100 at A1 & 1:200 at A3

THE BUCHAN GROUP

Powell Fenwick

Project name : The Hydro Grand - Option 1A
Job no. : 151140/F/1
Sketch title : Fire Drawing
Sheet no. : FC3

Issue : Concept
Sketch Rev : B
Date : 05 Apr 2016
Scale : 1:200 @ A3
Drawn : GRH

Proposed Egress Route

X Design occupant load

30 Fire Rated Walls and Doors - 30 FRR

50 Maximum

NOTE:
- Documentation received from existing hardcopy drawings, non-surveyed.
- Suitable for Concept Assessment only.
- The Buchan Group will not be held for the dimensional accuracy of this documentation.

HYDRO - PROPOSED - LEVEL 02

A-SK-1302

THE BAY HILL - MIXED USE DEVELOPMENT, TIMARU
THE BUCHAN GROUP

FEBRUARY 2016

1:100 at A1 & 1:200 at A3

THE BUCHAN GROUP

Powell Fenwick

Project name : The Hydro Grand - Option 1A
Job no. : 151140/F/1
Sketch title : Fire Drawing
Sheet no. : FC4

Issue : Concept
Sketch Rev : B
Date : 05 Apr 2016
Scale : 1:200 @ A3
Drawn : GRH

Proposed Egress Route

X Design occupant load

30 Internal Fire Rated Walls and Doors - 30 FRR

30 External Fire Rated Walls and Doors - 30 FRR

Note that the walls between the Level 03 Units and Level 02 roof shall be fire rated up to the Level 02 roof level. The walls above this level may be unrated. (typical)

50 Maximum

NOTE:
- Documentation received from existing hardcopy drawings, non-surveyed.
- Suitable for Concept Assessment only.
- The Buchan Group will not be held for the dimensional accuracy of this documentation.

HYDRO - PROPOSED - LEVEL 03

A-SK-1303

THE BAY HILL - MIXED USE DEVELOPMENT, TIMARU
THE BUCHAN GROUP

FEBRUARY 2016

1:100 at A1 & 1:200 at A3

THE BUCHAN GROUP

Appendix C

Original report by Powell Fenwick Consultants Ltd

Hydro Grand Hotel
Stafford Street, Timaru
Structure, Fire, Electrical and Mechanical Report for the existing building

Presented By: M T Freeman
20th April 2009

Powell Fenwick Consultants Ltd

081368/S/1

CONTENTS

POWELL FENWICK
CONSULTANTS LIMITED

Executive Summary

This report describes in global terms the upgrade work that would be necessary in order for the Hydro Grand Hotel building on the corner of Sefton and Stafford Street, Timaru to comply with the current requirements of the Building Act if alterations within the building were to occur, with respect to:

- Structure,
- Fire Safety & Egress,
- Electrical Services, and
- Mechanical Services

Structure

The existing building is a three storey unreinforced masonry structure overlooking the bay area of Timaru.

Under the definition given in the New Zealand Building Act the existing structure is earthquake prone.

While it is possible to strengthen the building this would require a substantial cost and would place severe limitations on the use of the building and the potential planning of any new development.

Given the prominence of the site and the surrounding area that is owned by the same client, strengthening the existing building is not likely to give the most efficient return for the development potential of the site.

Fire Safety & Egress

The following describes the fire safety upgrade work that would be required to the building if alterations requiring a building consent were to be carried out.

1. The existing fire alarm system shall be removed and a new Type 5f automatic analogue addressable smoke detection system and manual alarm system installed throughout comply with the NZS 4512:2003.
2. The defects to the existing sprinkler system shall be rectified. Backflow prevention and a drain to sewer may be required to the sprinkler system.
3. New emergency lighting is required complying with NZS 2293.
4. Illuminated Exit signage is required to show the routes to the exits on all floor levels.
5. Upgrade to fire rated walls, fire rated doors, fire rated floor and fire rated floors is required. This includes fire stopping penetrations through these linings.
6. The hardware to some egress doors requires modifying.
7. A new egress door is required to the ground floor bar area and rooms off the central stair on the first and second floors.
8. Remove all combustibles from the Accommodation corridors and the central stair and the ground floor entry lobby.
9. The external fire escapes are not required for egress and may be removed.

Electrical Services

The entire Electrical system is old and would have to be removed and fully replaced if the building was to operate as a commercial entity.

Mechanical Services

The mechanical services in the hotel consist mainly of a decommissioned central boiler, localised electric hot water cylinders, localised electric heating systems and various

POWELL FENWICK
CONSULTANTS LIMITED

extract systems. All of these mechanical systems have reached the end of their economic life and would require replacement or substantial upgrading for long term future use.

Introduction

This report has been prepared at the request of Raymond Sullivan McGlashan Law who represent the building owners, Grand Piazza Limited.

This report describes the upgrade work that would be necessary in order for the Hydro Grand Hotel building to comply with the current requirements of the Building Act if alterations within the building were to occur, with respect to:

- Structure,
- Fire Safety & Egress,
- Electrical Services, and
- Mechanical Services.

The request for information from Raymond Sullivan McGlashan Law poses a series of items that are to be covered in this and other reports to be presented

Work Completed

The building has been inspected by the Structural, Fire and Electrical engineers in December 2008.

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CONSULTANTS LIMITED

Structure

Introduction

Powell Fenwick Consultants Ltd have been asked to inspect the building on the corner of Sefton and Stafford Street, known as the Hydro Grand Hotel. The purpose of the inspection was to confirm the condition and materials of the structure. This enables structural analysis of the building to confirm its expected seismic performance and its suitability for upgrading to meet current code requirements. It also gives an overview of the site to enable comments to be made as to the development potential of the site.

An inspection of the building was undertaken by Malcolm Freeman of Powell Fenwick Consultants Ltd on the 26th November 2008. At this time a visual inspection was conducted of all of the accessible spaces. Parts of the structure were exposed in several locations prior to our visit to enable an accurate assessment of the building construction. The access to the building included all three levels of the building, the roof space and the exterior walls. Many photographs were taken. There has been no testing of materials to confirm material strengths to date.

Legislation

The New Zealand Building Act requires that a building be checked for Structural compliance with the current code when any one of the following occurs:-

- A Significant Alteration requiring a Building Consent is undertaken, or
- a Change of Use occurs, or
- the building is considered to have an extreme risk of collapse during a moderate earthquake.

For the purposes of checking the structural strength of the building, the Building Act requires that the building is not considered to be "Earthquake Prone" under the effects of a "moderate" earthquake. A "moderate" earthquake is defined as "an earthquake that would generate shaking at the site of the building ….. that is one-third as strong as ….. that would be used to design a new building at that site".

This check is required to be undertaken upon lodging of any Building Consent for a significant alteration to the building or if a Change of Use occurs. Under the Timaru District Council policy adopted in October 2006 a significant alteration is defined as "… when the estimated value of the building work to which the application relates exceeds 25% (or 30% for a Heritage building) of the Value of Improvements appearing on the district valuation role at the time of the application."

For the case where the building is to undergo a change of use, the Building Act requires that the building complies with the provisions of the Building Code as close as is "reasonably practicable" to the current code design loads.

For the purposes of assessment, the Timaru District Council policy suggests that the New Zealand Society for Earthquake Engineering's (NZSEE) guidelines are its preferred basis for defining technical requirements and criteria. This document specifies that strengthened buildings are upgraded to approximately 66% of current code. This reduced strength of building still poses a risk of severe damage in a full code earthquake. It is however considered acceptable to the wider community for this to happen in order to accommodate the economic reality the older buildings pose to owners and the society in general.

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CONSULTANTS LIMITED

Building Description

The building is a three storey structure occupying a corner site in the main street of Timaru. Drawings for the building were available for reference although these were not accurate in some areas, namely the upper most level where there are a number of internal layout changes and in the western bar area where a number of structural changes have been made.

The shape of the site makes the building a nominally triangular shaped building, constructed around an open air central service core / light well area. All of the external walls of the building, including those that face the enclosed central area are unreinforced masonry (red brick). Additionally, some of the internal walls at the ground floor level are also unreinforced masonry. The walls of the building which face onto Sefton and Stafford Streets have a painted plaster finish. All of these walls are supported on concrete foundations.

The suspended floor levels are timber framed consisting of tongue and groove floor boards supported on timber floor joists. These in turn are supported on a mixture of timber framed walls, unreinforced masonry walls and steel beams depending on the location within the building. Along the northern side of the building the upper two levels have balconies that overlook the street. These are also timber framed floors with an asphalt type material forming the wearing surface over the top of the timber structure. The joists that were exposed are housed directly into the masonry walls seating directly on the brick surface.

The roof is clad with lightweight iron over a framed timber structure. The pitch of the roof is such that there is a relatively large space within the roof structure which houses several water tanks and other plant items.

In the corner of the building there is a circular domed turret which extends to the roof height. This is formed from plastered brick parapets extending to balustrade heights with a domed roof sitting on columns above.

In the centre of the building there is a lift shaft around which there is a staircase that services all of the upper levels. Currently the stairs between the ground and first floor are blocked from the ground floor.

The building has been constructed and used as a hotel building. The rooms situated around the exterior sides of the building are typically setup as sleeping rooms with those facing the internal courtyard setup for more service type uses. The lower levels have been setup and used as bar / restaurant and lounge type spaces.

From photographs of the original building it is apparent that the roof structure of the current building is not original. The photographs indicate that the street facades of the building had large gables at the roof level. There have also been other alterations to the building façade at some time in the past including; removal of a veranda which covered the footpath around the building, and the installation of the arched openings on the street frontage.

Existing Building Condition

Our inspection of the building showed that, with a few exceptions, the structure of the building is generally in a reasonable condition.

In the areas where the foundations could be viewed, the concrete was in good condition and showed no signs of visible degradation. Around the outside of the building there is some minor visible cracking to the walls. These appear to be localised cracks in the

plaster rather than having been caused by any significant settlement or movement in the foundations of the building.

All of the masonry that was able to be viewed was in reasonable condition. The exception of this, is in the area of the central courtyard areas, where the mortar has degraded forming grooves into the mortar joints. It is likely that this has been caused by the dampness in this area due to it being an enclosed space. It was noted during our inspection that there were only small areas of masonry wall where header blocks were apparent. These are bricks that are laid at right angles to the wall themselves in order to lock together various skins of masonry that in total form the wall.

The bulk of the timber floor structures are in good condition with no apparent rotting either visible or felt during our inspection of the building. There were however some areas that were noted on our inspection. These are:

- The first landing of the main staircase. This landing forms the roof to a toilet below. The timbers in this location have failed due to rot leading to the staircase being boarded off. These timbers have a significant amount of fungus growth on them when viewed from the outside. This is indicative of water damage to this area.
- There are areas where mould growth on the skirting boards of the external walls has occurred. It is not apparent if this is significant enough to have caused damage to the timber floor structure.
- The floor in the raised bar area in the western bar is soft. This appears to be a built up area of floor above what would be the original floor structure. Because of this we are unable to comment on the condition of the floor structure below.

The structure of the roof is in a good condition. There were no signs of damage or degradation to any of the visible timbers. There were however a few timber struts that are bowed and have warped over time. The roofing itself has some areas where there are signs of rust in the iron sheet material. There were no areas noted where this had caused holes in the roof.

Around the building generally there are a large number of locations where there is water damage to the plaster and paint on the walls. These are largely on the external walls of the building indicating that they have been caused by water ingress either at the top of the wall, through window frames or through the wall itself. Generally, this damage manifests as cracking in the plaster, mould growth or bubbling of the paintwork. Several of the window sills to the building area also showing signs of having been effected by water, either with the paint flaking of the frame or the timber becoming soft in some areas.

Other areas where significant water damage was noted are:

- The main stair case to in the building around the lift shaft. This appears to be from water entering from the wall of the building that faces the internal courtyard. The damage has occurred over the full height of the stair, but is worst at the lowest landing level where the paint is coming away from the wall and the floor structure is rotting as mentioned above.

- In the former lounge area, between the main entrance and the eastern bar area, there is a large area of ceiling and wall where the paint is falling off the wall and the timber appears to be rotting beneath it.

Analysis and Results

We have undertaken calculations for the building to consider its seismic resistance.

The calculations have been carried out in accordance with the New Zealand Loadings Standard NZS1170 and the New Zealand Society for Earthquake Engineering's (NZSEE) recommendation document titled "Assessment and Improvement of the Structural Performance of Buildings in Earthquakes" dated June 2006.

Assumptions made for the purposes of these calculations are:

- The existing building system comprises of flexible tongue and groove timber diaphragms at level one and two spanning between relatively stiff masonry walls which transfer the seismic loads to ground level by means of in-plane response.
- In-plane loads on brick walls for the existing building have been calculated based on a tributary area approach due to the flexibility of the existing diaphragms.
- No strength has been attributed to the lightweight timber framed walls as they are significantly less stiff than the masonry walls.
- Building design life of 50 years
- NZS1170 building importance category 2
- NZS1170 site subsoil class D for sites with deep or soft soil.
- Brick and Mortar Strength Parameters as outlined in the table below; these values are assumed values based on the visual assessment of the bricks and mortar and the recommended values given in the NZSEE document.

mortar properties	
Cohesion, c	0.2
Friction, μ	0.6
Compressive Strength of Mortar, fmc	1 MPa
brick properties	
Compressive Strength of Bricks, fbc	20 MPa
Tensile Strength of Bricks, fbt	2 MPa
Stiffness of Bricks, E	13 GPa
Poisson's Ratio for Bricks, υ	0.2
Weight of Masonry Wall, γ	18 kN/m^3

- For the assessment of the in-plane capacity of the brick walls the Equivalent viscous damping ratio of 15% as recommended in the NZSEE document has been adopted along with a structural ductility level of 1.00
- For the assessment of the out-of-plane capacity of the brick walls the seismic coefficient for parts has been calculated using a ductility of 1.00 and a damping ratio of 5%.
- Due to the apparent lack of header bricks acting to tie the individual wythes of the brick walls together the skins/wythes of the walls have been treated as spanning individually between floors and not as monolithic elements.

Based on these calculations, the results are as follows:

<u>In-plane Capacity:</u>
At ground floor the seismic in-plane capacity of the brick walls exceeds 100% New Building Standard (NBS) under both a global and elemental assessment.

At first floor the global seismic in-plane capacity of the brick walls ranges from 64%-93% NBS for the different loading directions, with the weak directions being for

seismic loadings acting perpendicular to the street frontages. In the weak direction the weakest wall element attains a strength of 24%NBS.

At second floor the global seismic in-plane capacity of the brick walls ranges from 53%-71% NBS for the different loading directions, with the weak directions being for seismic loadings acting perpendicular to the street frontages. In the weak direction the weakest wall element attains a strength of 21%NBS.

Diaphragm Strength:
At roof level there is currently no system for transfer of the seismic loads to the second floor brick walls as there is no sarking to the underside of the roofing.

At second floor the existing tongue and groove flooring provides a strength of 8%NBS. At first floor the tongue in groove floor provides a strength of 19%NBS.

The existing connections between the floors and the brick walls are bearing connections. These are insufficient to transfer lateral loads and hence have a strength less than 33%NBS.

Face-Load Capacity:
The full height vertically spanning brick walls all have a seismic capacity of less than 33%NBS based on the 110mm thick wythes spanning individually and not as a monolithic wall element.

The cantilevering parapets have been assessed as having strength exceeding 33%NBS at all levels. However, all parapets have a strength less than 67%NBS.

The chimneys span between floors and cantilever above the roof line, these have a strength less than 33%NBS.

The dome structure on the corner of the building has no apparent seismic system.

Based on these calculations and under the definition given in the New Zealand Building Act the building is considered Earthquake Prone.

Strengthening Requirements

The quantum of strengthening required to bring the building into line with the current legislation is dependant on the future use of the building. This was discussed above under the heading “Legislation”, and depends on whether the building is legally deemed to be under going a change of use.

For the purposes of a comparison, we have considered the strengthening requirements to both one-third and two-thirds of the current code, as in many cases the difference in cost to achieve two-thirds of code is not significantly greater that the cost of achieving one-third of code, but gives the building owner greater flexibility for the buildings future use.

An outline of the work required to bring the building up to one-third of current code is:

- New diaphragms are required at the levels one, two and roof level with positive fixings into the masonry walls around the edges of the building. This would be achieved using screw fixed 20mm plywood fixed either as a ceiling or floor overlay. Around the masonry walls an angle would be required to enable the placement of drilled and epoxied fixings to transfer the load from the plywood diaphragm into the masonry walls. At any internal walls, the plywood would be required to stop each side of the walls. Smaller angles would be required at the

wall lines to effectively provide continuity of the plywood through the timber top or bottom plate. Alternatively, the plywood could pass above or below the wall plates although this is likely to require a large amount of disruption to the wall linings and structure.

- New vertical SHS posts would be required to be attached to the masonry walls to provide the strength required to hold up the walls under seismic face loads. These would be required to all of the masonry walls over the three levels of the building at approximately 1m centres and would be fixed into the wall using drilled and epoxied fixings.

- The dome structure at the corner of the building would require strengthening most likely using a steel or concrete portal frame structure over the full height of the building. In the dome itself a further structure would be required to provide the required connection between the domes roof and the supporting structure.

- The bricks in the internal courtyard area will also require re-pointing to bring them back into line with the rest of the masonry walls.

The additional work required to bring the building up to two-thirds of current code is:

- The strength of parts of the masonry walls is required to be increased to improve their strength. This would most likely be best achieved by applying a concrete skin to the inside face of the walls. This could be done either as poured or sprayed concrete, reinforced with approximately 150 kg/m^3 of reinforcement. The extent of this work would be 5m to the North external wall, 3m to the North courtyard wall and 3m to the North-West external wall. In the locations where this strengthening was carried out, the SHS posts to increase the out-of-plane strength of the walls would not be required.

Suitability for Strengthening

The structure of the building is such that although it could be strengthened using a traditional approach there are several factors that would impact on the level of difficulty for this building and hence would impact on the cost of the upgrade work and the future use of the building space.

The internal walls mean that any floor diaphragms are required to be stopped and started on each side of the walls. This requires a lot more plywood fixings and steel than would be the case for a more open building. Because these walls are also forming the gravity support for the upper level floors the option of removing them to make the diaphragm easier to place is not available. Removal of the internal walls, while most likely desirable from a planning point of view, would require the placement of new structure to re-support the floor. This would require structural steel beams to be placed to achieve the required support conditions. Depending on the proposed arrangement of the beams and wall removal, it may be necessary to carry new posts through the height of the building and form new foundation pads to support them.

The lack of sufficient header bricks tying the skins of the brick walls together requires steel members to provide the face load support. These members are required at relatively close spacing around all the masonry walls over the full height of each level. In some cases these posts will interfere with the current window opening locations. Additionally, the placement of these members will cause a significant reduction in the useable floor area over the three levels of the building.

It is expected that many, if not all, of the current building services will need to be replaced in order to bring the building up to modern standards. This would require numerous new

penetrations to the floor diaphragms, walls and linings to achieve the required fit out. It would also affect the internal linings of the building as any development would most likely include the concealment of any new services requiring new bulkheads or cavity spaces to run services. This could again see a reduction in the useable floor area of the building.

A building that has been strengthened in accordance with the NZSEE guidelines will be sufficient to achieve approximately two thirds of the code specified earthquake load for a new building. It should also be noted that the loadings code was recently reviewed and the earthquake loads in the latest code are an increase in those of the previous codes. This is a trend that has been repeated over the last fifty years of building design. This means that although strengthened, an upgraded building is still structurally inferior to a structure designed to the current codes and it cannot be guaranteed that in the future the building will not require additional strengthening to meet any future regulations.

Planning Considerations

The site on which the building is situated is extremely prominent and could be considered a landmark of the Timaru district. It justifiably demands a landmark building and is ideally suited to a building which makes use of the outlook over the sea to the north of the site. It is proposed that a luxury hotel or apartment type building is situated on this site to take advantage of its surrounds and to maximize the economic return on a site of this prominence.

The configuration of the existing building is such that in its current layout it would not suit a modern hotel complex. Even if strengthened it is unlikely that the existing central core arrangement could be fitted into the planning of such a building. The strengthening requirements of the building would also limit its ability to be fully renovated as they would likely place restrictions on the potential to fully utilize the space available. The reduced floor areas of the building due to the strengthening requirements also represent a real economic cost to the owner of the building.

The site upon which the existing building is situated is designated Commercial 1A under the Timaru District Plan. Under this designation it is possible to construct a building to a height of up to 20m. Using the increased building height it would be possible to construct a building of up to 5 stories while still providing comfortable floor to ceiling heights and allowing for the required building services. The current owners also own other sites adjoining this one which would be available for any future redevelopment of the site, making issues like carparking and site coverage achievable. From the information gathered in our inspection and obtained from the neighbouring areas the site is underlain with firm materials and could easily accommodate a building of this scale without excessive cost or disruption to the surrounding properties.

The issue of façade retention has also been raised as being considered as part of a future development of this site. In our experience this can be achieved but only at a cost to the project in terms of both construction and in the limitations on planning around fixed windows and floor levels. In this case, because of the storey heights in the existing building it would likely mean that any new building behind an existing façade could only be built to a four stories in order to not break the 20m height limitation. Façade retention would also penalize the structural component of a new building as there is a requirement to provide support for a heavy item that offers no contribution to the structure of the building.

Conclusion

The existing building is Earthquake Prone under the definition given in the New Zealand Building Act. Based on this any significant alteration to the building or a Change of Use will require the building to be structurally strengthened in accordance with the NZSEE guidelines for Earthquake Prone buildings.

The strengthening of this building would be relatively difficult given the building shape and the complexity of the existing building structure.

The site is in a prominent location and is well known in the Timaru district. In order to maximise the possible returns from the site the most suitable development is likely to be a luxury hotel or similar type building. This is achievable under the Timaru District Plan

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but would be limited if the requirement to retain the existing strengthened building or the façade were required.

M. T. FREEMAN
POWELL FENWICK CONSULTANTS LIMITED

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Fire Safety & Egress

The following describes the upgrade work that would be required to the building if alterations requiring a building consent were to be carried out. Refer also to the attached Fire Safety Features Drawings F1- F3.

Ownership:

It is assumed the building is under one ownership and does not include Unit or Strata titling.

Occupancy and Building Uses:

The assumed design occupancies of the floors are:

- Ground floor: Bar, Restaurant and Kitchen- 245 people (based on Fire Code densities).
- First Floor: Transient accommodation- 36 people (based on the number of beds).
- Second Floor: Manager's Residence and Transient accommodation- 34 people (based on the number of beds).

Fire Alarm:

The existing manual alarm system with bells shall be removed completely.

A new Type 5f smoke detection and manual alarm system complying with NZS 4512:2003 is required throughout the entire building. This includes:

- A fire alarm panel facing the Street,
- Smoke detectors,
- Call points, and
- Sounders with voice message.

NZ Fire Service Connection is not required for the smoke detectors but is required for the manual alarm system.

Sprinkler System:

An automatic sprinkler system complying with NZS 4541 is presently installed throughout the entire building. The sprinkler system shall be altered as necessary to allow for the building alterations.
Backflow prevention and a drain to sewer shall be provided if required by the local Council, if these do not presently exist.

The latest FPIS Report is appended. The 'Summary of Findings' section shall be carried out as part of these works. An FPIS Survey is well overdue.

Note that there is a lot of existing exposed sprinkler pipework.

Internal Hydrant System:

An internal fire hydrant system is not required.

Fire Hose Reels / Fire Extinguishers:

Fire hose reels presently exist as shown on the Fire Drawings and shall be re-powder coated.

A fire extinguisher presently exists in the kitchen as shown on the Fire Drawings. This shall remain as is. No new fire extinguishers shall be provided.

Stair:

The existing stair on the second floor into the roof space is 600mm wide and does not include a handrail. A handrail shall be fitted.

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The existing central stair is 1400mm wide and includes a handrail on one side. The stair shall remain as is.

The underside of the central stair landing and flight on the ground floor shall be relined with one layer of 13mm Fyreline. Solid block and stop all joins.

Any light fittings shall be surface mounted or of a fire rated recess type.

Any penetrations shall be appropriately fire stopped.

Egress Routes and Doors:

The central stair is acceptable as an egress stair, as it includes a fire separated route at ground floor level to outside. The rear stair between first and ground floor is not an acceptable egress stair as it empties into a potential fire zone on the ground floor.

Egress doors shall include keyless hardware in the direction of egress. Modification of existing hardware is required.
All doors which include electronic locking systems must also include a battery backed up emergency door release system. The existing system must be checked to ensure this exists.

A new egress door is required to the ground floor Bar area, as shown on the Fire Drawings. The door shall be a minimum of 850mm wide and open outwards.

New egress doors are required to the first and second floor accommodation areas of the central stair, as shown on the Fire Drawings. The doors shall be a minimum of 760mm wide and open outwards.

Emergency Lighting:

Emergency lighting complying with NZS 2293 is required throughout the:
- Accommodation corridors on the first and second floors,
- The central stair and ground entry lobby,
- The second floor stair, and
- The change in level in the Restaurant.

Emergency lighting is not required to the Guest Rooms.

Exit Signage:

The existing exit signs shall be removed.

Illuminated Exit signage is required as part of the emergency lighting system to show the routes to the exits on all floor levels.

Fire Rated External Walls:

There is no change of use occurring nor are there any alterations to the external walls. Therefore, there is no need to consider fire spread to the relevant boundaries.

Fire Rated Internal Walls and Door:

Required 30/30/30 FRR

The walls as shown on the Fire Drawings require a 30/30/30 minute FRR.

Concrete walls will provide the required FRR and shall remain as is.

The existing timber framed walls that are presently lined with lath and plaster or plasterboard and are in reasonable condition shall remain as is. Any damage during construction or any existing holes shall be made good or with 10mm Fyreline or 13mm Gib board. Stop all joins.

The walls that are presently lined with hardboard, timber paneling or similar shall be relined with either one layer of 10mm Fyreline or one layer of 13mm Gib Board. Solid block and stop all joins.

New fire walls shall be lined with either one layer of 10mm Fyreline or one layer of 13mm Gib Board. Solid block and stop all joins. This includes the walls around the second floor stair to the roof.

Acoustic requirements may require additional linings.

The walls shall extend to the underside of the floor or fire rated ceiling above.

The doors marked with an asterisk shall be removed and the opening timber framed and lined both sides with at least one layer of 10mm Fyreline or one layer of 13mm Gib Board. Solid block and stop all joins.

Replace all of the existing doors. All doors in these walls shall be a certified -/30/30sm fire rated doors. These shall include: rebated intumescent smoke seals, door closers, latching hardware, certification labels and fire door signage.
The doors between the Accommodation corridors and stairs shall include magnetic hold open devices and fire rated vision panels.

Penetrations shall be appropriately fire stopped.

A switchboard presently exists in the ground floor foyer. Fit a 9mm Promatect board cover, with face plus 4 sides, over the switchboard. Fix the cover to the wall with hinges, plus clasp and staple or similar to allow the cover to be removed for access to the switchboard.

Any glazing in these walls shall be replaced with -/30/- fire rated glazing with intumescent beads.

The switchboard serving the lift shall be housed in fire separated enclosure with 30 minute fire rated wall plus -/30/30sm fire rated doors.

Fire Rated Floors:

The first and seconds floors, including their structural support systems, require a 30 minute FRR.
The undersides of the floors are presently lined with lath and plaster with surface mounted fittings. The linings are in reasonable condition and shall remain as is.
Existing holes shall be made good with 13mm Fyreline.

It shall be confirmed that the hardboard linings in the kitchen include Fibrous plaster behind it. If not the hard board linings shall be removed and the underside of the floor lined with one layer of 13mm Fyreline. Solid block and stop all joins. Reinstate the hardboard linings if required.

Any existing and any new exposed structural steelwork supporting the floors shall be fire protected using intumescent paint, Spirolite board, fyreline or sprayed Monokote or similar to achieve a 30/-/- FRR.

Light fittings shall be surface mounted, of a fire rated recess type, or recessed with fire rated cone hats fitted.

Penetrations shall be appropriately fire stopped.

Fire Rated Ceiling:

The entire second floor ceiling, including its structural support systems, requires a 30 minute FRR.
The ceiling is presently lined with lath and plaster with some recessed fittings. The linings are in poor condition and shall be relined with one layer of 16mm Fyreline. Solid block and stop all joins.

Light fittings shall be surface mounted, of a fire rated recess type, or recessed with fire rated cone hats fitted.

Penetrations shall be appropriately fire stopped.

Fire alarm speakers shall have fire rated cone hats fitted.

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House Keeping:

Remove all combustibles from the Accommodation corridors and the central stair and the ground floor entry lobby. This includes the rubbish bins, piano, etc in the entry lobby and the heaters in the second floor corridor.

Ground Floor Plantroom:

The ground floor plantroom that presently includes the unused coal boiler may remain as is. However, if a boiler that uses solid fuel, gas or petroleum products as an energy source is required to this room, the room shall be fire rated.
The concrete block walls will provide the required FRR.
Some services through the walls require fire stopping.
The door into the room needs to be upgraded to a certified fire door.

Note that asbestos exists around the existing boiler pipes.

Lightwell:

The lightwell in the centre of the building must remain open to the sky.

External Walkways:

The external fire escapes are not required for egress and may be removed.

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Electrical Services

Introduction

The following condition report outlines the existing Electrical services condition and highlights areas that would require upgrading. This report is based on a visual inspection carried out on the 9th December 2008.

Switchboard

All switchboards are old and use components that are no longer available and past their economic used by date.

The majority of switchboards do not meet the latest wiring regulations.

All switchboards would have to be replaced.

Submains

The majority of submains use old VIR or pyrotenex cabling and could be reused, however they can not be re-routed or altered which means there is no flexibility for switchboard locations.

In practice, the existing submain would probably have to be abandoned.

Subcircuit Cabling

A large amount of the existing 1950 subcircuit cabling remains. This utilizes VIR and / or TRS cabling which would have to be removed and replaced to comply with the new codes.

There are some new TPS subcircuits for kitchen equipment and new heating circuits, but this is minimal.

Termination Fittings / Lumniaires / Heater

The majority of all termination fittings, luminaires and heaters are old and past their economic used by date.

The majority of luminaires use incandescent lamps which no longer allow the lighting solution to meet the energy efficiency codes outlined in the Building Code.

The majority of all termination fittings etc would have to be replaced.

Emergency Lighting

A new emergency lighting system would have to be installed throughout the building such that it meets the NZ Standard AS/NZS 2293.

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Conclusion

The entire Electrical system is old and would have to be removed and fully replaced if the building was to operate as a commercial entity.

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Mechanical Services

The mechanical services in the hotel have been assessed by reviewing photographs taken on site and floor plans provided.

The hotel was originally provided with heating by a central boiler. This boiler circulated hot water throughout the building for heating and domestic hot water. This boiler is now out of commission and has been redundant for many years.

Since the decommissioning of the boiler the domestic hot water is now provided by localised hot water cylinders installed throughout the hotel building. These cylinders are all reaching the end of their economic life and it is recommended that these cylinders be replaced if the building is to be refurbished.

Heating is now provided by electric heaters located throughout the rooms and in the main areas. These heaters have also reached the end of their economic life.

There are various extract hoods and extract systems in the kitchen areas. These systems could continue to be used but it is likely that major upgrade work would be required if the kitchens were reconfigured for a modern facility.

Summary

The mechanical services in the hotel consist mainly of a decommissioned central boiler, localised electric hot water cylinders, localised electric heating systems and various extract systems. All of these mechanical systems have reached the end of their economic life and would require replacement or substantial upgrading for long term future use.

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081368/S/1
HYDROGRAND HOTEL
STRENGTHENING SCHEME
GROUND - 1ST | SK1

KEY

- ✕ 75SHS5 @ 1m crs connected with M12 bolts @ 900crs through all brick wythes
- Concrete portal frame
- New ply diaphragm to first floor. Screw fixed to existing joists with EA to perimeter & M12 bolts to brick walls

STREET

SEFTON

STORE

STORE

STORE

STORE

KITCHEN 30'0" x 20'0"

WARMING OVEN

ELECTRIC RANGE

SERVER 16'0" x 21'

BENCH & SINK

W.C. GENTS

W.C. LADIES

LIFT

LAUNDRY

COAL

COAL

W.C.

W.C.

21'0" x 18'0"

PASSAGE

TELEPHONE

35'0" x 15'0"

OFFICE

15'9" x 8'6"

OFFICE

LOUNGE 39'6" x 14'0"

ENTRANCE

DINING SALOON

GROUND FLOOR

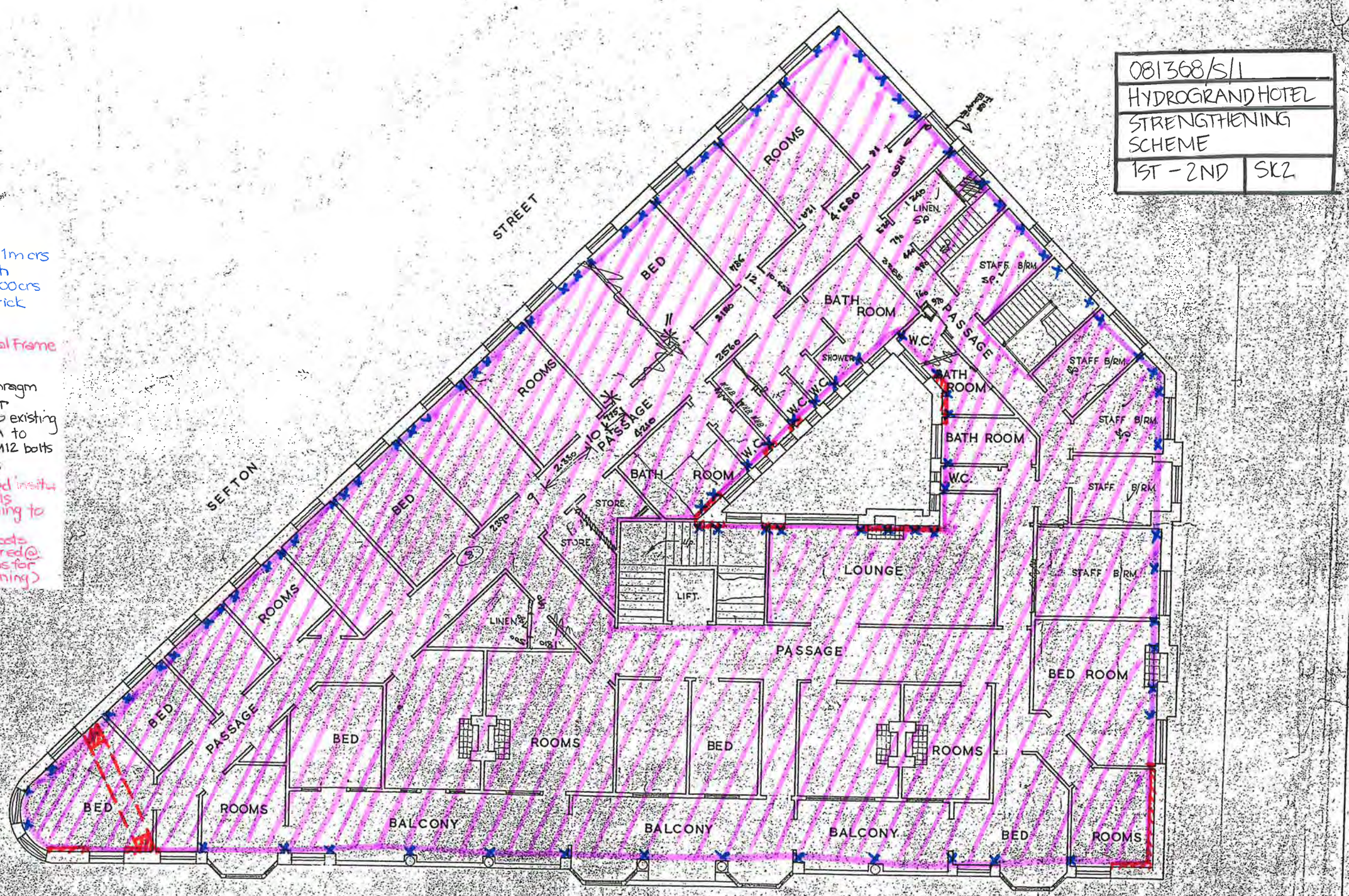
081368

COPY SENT TO BSD

081368/S/1	
HYDROGRAND HOTEL	
STRENGTHENING SCHEME	
1ST - 2ND	SK2

KEY

- X 75 SHS 5 @ 1m crs connected with M12 bolts @ 900crs through all brick wythes
- Concrete Portal Frame
- New ply diaphragm to second floor screw fixed to existing joists with EA to perimeter & M12 bolts to brick walls
- New reinforced insitu concrete walls for strengthening to 67% NBS (note #SHS posts are not required @ these locations for 67% strengthening)



FIRST FLOOR

081368/S/1	
HYDROGRAND HOTEL	
STRENGTHENING SCHEME	
2ND - ROOF	SK3

KEY

- 75SHS5 @ 1m CRS connected with M12 bolts @ 900 crs through all brick wythes
- Concrete per last frame
- New ply diaphragm to underside of ceiling at roof level screw fixed to ceiling joists with EA to perimeter & M12 bolts to brick walls
- New reinforced insitu concrete walls for strengthening to 67% NBS

(note 75SHS posts are not required at these locations for 67% strengthening)

STREET
SEFTON
STAFFORD
STREET
ROOMS
BED
PASSAGE
BATH ROOM
W.C
TEA ROOM
LIFT
BED ROOM
BALCONY

SECOND FLOOR

04 DEC 2008

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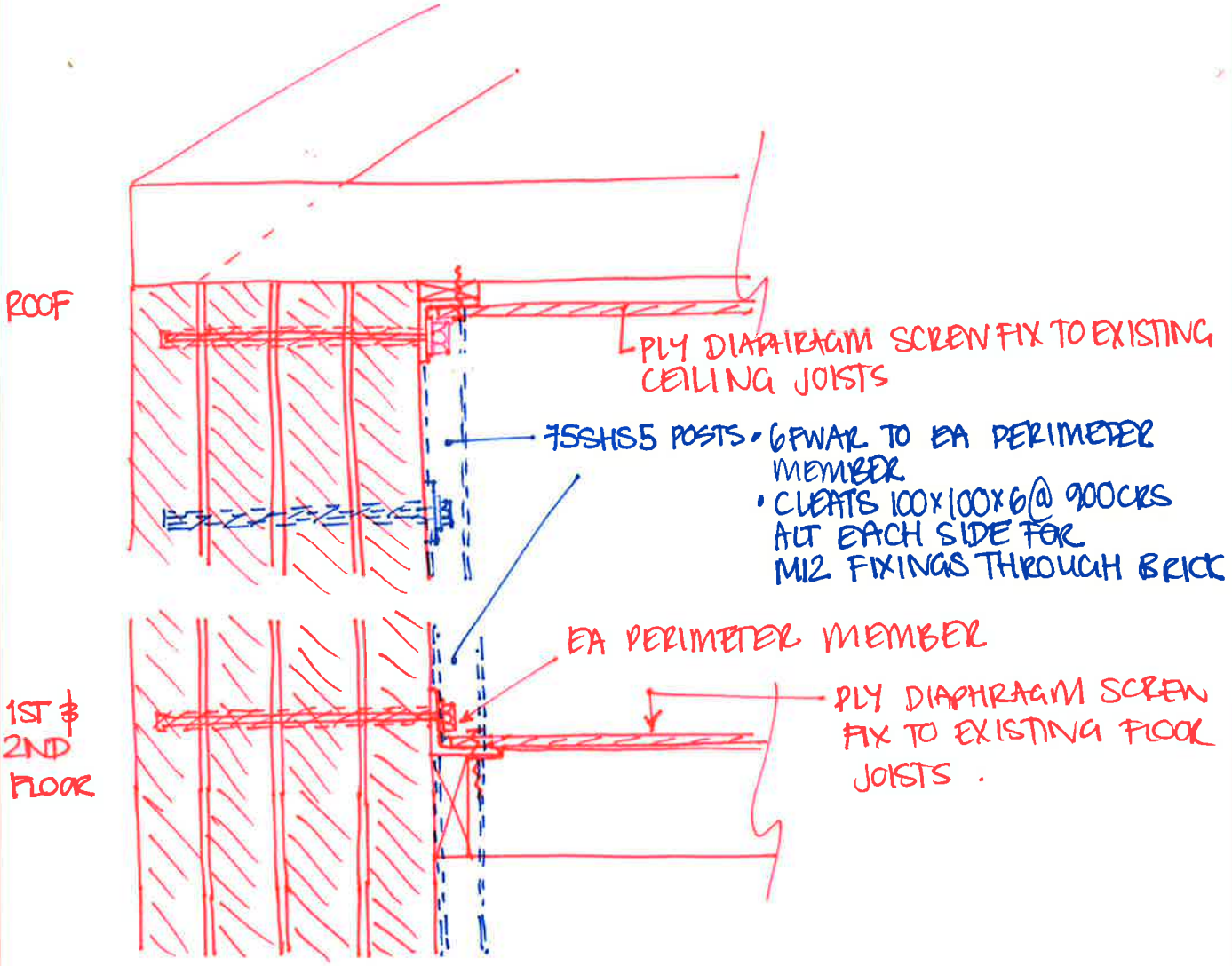
JOB NAME HYDROGRAND HOTEL
DATE APRIL '09 JOB NO. 081368/S/1
CALC'D BY HEC SHEET NO. SK4



TYPICAL DIAPHRAGM EDGE FIXINGS

NOTE: ALL BOLTS TO BRICKWORK TO BE CHEMSET WITH MESH-SLEEVES.

Unit 3, Amuri Park, Cnr Bealey Ave & Churchill St, P.O Box 25-108, Christchurch (03) 366-1777: phone info@pfc.co.nz: email www.pfc.co.nz: website

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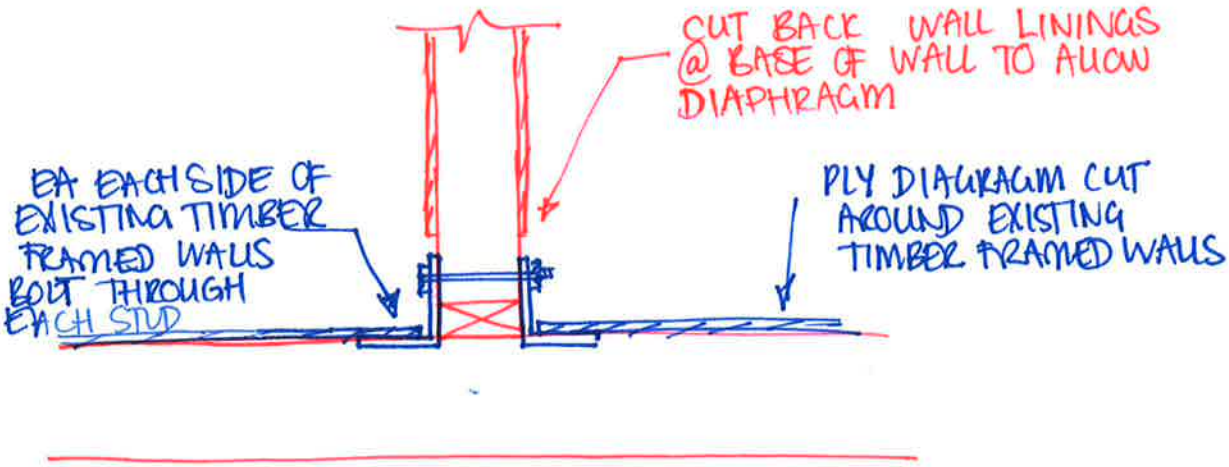
JOB NAME HYDROGRAND HOTEL
DATE APRIL '09 JOB NO. 081368/S/1
CALC'D BY HEL SHEET NO. SK5



DIAPHRAGM DETAIL @ EXISTING WALL

Unit 3, Amuri Park, Cnr Bealey Ave & Churchill St, P.O Box 25-108, Christchurch (03) 366-1777: phone info@pfc.co.nz: email www.pfc.co.nz: website

FIRE SAFETY FEATURES
DRAWING F1
JOB # 081368
ISSUE 1 03/02/09

STREET
SEFTON
BED ROOM
ROOMS
BED
BED ROOM
NEW DOOR
BED ROOM
LOUNGE
ROOMS
PASSAGE
W.C
W.C
W.C
LIGHTWELL
BATH ROOM
BED ROOM
BATH ROOM
BATH ROOM
W.C.
W.C.
BED ROOM
STORE
LIFT
PASSAGE
NEW DOOR
MANAGER'S RESIDENCE
NEW DOOR + WALLS
PASSAGE
BED ROOM
BED ROOM
BED
NEW DOOR
ROOMS
BED
ROOMS
BALCONY
BALCONY

34

SECOND FLOOR
(1:100)

FIRE SAFETY FEATURES
DRAWING F2
JOB # 081368
ISSUE 1 03/04/09

FIREWALL 30/30/30 FRR

DESIGN OCCUPANCY

DESIGNATED EGRESS ROUTE

(CP) : EXISTING CALL POINT

(HR) : EXISTING FIRE HOSE REEL

(EX) : EXISTING FIRE EXTINGUISHER

(B) : EXISTING BELL SOUNDER

* : TO BE REMOVED

STREET

SEFTON

BED ROOM

BED ROOM

BED

ROOMS

PASSAGE

BATH ROOM

LINEN

STORE

PASSAGE

SHOWER

W.C.

W.C.

W.C.

STORE

BATH ROOM

W.C.

STAFF B/RM

STAFF B/RM

BATH ROOM

STORE

STORE

LIFT

LOUNGE

PASSAGE

BED ROOM

LINEN

BED

ROOMS

BED ROOM

NEW DOOR

NEW DOOR

BED

BED ROOM

ROOMS

PASSAGE

BED

ROOMS

BALCONY

BALCONY

BALCONY

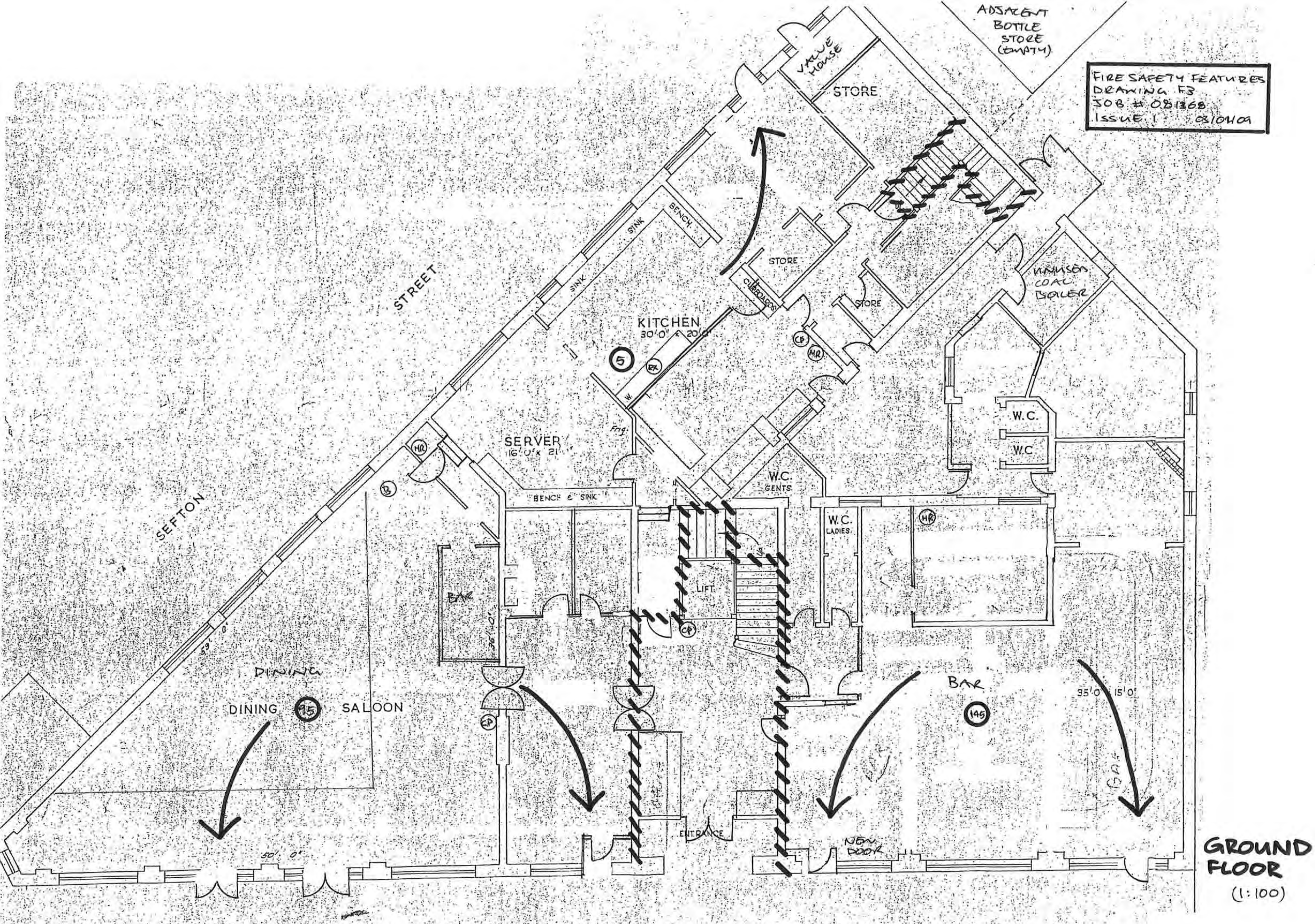
BED

ROOMS

(36)

FIRST FLOOR

(1:100)


FIRE SAFETY FEATURES
DRAWING F3
JOB # 081368
ISSUE 1 03/01/09
ADJACENT BOTTLE STORE (EMPTY)
VALVE HOUSE
STORE
BENCH
SINK
SINK
STORE
CUPBOARDS
STORE
KITCHEN
30'0" x 20'0"
5
COAL BOILER
SERVER
16'0" x 21'
BENCH & SINK
W.C.
W.C.
W.C.
GENTS
W.C.
LADIES
LIFT
BAR
SEFTON STREET
DINING
DINING SALOON
95
BAR
145
35'0" x 15'0"
ENTRANCE
NEW DOOR
50' 0"
GROUND FLOOR
(1:100)

BAS:BAS

09 November 2015

POWELL FENWICK
CONSULTANTS LIMITED
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structural
hydraulic
electrical
acoustic
civil
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Allan Booth
C/- Darron Charity
darroncharity@gmail.com

ATTENTION: ALLAN BOOTH

Our Ref: 151140/S/1

Dear Allan,

RE: POST INSPECTION SUMMARY OF BUILDING AT CORNER OF SEFTON EAST STREET AND THE BAY HILL, TIMARU

Powell Fenwick Consultants Ltd has been engaged by Allan Booth to inspect the above property for hazards related to the structural integrity of the building.

SCOPE OF REPORT

The scope of this letter is to identify structural stability issues or hazards present on the property so that potential occupants may be better informed of the risks associated with entering the building.

In order to assess the structural condition of the building, a walk-through inspection of the property was conducted by Brian Schimke on behalf of Powell Fenwick Consultants Ltd on the 6th of November, 2015.

The inspection covered visually available aspects of the building internally and externally. No coverings were removed or any detailed engineering conducted, though the following documents were made available for review:

- Previous structural condition report by Powell Fenwick Consultants Ltd, dated April 2009

Non-structural utilities such as electrical, water, and other services, and weather tightness were not specifically inspected, but may be commented on where they impact the building structure. Not every room on each floor was entered during the walkthrough inspection.

We note that this letter is specifically for the purpose of identifying obvious hazards and/or structural stability issues associated with the property. This is not an exhaustive list of all potential hazards or defects associated with the building. There may be hazards present that were not obvious, easily gleaned, or otherwise not observed during the walkthrough inspection.

POTENTIAL HAZARDS

The following specific items were observed during the walkthrough inspection:

HAZARD	RECOMMENDED MITIGATION
Rotted flooring	In a number of locations, including the ground floor entry, kitchen, and stairwell, the timber floors have rotted away and the floor has collapsed. This occurs to a much lesser extent at the upper floors. Occupants should exercise caution in walking through the building to avoid stepping through the rotted flooring. The worse-affected areas are typically earmarked by water-damaged wall and ceiling linings. Where the floor has already rotted through, we recommend covering the affected areas with 20mm plywood and sequestering off the area. At the stairwell, the plywood should be fixed to the stringers to prevent slipping. Extreme care should be taken in climbing the stairs. We do not recommend using the lift as it was not inspected and the structural condition of the lift is unknown.
Broken glass	There are a number of broken windows throughout the property, with pieces of glass remaining on the floor in select locations. Occupants should wear thick-soled boots and avoid stepping on broken glass.
Asbestos	The existing textured plaster ceiling linings, including at the ground floor bar/loung area and second level bedrooms, may contain asbestos. We note that there are areas where these ceiling linings have been removed, or broken away, possibly breaking the asbestos in tiny, inhalable particulates. We recommend that anyone occupying the building take all reasonable measures to prevent exposure to the asbestos.
Animal feces	At most areas of the two uppers floors, there is a significant quantity of animal feces, most of which appears to be from pigeons which have gained access to the building through broken windows. We recommend that thick-soled boots are worn, as well as respirators and other appropriate personal protection equipment (PPE) to prevent inhalation of airborne pathogens that may be present in the feces.

HAZARD	RECOMMENDED MITIGATION
Live animals	The building is easily accessed by pigeons and rats through various points of entry, at all levels of the building. Additionally, we understand that building has been accessed by human tresspassers, though none were encountered during the inspection. People entering the building should be aware that there may be animals, including humans, living inside the building.
Earthquake damage	Only a minor amount of cosmetic earthquake damage was observed during the inspection, including cracking to lathe and plaster wall and ceiling linings, we well as cracking to the external plaster cladding. There were no indications that the structural systems of the building have been appreciably adversely affected by the recent Canterbury earthquakes.

EARTHQUAKE STRENGTH

No significant structural earthquake damage or stability issues were identified during the walkthrough inspection; however, as noted in the previous structural assessment report prepared by Powell Fenwick Consultants Ltd, we consider the building to be earthquake prone as it has been analyzed as having an earthquake resistance of <33% New Building Standard (NBS). The risk of this building sustaining major damage during a significant earthquake is high, and prolonged occupancy of the building is highly discouraged.

We recommend anyone intending on entering the building review the afore-mentioned report prior to occupying the building.

ASBESTOS TESTING

We understand that Golders Associates has been engaged to conduct asbestos testing of various elements of the existing property. While we did not observe anything to indicate that the building is in a state of compromised structural integrity, we strongly recommend that time spent inside the building is kept to an absolute minimum. Anyone choosing to enter the property does so under their own volition, at their own risk.

Please call our office on 366 1777 if you require further information or assistance.

Yours faithfully,
POWELL FENWICK CONSULTANTS LIMITED

Prepared by

BRIAN SCHIMKE
CPEng, MIPENZ

APPENDIX 4:

Quantity Surveying Report

The Hydro Grand Hotel Redevelopment Options

Preliminary Estimate

Revision 2 – 21-Apr-2016
Prepared for – Bay Hill Developments Limited – ABN: N/A

Quality Information

Document	The Hydro Grand Hotel Redevelopment Options
Ref	60494330 p:\604x\60494330\10. submission final\03 estimate\preliminary\hydro grand hotel strengthening estimate.docx
Date	21-Apr-2016
Prepared by	Dave Bufton
Reviewed by	Ross Davidson

Revision	Revision Date	Details	Authorised	
			Name/Position	Signature
0	21 April 2016	Report issued	Ross Davidson	

Prepared by

AECOM New Zealand Limited
Level 2, 2 Hazeldean Road, Addington, Christchurch 8024, P O Box 710, Christchurch MC, Christchurch 8140, New Zealand
T +64 3 966 6000 F +64 3 966 6001 www.aecom.com

1.0 Scope

AECOM have been engaged to provide elemental cost estimates for the Renovation and Seismic Strengthening work to bring the current building up to 34%, 67% and 100% NBS respectively.

High level estimates are also to be provided for the following options :-

- 1C - Strengthen building to 100% NBS and allow for change of use to Retail on the ground floor with Offices above
- 2A - Retain the entire exterior façade, demolish the roof and interior and rebuild to match the existing building envelope with the building's primary use being a Hotel.
- 3A - Retain the entire exterior building façade, demolish the remaining building and rebuild to a new height of 20m with the building's primary use being a Hotel.
- 2B - Retain the roadside exterior façade, demolish the remaining building and rebuild to match the existing building envelope with the building's primary use being Retail on the ground floor with Offices above.
- 3B - Retain the roadside exterior façade, demolish the remaining building and rebuild to a new height of 20m with the building's primary use being Retail on the ground floor with Offices above.
- 2C - Retain the roadside exterior façade, demolish the remaining building and rebuild to match the existing building envelope with the building's primary use being Residential Apartments.
- 3C - Retain the roadside exterior façade, demolish the remaining building and rebuild to a new height of 20m with the building's primary use being Residential Apartments.

2.0 Elemental Estimates

The following estimates have been compiled by measuring and pricing approximate elemental quantities and are based on information provided by the consultant team as follows:-

- The Buchan Group Architectural drawings dated 6 April 2016
- Powell Fenwick Structural, Building Services and Fire report dated 6 April 2016
- Powell Fenwick Structural drawings dated 6 April 2016
- Powell Fenwick Structural details dated 17 December 2015
- Marked up Fire Safety drawings dated 3 February 2009

2.1 Strengthen to 34% NBS

Our preliminary assessment of likely cost is $13,563,000 (Thirteen million five hundred and sixty three thousand dollars) broken down as follows:-

Building Works	10,476,000
Construction Contingency (10%)	1,048,000
Asbestos Removal (Provisional Allowance)	200,000
	11,724,000
Building Consent	70,000
	11,794,000
Professional Fees (15%)	1,769,000
	$13,563,000

2.2 Strengthen to 67% NBS

Our preliminary assessment of likely cost is $14,167,000 (Fourteen million one hundred and sixty seven thousand dollars) broken down as follows:-

Building Works	10,954,000
Construction Contingency (10%)	1,095,000
Asbestos Removal (Provisional Allowance)	200,000
	12,249,000
Building Consent	70,000
	12,319,000
Professional Fees (15%)	1,848,000
	$14,167,000

2.3 Strengthen to 100% NBS

Our preliminary assessment of likely cost is $15,278,000 (Fifteen million two hundred and seventy eight thousand dollars) broken down as follows:-

Building Works	11,828,000
Construction Contingency (10%)	1,183,000
Asbestos Removal (Provisional Allowance)	200,000
	13,215,000
Building Consent	70,000
	13,285,000
Professional Fees (15%)	1,993,000
	$15,278,000

Refer to Appendix A for full elemental break down.

3.0 High Level Estimates

The following estimates have been compiled by measuring and pricing approximate elemental quantities and are based on information provided by the consultant team as follows:-

- The Buchan Group Architectural drawings dated 6 April 2016
- Powell Fenwick Structural, Building Services and Fire report dated 6 April 2016

3.1 Option 1C

Our preliminary assessment of likely cost is $15,678,000 (Fifteen million six hundred and seventy eight thousand dollars) broken down as follows:-

Building Works	12,148,000
Construction Contingency (10%)	1,215,000
Asbestos Removal (Provisional Allowance)	200,000
	13,563,000
Building Consent	70,000
	13,633,000
Professional Fees (15%)	2,045,000
	$15,678,000

3.2 Option 2A

Our preliminary assessment of likely cost is $23,062,000 (Twenty three million and sixty two thousand dollars) broken down as follows:-

Building Works (Existing Building)	7,337,000
Building Works (New Building)	10,639,000
	17,976,000
Construction Contingency (10%)	1,798,000
Asbestos Removal (Provisional Allowance)	200,000
	19,974,000
Building Consent	80,000
	20,054,000
Professional Fees (15%)	3,008,000
	$23,062,000

3.4 Option 3A

Our preliminary assessment of likely cost is $30,886,000 (Thirty million eight hundred and eighty six thousand dollars) broken down as follows:-

Building Works (Existing Building)	7,337,000
Building Works (New Building)	16,807,000
	24,144,000
Construction Contingency (10%)	2,414,000
Asbestos Removal (Provisional Allowance)	200,000
	26,758,000
Building Consent	100,000
	26,858,000
Professional Fees (15%)	4,028,000
	$30,886,000

3.5 Option 2B

Our preliminary assessment of likely cost is $21,146,000 (Twenty one million one hundred and forty six thousand dollars) broken down as follows:-

Building Works (Existing Building)	5,786,000
Building Works (New Building)	10,676,000
	16,462,000
Construction Contingency (10%)	1,646,000
Asbestos Removal (Provisional Allowance)	200,000
	18,308,000
Building Consent	80,000
	18,388,000
Professional Fees (15%)	2,758,000
	$21,146,000

3.6 Option 3B

Our preliminary assessment of likely cost is $30,819,000 (Thirty million eight hundred and nineteen thousand dollars) broken down as follows:-

Building Works (Existing Building)	7,247,000
Building Works (New Building)	16,843,000
	24,090,000
Construction Contingency (10%)	2,409,000
Asbestos Removal (Provisional Allowance)	200,000
	26,699,000
Building Consent	100,000
	26,799,000
Professional Fees (15%)	4,020,000
	$30,819,000

3.7 Option 2C

Our preliminary assessment of likely cost is $21,146,000 (Twenty one million one hundred and forty six thousand dollars) broken down as follows:-

Building Works (Existing Building)	5,786,000
Building Works (New Building)	10,676,000
	16,462,000
Construction Contingency (10%)	1,646,000
Asbestos Removal (Provisional Allowance)	200,000
	18,308,000
Building Consent	80,000
	18,388,000
Professional Fees (15%)	2,758,000
	$21,146,000

3.8 Option 3C

Our preliminary assessment of likely cost is $28,970,000 (Twenty eight million nine hundred and seventy thousand dollars) broken down as follows:-

Building Works (Existing Building)	5,786,000
Building Works (New Building)	16,843,000
	22,629,000
Construction Contingency (10%)	2,263,000
Asbestos Removal (Provisional Allowance)	200,000
	25,092,000
Building Consent	100,000
	25,192,000
Professional Fees (15%)	3,778,000
	$28,970,000

Refer to Appendix B for high level breakdown.

4.0 Inclusions / Exclusions

The items specifically ***included*** in this Preliminary Design Cost Plan are:

1) Demolition
2) Professional Fees

The items specifically ***excluded*** from this Preliminary Design Cost Plan are:

1) Escalation Provision beyond the Date of this Estimate
2) Land Remediation
3) Public Realm
4) Tenant Fitout
5) Furniture and Equipment
6) Legal and Financing Costs
7) Development Levies
8) Land Cost
9) Insurances
10) GST

5.0 Risks

The major cost risks to this preliminary estimate are:

a) Design Development
b) Latent site conditions (ground, existing building and existing services)
c) Identification and Removal of Hazardous Materials

Items a) and b) are covered by an allowance of 18% total, comprising Design Contingency of 8% and Construction Contingency of 10%. Aecom would typically recommend a Construction Contingency of 15% for a project of this nature, however we have allowed a Construction Contingency of 10% assuming a best case scenario.

Item c) The full extent of the asbestos within the building is currently unknown and a provisional allowance of $200,000 has been allowed for asbestos removal.

Appendix A

Elemental Estimates

Project : **THE HYDRO GRAND HOTEL**

Cost Plan : **STRENGTHENING 34% Rev: A**

PROJECT SUMMARY

No.	Description	Quantity	Unit	Rate	Total
1	BUILDING WORKS	2,491	m²	4,205.54	10,476,000
2	CONSTRUCTION CONTINGENCY		%	10.00	1,048,000
	ASBESTOS REMOVAL (PROVISIONAL ALLOWANCE)				200,000
					11,724,000
3	BUILDING CONSENT		Sum		70,000
					11,794,000
4	CONSULTANTS' FEES		%	15.00	1,769,000
	Total				**$13,563,000**

Project : **THE HYDRO GRAND HOTEL**

Cost Plan : **STRENGTHENING 34% Rev: A**

BUILDING WORKS

No.	Description	Quantity	Unit	Rate	Amount	$/m² GFA
1	SITE PREPARATION	2,491	m²	349.48	870,555	349.48
2	SUBSTRUCTURE	735	m²	516.10	379,331	152.28
3	FRAME	2,491	m²	278.93	694,815	278.93
4	UPPER FLOORS	2,548	m²	113.61	289,480	116.21
5	ROOF	830	m²	181.92	150,990	60.61
6	EXTERIOR WALLS AND EXTERIOR FINISH	1,304	m²	97.18	126,725	50.87
7	WINDOWS AND EXTERIOR DOORS	304	m²	1,291.28	392,550	157.59
8	STAIRS AND BALUSTRADES	2,491	m²	35.65	88,800	35.65
9	INTERIOR WALLS	701	m²	70.00	49,070	19.70
10	INTERIOR DOORS	260	No	1,062.50	276,250	110.90
11	FLOOR FINISHES	2,491	m²	96.08	239,340	96.08
12	WALL FINISHES	9,103	m²	87.18	793,604	318.59
13	CEILING FINISHES	2,491	m²	97.19	242,090	97.19
14	FITTINGS AND FIXTURES	2,491	m²	236.57	589,300	236.57
15	SANITARY PLUMBING	218	No	2,641.74	575,900	231.19
16	HEATING AND VENTILATION SERVICES	2,491	m²	462.09	1,151,056	462.09
17	FIRE SERVICES	2,491	m²	106.01	264,063	106.01
18	ELECTRICAL SERVICES	2,491	m²	255.40	636,200	255.40
19	VERTICAL AND HORIZONTAL TRANSPORTATION	2,491	m²	76.68	191,000	76.68
20	SPECIAL SERVICES	2,491	m²	90.09	224,408	90.09
21	SUNDRIES	2,491	m²	24.54	61,140	24.54
22	DESIGN DEVELOPMENT CONTINGENCY		%	7.50	621,500	249.50
23	PRELIMINARY & GENERAL		%	12.00	1,068,980	429.14
24	MARGIN		%	5.00	498,857	200.26
	Total				**$10,476,000**	**$4,205.54**

No.	Description	Quantity	Unit	Rate	Total
	SITE PREPARATION				
	Demolition				
1	Demolish brick chimney and dispose off site	3	No	7,500.00	22,500
2	Remove ground floor flooring, joists and dispose off site	735	m2	75.00	55,125
3	Remove first and second floor flooring, joists and dispose off site (Say 25%)	368	m2	75.00	27,600
4	Remove three timber stairs		Sum		12,000
5	Carefully remove glazed windows and dispose off site	151	No	250.00	37,750
6	Remove roof coverings, purlins and rainwater goods and dispose off site	819	m²	45.00	36,855
7	Remove plasterboard lined partitions and dispose off site	6,704	m²	25.00	167,600
8	Remove lath and plaster ceilings and dispose off site	2,451	m²	75.00	183,825
9	Remove floor coverings and dispose off site	2,180	m²	15.00	32,700
10	Remove fixtures, fittings and joinery and dispose off site		Sum		40,000
11	Remove and isolate electrical services		Sum		60,000
12	Remove and isolate plumbing services		Sum		35,000
13	Remove and isolate HVAC services		Sum		40,000
14	Remove and isolate specialist services		Sum		10,000
15	Cut back section of first and second flooring including propping	1,894	m	25.00	47,350
16	Remove attic flooring, joists and dispose off site	324	m2	75.00	24,300
17	Remove single door and frame and dispose off site	172	No	100.00	17,200
18	Remove pair of doors and frame and dispose off site	5	No	150.00	750
19	Decommision and remove lift		Sum		20,000
20	Remove hazardous materials and dispose off site is Excluded from this estimate		Note		
	Total				**870,555**
	SUBSTRUCTURE				
	Piling				
21	Screw piles to an average of 8m deep (4No.)	32	m	300.00	9,600
22	Piling equipment site establishment and disestablishment		Sum		10,000
23	3000 x 6000 x 600 reinforced concrete pile cap including excavation, formwork and disposal	1	no	7,380.00	7,380
	Substructure				
24	300 x 700 reinforced concrete foundation underpinning beams including formwork, excavation and disposal	471	m	475.00	223,726
	Timber Substructure				
25	150 joists on bearers including R1.8 insulation	735	m²	175.00	128,625
	Total				**379,331**
	FRAME				

No.	Description	Quantity	Unit	Rate	Total
	Structural Steel				
26	75 x 5 SHS post	14,276	kg	7.00	99,932
27	6 plate cleat	948	kg	10.00	9,480
28	M12 x 450 Chemset bolt including drilling	3,905	No	35.00	136,675
29	100 x 10 eq angle bolt fixed to brick wall	26,895	kg	8.50	228,608
30	M12 bolt	698	No	10.00	6,980
31	Miscellaneous steelwork to attic	2,500	kg	15.00	37,500
32	Steel support to dome		Sum		25,000
33	30min fire rated intumescent paint to steelwork		Sum		15,000
	Insitu Concrete				
34	600 x 600 reinforced (250kg/m³) concrete columns	24	m	1,000.00	24,000
35	400 x 600 reinforced (300kg/m³) concrete beams	18	m	750.00	13,500
	Structural Timber				
36	250 floor joists at 400 centres	324	m²	110.00	35,640
	Roof				
37	Replace roof framing as required (Provisional allowance)		Sum		10,000
38	Form dormer windows	7	No	7,500.00	52,500
	Total				**694,815**
	UPPER FLOORS				
39	19 plywood diaphram to floor joists	2,180	m²	110.00	239,800
40	300 x 50 floor joists	368	m2	135.00	49,680
	Total				**289,480**
	ROOF				
	Cladding				
41	0.55 Colorsteel Trimdek roofing on building paper on netting on purlins including R4.0 insulation	760	m²	130.00	98,800
42	Re-paint domed roof including minor repairs		Sum		8,000
43	Membrane roofing on R3.4 insulation on plywood sarking	70	m²	230.00	16,100
	Soffits				
44	9 Villaboard on battens to soffits	55	m²	100.00	5,500
	Rainwater Goods				
45	Spouting including fascia	139	m	90.00	12,510
46	100 dia downpipes	144	m	70.00	10,080
	Total				**150,990**

No.	Description	Quantity	Unit	Rate	Total
	EXTERIOR WALLS AND EXTERIOR FINISH				
	Cladding				
47	15 fibre cement siding on cavity system	98	m²	210.00	20,580
48	Re-pointing of existing brickwork		Sum		5,000
	Frame				
49	150 x 50 chimney/dormer framing including building paper and insulation	98	m²	120.00	11,760
50	100 x 50 wall framing including building paper and R2.6 insulation	365	m²	95.00	34,675
51	False chinmey pots	10	no	250.00	2,500
	Finishes and Insulation				
52	Make good and paint walls to balconies		Sum		10,000
53	Acrylic exterior paint including minor repairs	1,206	m²	35.00	42,210
	Total				**126,725**
	WINDOWS AND EXTERIOR DOORS				
	Exterior Windows				
54	Clear double glazed timber windows	277	m²	1,250.00	346,250
55	Extra value for arched windows	9	No	1,000.00	9,000
56	Extra value for fire rated windows	6	m2	500.00	3,000
	Exterior Doors				
57	Pair of exterior quality solid core doors including frame, hardware and finish	7	No	2,500.00	17,500
58	Single exterior quality solid core door including frame, hardware and finish	14	No	1,200.00	16,800
	Total				**392,550**
	STAIRS AND BALUSTRADES				
	Stairs				
59	Timber stair including landings and half landings to one level	7	No	10,000.00	70,000
	Handrails				
60	Timber handrail including brackets	188	m	100.00	18,800
	Total				**88,800**
	INTERIOR WALLS				
	Framing				
61	100 x 50 timber wall framing	701	m²	70.00	49,070
	Total				**49,070**
	INTERIOR DOORS				
	Pair of Doors				
62	Pair of solid core paint grade doors including frame, hardware and finish	4	No	1,400.00	5,600

No.	Description	Quantity	Unit	Rate	Total
63	Pair of proprietary FRR doors -/30/30 complete	1	No	2,300.00	2,300
	Single Doors				
64	Single solid core paint grade cavity slider including frame, hardware and finish	89	No	1,150.00	102,350
65	Single proprietary FRR door -/30/30 complete	83	No	1,600.00	132,800
66	Extra value for door closer	83	No	400.00	33,200
	Total				**276,250**
	FLOOR FINISHES				
	Tiling and Concrete				
67	Ceramic tiles (supplied at the net value of $70 per square metre) laid on mortar bed	192	m²	210.00	40,320
68	Waterproofing system	192	m²	80.00	15,360
	Carpet				
69	Broadloom carpet (supplied at the net value of $120 per BLM)	1,961	m²	70.00	137,270
70	Entry matwell	7	m²	500.00	3,500
71	Stair nosings	216	m	30.00	6,480
	Sheet Vinyl and Rubber				
72	Sheet vinyl with welded joints and coved edge	331	m²	80.00	26,480
73	Hydropoxy to concrete	331	m²	30.00	9,930
	Total				**239,340**
	WALL FINISHES				
	Linings				
74	13 GIB Fyreline including skirting	4,571	m²	50.00	228,550
75	13 GIB Standard including skirting	3,513	m²	35.00	122,955
76	13 GIB Aqualine including skirting	1,019	m²	40.00	40,760
77	Extra value for curved walls	33	m²	20.00	660
	Finishes				
78	Ceramic tiles (supplied at the net value of $70 per square metre)	415	m²	180.00	74,700
79	Waterproofing system	415	m²	80.00	33,200
80	Paint to plasterboard	8,688	m²	18.00	156,384
	Strapping and Insulation				
81	50 x 50 timber wall strapping	2,073	m²	40.00	82,920
82	Extra value for curved walls	33	m²	50.00	1,650
83	Insulation	2,073	m	25.00	51,825
	Total				**793,604**

No.	Description	Quantity	Unit	Rate	Total
	CEILING FINISHES				
	Linings				
84	13 GIB Fyreline	2,150	m²	45.00	96,750
85	13 GIB Standard	301	m²	35.00	10,535
	Frames and Insulation				
86	Acoustic insulation	2,451	m²	30.00	73,530
	Finishes				
87	Paint to plasterboard	2,451	m²	25.00	61,275
	Total				**242,090**
	FITTINGS AND FIXTURES				
88	Kitchen joinery		Sum		250,000
89	Bar fitout		Sum		150,000
90	Reception area		Sum		50,000
91	Staff areas		Sum		2,500
92	Wardrobe	48	No	1,000.00	48,000
93	Linen room fitout	2	No	1,500.00	3,000
94	Floor mounted vanity unit	48	No	600.00	28,800
95	Wall shelving	120	m²	400.00	48,000
96	1800 x 457 x 1800 high lockers (12No. spaces)	2	No	2,500.00	5,000
97	Autex pinboards	50	m²	80.00	4,000
	Total				**589,300**
	SANITARY PLUMBING				
98	Internal water supply including back flow prevention		Sum		20,000
99	Toilet pan and cistern complete with water and waste services	48	No	3,000.00	144,000
100	Bowl urinal complete with water and waste services	3	No	3,000.00	9,000
101	Wash hand basin complete with water and waste services	52	No	1,500.00	78,000
102	Shower fittings with tempering valve, water and waste services	48	No	2,500.00	120,000
103	Sink insert complete with water and waste services	4	No	1,500.00	6,000
104	Floor drain including trap, grate and waste connection	48	No	1,500.00	72,000
105	Cleaners sink complete with water and waste services	3	No	1,800.00	5,400
106	Hot water cylinder complete including cold water connection	10	No	5,500.00	55,000
107	Over bench boiling unit complete including cold water connection	2	No	2,500.00	5,000
108	Extra value for multi-storey vertical plumbing (per fitting)	48	No	500.00	24,000
109	Builders works in connection with sanitary plumbing		%	3.00	17,500
110	Allow to check and repair as required the complete drainage system		Sum		20,000
	Total				**575,900**
	HEATING AND VENTILATION SERVICES				

No.	Description	Quantity	Unit	Rate	Total
111	Packaged air conditioning system	2,490	m²	275.00	684,789
112	Air ventilation system	2,490	m²	125.00	311,268
113	Controls and BMS		%	12.00	120,000
114	Builders works in connection with HVAC		%	3.00	35,000
	Total				**1,151,056**
	FIRE SERVICES				
115	Automatic fire sprinkler system incorporating a manual fire alarm system and an automatic smoke/heat detection system	2,490	m²	95.00	236,563
116	Dry or wet riser	1	No	20,000.00	20,000
117	Builders works in connection with fire services		%	3.00	7,500
	Total				**264,063**
	ELECTRICAL SERVICES				
118	Main switchboard and distribution board		Sum		30,000
119	Submain and switch boards		Sum		15,000
120	Electric power and lighting	2,491	m²	180.00	448,380
121	Emergency lighting	2,491	m²	20.00	49,820
122	Electrical to Mechanical Services		Sum		25,000
123	Sensors, daylight controls and BMS		%	10.00	50,000
124	Builders works in connection with electrical		%	3.00	18,000
	Total				**636,200**
	VERTICAL AND HORIZONTAL TRANSPORTATION				
125	Passenger lift for four level building excluding shaft	1	No	120,000.00	120,000
126	Passenger lift for three level building excluding shaft	1	No	65,000.00	65,000
127	Builders works in connection with lifts		%	3.00	6,000
	Total				**191,000**
	SPECIAL SERVICES				
128	Voice and data system	2,490	m²	60.00	149,408
129	Card access security	4	No	5,000.00	20,000
130	Intruder security		Sum		30,000
131	Audio and visual infrastructure		Sum		25,000
	Total				**224,408**
	SUNDRIES				
132	Ceramic tiles on waterproofing membrane on plywood sarking to balcony	119	m²	460.00	54,740
133	Canopy	8	m²	800.00	6,400
	Total				**61,140**

Project : **THE HYDRO GRAND HOTEL**

Cost Plan : **STRENGTHENING 67% Rev: A**

PROJECT SUMMARY

No.	Description	Quantity	Unit	Rate	Total
1	BUILDING WORKS	2,491	m²	4,397.33	10,954,000
2	CONSTRUCTION CONTINGENCY		%	10.00	1,095,000
	ASBESTOS REMOVAL (PROVISIONAL ALLOWANCE)				200,000
					12,249,000
3	BUILDING CONSENT		Sum		70,000
					12,319,000
4	CONSULTANTS' FEES		%	15.00	1,848,000
	Total				**$14,167,000**

Project : **THE HYDRO GRAND HOTEL**

Cost Plan : **STRENGTHENING 67% Rev: A**

BUILDING WORKS

No.	Description	Quantity	Unit	Rate	Amount	$/m² GFA
1	SITE PREPARATION	2,491	m²	344.46	858,055	344.46
2	SUBSTRUCTURE	735	m²	502.49	369,331	148.27
3	FRAME	2,491	m²	260.10	647,912	260.10
4	STRUCTURAL WALLS	584	m²	750.00	438,000	175.83
5	UPPER FLOORS	2,788	m²	119.85	334,130	134.13
6	ROOF	830	m²	181.92	150,990	60.61
7	EXTERIOR WALLS AND EXTERIOR FINISH	1,304	m²	97.18	126,725	50.87
8	WINDOWS AND EXTERIOR DOORS	304	m²	1,291.28	392,550	157.59
9	STAIRS AND BALUSTRADES	2,491	m²	35.65	88,800	35.65
10	INTERIOR WALLS	239	m²	70.00	16,730	6.72
11	INTERIOR DOORS	260	No	1,062.50	276,250	110.90
12	FLOOR FINISHES	2,491	m²	96.08	239,340	96.08
13	WALL FINISHES	9,103	m²	87.18	793,604	318.59
14	CEILING FINISHES	2,491	m²	97.19	242,090	97.19
15	FITTINGS AND FIXTURES	2,491	m²	236.57	589,300	236.57
16	SANITARY PLUMBING	218	No	2,641.74	575,900	231.19
17	HEATING AND VENTILATION SERVICES	2,491	m²	462.09	1,151,056	462.09
18	FIRE SERVICES	2,491	m²	106.01	264,063	106.01
19	ELECTRICAL SERVICES	2,491	m²	254.20	633,200	254.20
20	VERTICAL AND HORIZONTAL TRANSPORTATION	2,491	m²	76.68	191,000	76.68
21	SPECIAL SERVICES	2,491	m²	90.09	224,408	90.09
22	SUNDRIES	2,491	m²	24.54	61,140	24.54
23	DESIGN DEVELOPMENT CONTINGENCY		%	7.50	649,843	260.88
24	PRELIMINARY & GENERAL		%	12.00	1,117,730	448.71
25	MARGIN		%	5.00	521,607	209.40
	Total				**$10,954,000**	**$4,397.43**

No.	Description	Quantity	Unit	Rate	Total
	SITE PREPARATION				
	Demolition				
1	Demolish brick chimneys and dispose off site	3	No	7,500.00	22,500
2	Remove ground floor flooring, joists and dispose off site	735	m2	75.00	55,125
3	Remove first and second floor flooring, joists and dispose off site (Say 25%)	368	m2	75.00	27,600
4	Remove three timber stairs		Sum		12,000
5	Carefully remove glazed windows and dispose off site	151	No	250.00	37,750
6	Remove roof coverings, purlins and rainwater goods and dispose off site	819	m²	45.00	36,855
7	Remove plasterboard wall linings and dispose off site	6,204	m²	25.00	155,100
8	Remove lath and plaster ceilings and dispose off site	2,451	m²	75.00	183,825
9	Remove floor coverings and dispose off site	2,180	m²	15.00	32,700
10	Remove fixtures, fittings and joinery and dispose off site		Sum		40,000
11	Remove and isolate electrical services		Sum		60,000
12	Remove and isolate plumbing services		Sum		35,000
13	Remove and isolate HVAC services		Sum		40,000
14	Remove and isolate specialist services		Sum		10,000
15	Cut back section of first and second flooring including propping	1,894	m	25.00	47,350
16	Remove attic flooring, joists and dispose off site	324	m2	75.00	24,300
17	Remove single door and frame and dispose off site	172	No	100.00	17,200
18	Remove pair of doors and frame and dispose off site	5	No	150.00	750
19	Decommision and remove lift		Sum		20,000
20	Removal of hazardous materials is Excluded from this estimate		Note		
	Total				**858,055**
	SUBSTRUCTURE				
	Piling				
21	Screw piles to an average of 8m deep (4No.)	32	m	300.00	9,600
22	3000 x 6000 x 600 reinforced concrete pile cap including excavation, formwork and disposal	1	no	7,380.00	7,380
	Substructure				
23	300 x 700 reinforced concrete foundation underpinning beams including formwork, excavation and disposal	471	m	475.00	223,726
	Timber Substructure				
24	150 joists on bearers including R1.8 insulation	735	m²	175.00	128,625
	Total				**369,331**
	FRAME				
	Structural Steel				
25	75 x 5 SHS post	10,197	kg	7.00	71,379

No.	Description	Quantity	Unit	Rate	Total
26	6 plate cleat	730	kg	10.00	7,300
27	M12 x 450 Chemset bolt including drilling	3,443	No	35.00	120,505
28	100 x 10 eq angle bolt fixed to brick wall	26,895	kg	8.50	228,608
29	M12 bolt	698	No	10.00	6,980
30	Miscellaneous steelwork to attic	2,500	kg	15.00	37,500
31	Steel support to dome		Sum		25,000
32	30min fire rated intumescent paint to steelwork		Sum		15,000
	Insitu Concrete				
33	600 x 600 reinforced (250kg/m³) concrete columns	24	m	1,000.00	24,000
34	400 x 600 reinforced (300kg/m³) concrete beams	18	m	750.00	13,500
	Structural Timber				
35	250 floor joists at 400 centres	324	m²	110.00	35,640
	Roof				
36	Replace roof framing as required (Provisional allowance)		Sum		10,000
37	Form dormer windows	7	No	7,500.00	52,500
	Total				**647,912**
	STRUCTURAL WALLS				
38	150 reinforced (150kg/m²) concrete insitu wall including formwork	584	m²	750.00	438,000
	Total				**438,000**
	UPPER FLOORS				
39	19 plywood diaphram to floor joists	2,180	m²	110.00	239,800
40	300 x 50 floor joists	608	m2	135.00	82,080
41	Cut back floor and connect to the new insitu concrete walls	50	m	245.00	12,250
	Total				**334,130**
	ROOF				
	Cladding				
42	0.55 Colorsteel Trimdek roofing on building paper on netting on purlins including R4.0 insulation	760	m²	130.00	98,800
43	Re-paint domed roof including minor repairs		Sum		8,000
44	Membrane roofing on R3.4 insulation on plywood sarking	70	m²	230.00	16,100
	Soffits				
45	9 Villaboard on battens to soffits	55	m²	100.00	5,500
	Rainwater Goods				
46	Spouting including fascia	139	m	90.00	12,510

No.	Description	Quantity	Unit	Rate	Total
47	100 dia downpipes	144	m	70.00	10,080
	Total				**150,990**
	EXTERIOR WALLS AND EXTERIOR FINISH				
	Cladding				
48	15 fibre cement siding on cavity system	98	m²	210.00	20,580
49	Re-pointing of existing brickwork		Sum		5,000
	Frame				
50	150 x 50 chimney/dormer framing including building paper and insulation	98	m²	120.00	11,760
51	100 x 50 wall framing including building paper and R2.6 insulation	365	m²	95.00	34,675
52	False chinmey pots	10	no	250.00	2,500
	Finishes and Insulation				
53	Make good and paint walls to balconies		Sum		10,000
54	Acrylic exterior paint including minor repairs	1,206	m²	35.00	42,210
	Total				**126,725**
	WINDOWS AND EXTERIOR DOORS				
	Exterior Windows				
55	Clear double glazed timber windows	277	m²	1,250.00	346,250
56	Extra value for arched windows	9	No	1,000.00	9,000
57	Extra value for fire rated windows	6	m2	500.00	3,000
	Exterior Doors				
58	Pair of exterior quality solid core doors including frame, hardware and finish	7	No	2,500.00	17,500
59	Single exterior quality solid core door including frame, hardware and finish	14	No	1,200.00	16,800
	Total				**392,550**
	STAIRS AND BALUSTRADES				
	Stairs				
60	Timber stair including landings and half landings to one level	7	No	10,000.00	70,000
	Handrails				
61	Timber handrail including brackets	188	m	100.00	18,800
	Total				**88,800**
	INTERIOR WALLS				
	Framing				
62	100 x 50 timber wall framing	239	m2	70.00	16,730
	Total				**16,730**

No.	Description	Quantity	Unit	Rate	Total
	INTERIOR DOORS				
	Pair of Doors				
63	Pair of solid core paint grade doors including frame, hardware and finish	4	No	1,400.00	5,600
64	Pair of proprietary FRR doors -/30/30 complete	1	No	2,300.00	2,300
	Single Doors				
65	Single solid core paint grade cavity slider including frame, hardware and finish	89	No	1,150.00	102,350
66	Single proprietary FRR door -/30/30 complete	83	No	1,600.00	132,800
67	Extra value for door closer	83	No	400.00	33,200
	Total				**276,250**
	FLOOR FINISHES				
	Tiling and Concrete				
68	Ceramic tiles (supplied at the net value of $70 per square metre) laid on mortar bed	192	m²	210.00	40,320
69	Waterproofing system	192	m²	80.00	15,360
	Carpet				
70	Broadloom carpet (supplied at the net value of $120 per BLM)	1,961	m²	70.00	137,270
71	Entry matwell	7	m²	500.00	3,500
72	Stair nosings	216	m	30.00	6,480
	Sheet Vinyl and Rubber				
73	Sheet vinyl with welded joints and coved edge	331	m²	80.00	26,480
74	Hydropoxy to concrete	331	m²	30.00	9,930
	Total				**239,340**
	WALL FINISHES				
	Linings				
75	13 GIB Fyreline including skirting	4,571	m²	50.00	228,550
76	13 GIB Standard including skirting	3,513	m²	35.00	122,955
77	13 GIB Aqualine including skirting	1,019	m²	40.00	40,760
78	Extra value for curved walls	33	m²	20.00	660
	Finishes				
79	Ceramic tiles (supplied at the net value of $70 per square metre)	415	m²	180.00	74,700
80	Waterproofing system	415	m²	80.00	33,200
81	Paint to plasterboard	8,688	m²	18.00	156,384
	Strapping and Insulation				

No.	Description	Quantity	Unit	Rate	Total
82	50 x 50 timber wall strapping	2,073	m²	40.00	82,920
83	Extra value for curved walls	33	m²	50.00	1,650
84	Insulation	2,073	m	25.00	51,825
	Total				**793,604**
	CEILING FINISHES				
	Linings				
85	13 GIB Fyreline	2,150	m²	45.00	96,750
86	13 GIB Standard	301	m²	35.00	10,535
	Frames and Insulation				
87	Acoustic insulation	2,451	m²	30.00	73,530
	Finishes				
88	Paint to plasterboard	2,451	m²	25.00	61,275
	Total				**242,090**
	FITTINGS AND FIXTURES				
89	Kitchen joinery		Sum		250,000
90	Bar fitout		Sum		150,000
91	Reception area		Sum		50,000
92	Staff areas		Sum		2,500
93	Wardrobe	48	No	1,000.00	48,000
94	Linen room fitout	2	No	1,500.00	3,000
95	Floor mounted vanity unit	48	No	600.00	28,800
96	Wall shelving	120	m²	400.00	48,000
97	1800 x 457 x 1800 high lockers (12No. spaces)	2	No	2,500.00	5,000
98	Autex pinboards	50	m²	80.00	4,000
	Total				**589,300**
	SANITARY PLUMBING				
99	Internal water supply including back flow prevention		Sum		20,000
100	Toilet pan and cistern complete with water and waste services	48	No	3,000.00	144,000
101	Bowl urinal complete with water and waste services	3	No	3,000.00	9,000
102	Wash hand basin complete with water and waste services	52	No	1,500.00	78,000
103	Shower fittings with tempering valve, water and waste services	48	No	2,500.00	120,000
104	Sink insert complete with water and waste services	4	No	1,500.00	6,000
105	Floor drain including trap, grate and waste connection	48	No	1,500.00	72,000
106	Cleaners sink complete with water and waste services	3	No	1,800.00	5,400
107	Hot water cylinder complete including cold water connection	10	No	5,500.00	55,000
108	Over bench boiling unit complete including cold water connection	2	No	2,500.00	5,000
109	Extra value for multi-storey vertical plumbing (per fitting)	48	No	500.00	24,000

No.	Description	Quantity	Unit	Rate	Total
110	Builders works in connection with sanitary plumbing		%	3.00	17,500
111	Allow to check and repair as required the complete drainage system		Sum		20,000
	Total				**575,900**
	HEATING AND VENTILATION SERVICES				
112	Packaged air conditioning system	2,490	m²	275.00	684,789
113	Air ventilation system	2,490	m²	125.00	311,268
114	Controls and BMS		%	12.00	120,000
115	Builders works in connection with HVAC		%	3.00	35,000
	Total				**1,151,056**
	FIRE SERVICES				
116	Automatic fire sprinkler system incorporating a manual fire alarm system and an automatic smoke/heat detection system	2,490	m²	95.00	236,563
117	Dry or wet riser	1	No	20,000.00	20,000
118	Builders works in connection with fire services		%	3.00	7,500
	Total				**264,063**
	ELECTRICAL SERVICES				
119	Main switchboard and distribution board		Sum		30,000
120	Submain and switch boards		Sum		15,000
121	Electric power and lighting	2,491	m²	180.00	448,380
122	Emergency lighting	2,491	m²	20.00	49,820
123	Electrical to Mechanical Services		Sum		25,000
124	Sensors, daylight controls and BMS		%	10.00	50,000
125	Builders works in connection with electrical		%	3.00	15,000
	Total				**633,200**
	VERTICAL AND HORIZONTAL TRANSPORTATION				
126	Passenger lift for four level building excluding shaft	1	No	120,000.00	120,000
127	Passenger lift for three level building excluding shaft	1	No	65,000.00	65,000
128	Builders works in connection with lifts		%	3.00	6,000
	Total				**191,000**
	SPECIAL SERVICES				
129	Voice and data system	2,490	m²	60.00	149,408
130	Card access security	4	No	5,000.00	20,000
131	Intruder security		Sum		30,000
132	Audio and visual infrastructure		Sum		25,000
	Total				**224,408**
	SUNDRIES				
133	Ceramic tiles on waterproofing membrane on plywood sarking to balcony	119	m²	460.00	54,740
134	Canopy	8	m²	800.00	6,400

No.	Description	Quantity	Unit	Rate	Total
	Total				**61,140**

Project : **THE HYDRO GRAND HOTEL**

Cost Plan : **STRENGTHENING100% Rev: A**

PROJECT SUMMARY

No.	Description	Quantity	Unit	Rate	Total
1	BUILDING WORKS	2,491	m²	4,749.89	11,832,000
2	CONSTRUCTION CONTINGENCY		%	10.00	1,183,000
	ASBESTOS REMOVAL (PROVISIONAL ALLOWANCE)				200,000
					13,215,000
3	BUILDING CONSENT		Sum		70,000
					13,285,000
4	CONSULTANTS' FEES		%	15.00	1,993,000
	Total				**$15,278,000**

Project : **THE HYDRO GRAND HOTEL**

Cost Plan : **STRENGTHENING100% Rev: A**

BUILDING WORKS

No.	Description	Quantity	Unit	Rate	Amount	$/m² GFA
1	SITE PREPARATION	2,491	m²	360.60	898,260	360.60
2	SUBSTRUCTURE	961	m²	452.34	434,701	174.51
3	FRAME	2,491	m²	176.13	438,728	176.13
4	STRUCTURAL WALLS	1,605	m²	750.00	1,203,750	483.24
5	UPPER FLOORS	2,180	m²	184.12	401,380	161.13
6	ROOF	830	m²	181.92	150,990	60.61
7	EXTERIOR WALLS AND EXTERIOR FINISH	1,304	m²	97.18	126,725	50.87
8	WINDOWS AND EXTERIOR DOORS	304	m²	1,291.28	392,550	157.59
9	STAIRS AND BALUSTRADES	2,491	m²	35.65	88,800	35.65
10	INTERIOR WALLS	239	m²	70.00	16,730	6.72
11	INTERIOR DOORS	177	No	1,373.16	243,050	97.57
12	FLOOR FINISHES	2,491	m²	96.08	239,340	96.08
13	WALL FINISHES	9,103	m²	87.18	793,604	318.59
14	CEILING FINISHES	2,491	m²	97.19	242,090	97.19
15	FITTINGS AND FIXTURES	2,491	m²	236.57	589,300	236.57
16	SANITARY PLUMBING	218	No	2,641.74	575,900	231.19
17	HEATING AND VENTILATION SERVICES	2,491	m²	462.09	1,151,056	462.09
18	FIRE SERVICES	2,491	m²	105.40	262,563	105.40
19	ELECTRICAL SERVICES	2,491	m²	254.20	633,200	254.20
20	VERTICAL AND HORIZONTAL TRANSPORTATION	2,491	m²	76.68	191,000	76.68
21	SPECIAL SERVICES	2,491	m²	90.09	224,408	90.09
22	SUNDRIES	2,491	m²	24.54	61,140	24.54
23	DESIGN DEVELOPMENT CONTINGENCY		%	7.50	701,945	281.79
24	PRELIMINARY & GENERAL		%	12.00	1,207,345	484.68
25	MARGIN		%	5.00	563,428	226.19
	Total				**$11,832,000**	**$4,749.90**

No.	Description	Quantity	Unit	Rate	Total
	SITE PREPARATION				
	Demolition				
1	Demolish brick chimneys and dispose off site	3	No	7,500.00	22,500
2	Remove ground floor flooring, joists and dispose off site	735	m2	75.00	55,125
3	Remove first and second floor flooring, joists and dispose off site (Say 25%)	368	m2	75.00	27,600
4	Remove three timber stairs		Sum		12,000
5	Carefully remove glazed windows and dispose off site	151	No	250.00	37,750
6	Remove roof coverings, purlins and rainwater goods and dispose off site	819	m²	45.00	36,855
7	Remove plasterboard wall linings and dispose off site	6,204	m²	25.00	155,100
8	Remove lath and plaster ceilings and dispose off site	2,451	m²	75.00	183,825
9	Remove solid plaster wall lining and dispose off site	2,073	m²	35.00	72,555
10	Remove floor coverings and dispose off site	2,180	m²	15.00	32,700
11	Remove fixtures, fittings and joinery and dispose off site		Sum		40,000
12	Remove and isolate electrical services		Sum		60,000
13	Remove and isolate plumbing services		Sum		35,000
14	Remove and isolate HVAC services		Sum		40,000
15	Remove and isolate specialist services		Sum		10,000
16	Remove attic flooring, joists and dispose off site	324	m2	75.00	24,300
17	Remove single door and frame and dispose off site	172	No	100.00	17,200
18	Remove pair of doors and frame and dispose off site	5	No	150.00	750
19	Decommision and remove lift		Sum		20,000
20	Temporary propping		Sum		15,000
21	Removal of Hazardous Materials is Excluded from this estimate		Note		
	Total				**898,260**
	SUBSTRUCTURE				
	Piling				
22	Screw piles to an average of 8m deep (4No.)	32	m	300.00	9,600
23	Piling equipment site establishment and disestablishment		Sum		10,000
24	3000 x 6000 x 600 reinforced concrete pile cap including excavation, formwork and disposal	1	no	7,380.00	7,380
	Substructure				
25	300 x 700 reinforced concrete foundation underpinning beams including formwork, excavation and disposal	471	m	475.00	223,726
	Timber Substructure				
26	150 joists on bearers including R1.8 insulation	735	m²	175.00	128,625
27	Cut back floor and connect to the new insitu concrete walls	226	m	245.00	55,370
	Total				**434,701**

No.	Description	Quantity	Unit	Rate	Total
	FRAME				
	Structural Steel				
28	100 x 10 eq angle bolt fixed to concrete wall	26,895	kg	8.50	228,608
29	M12 bolt	698	No	10.00	6,980
30	Miscellaneous steelwork to attic	2,500	kg	15.00	37,500
31	Steel support to dome		Sum		25,000
32	30min fire rated intumescent paint to steelwork		Sum		5,000
	Insitu Concrete				
33	600 x 600 reinforced (250kg/m³) concrete columns	24	m	1,000.00	24,000
34	400 x 600 reinforced (300kg/m³) concrete beams	18	m	750.00	13,500
	Structural Timber				
35	250 floor joists at 400 centres	324	m²	110.00	35,640
	Roof				
36	Replace roof framing as required (Provisional allowance)		Sum		10,000
37	Form dormer windows	7	No	7,500.00	52,500
	Total				**438,728**
	STRUCTURAL WALLS				
38	150 reinforced (150kg/m²) concrete insitu wall including formwork	1,605	m²	750.00	1,203,750
	Total				**1,203,750**
	UPPER FLOORS				
39	19 plywood diaphram to floor joists	2,180	m²	115.00	250,700
40	300 x 50 floor joists	608	m2	135.00	82,080
41	Cut back floor and connect to the new insitu concrete walls	280	m	245.00	68,600
	Total				**401,380**
	ROOF				
	Cladding				
42	0.55 Colorsteel Trimdek roofing on building paper on netting on purlins including R4.0 insulation	760	m²	130.00	98,800
43	Re-paint domed roof including minor repairs		Sum		8,000
44	Membrane roofing on R3.4 insulation on plywood sarking	70	m²	230.00	16,100
	Soffits				
45	9 Villaboard on battens to soffits	55	m²	100.00	5,500
	Rainwater Goods				
46	Spouting including fascia	139	m	90.00	12,510

No.	Description	Quantity	Unit	Rate	Total
47	100 dia downpipes	144	m	70.00	10,080
	Total				**150,990**
	EXTERIOR WALLS AND EXTERIOR FINISH				
	Cladding				
48	15 fibre cement siding on cavity system	98	m²	210.00	20,580
49	Re-pointing of existing brickwork		Sum		5,000
	Frame				
50	150 x 50 chimney/dormer framing including building paper and insulation	98	m²	120.00	11,760
51	100 x 50 wall framing including building paper and R2.6 insulation	365	m²	95.00	34,675
52	False chinmey pots	10	no	250.00	2,500
	Finishes and Insulation				
53	Make good and paint walls to balconies		Sum		10,000
54	Acrylic exterior paint including minor repairs	1,206	m²	35.00	42,210
	Total				**126,725**
	WINDOWS AND EXTERIOR DOORS				
	Exterior Windows				
55	Clear double glazed timber windows	277	m²	1,250.00	346,250
56	Extra value for arched windows	9	No	1,000.00	9,000
57	Extra value for fire rated windows	6	m2	500.00	3,000
	Exterior Doors				
58	Pair of exterior quality solid core doors including frame, hardware and finish	7	No	2,500.00	17,500
59	Single exterior quality solid core door including frame, hardware and finish	14	No	1,200.00	16,800
	Total				**392,550**
	STAIRS AND BALUSTRADES				
	Stairs				
60	Timber stair including landings and half landings to one level	7	No	10,000.00	70,000
	Handrails				
61	Timber handrail including brackets	188	m	100.00	18,800
	Total				**88,800**
	INTERIOR WALLS				
	Framing				
62	100 x 50 timber wall framing	239	m²	70.00	16,730
	Total				**16,730**
	INTERIOR DOORS				

No.	Description	Quantity	Unit	Rate	Total
	Pair of Doors				
63	Pair of solid core paint grade doors including frame, hardware and finish	4	No	1,400.00	5,600
64	Pair of proprietary FRR doors -/30/30 complete	1	No	2,300.00	2,300
	Single Doors				
65	Single solid core paint grade cavity slider including frame, hardware and finish	89	No	1,150.00	102,350
66	Single proprietary FRR door -/30/30 complete	83	No	1,600.00	132,800
	Total				**243,050**
	FLOOR FINISHES				
	Tiling and Concrete				
67	Ceramic tiles (supplied at the net value of $70 per square metre) laid on mortar bed	192	m²	210.00	40,320
68	Waterproofing system	192	m²	80.00	15,360
	Carpet				
69	Broadloom carpet (supplied at the net value of $120 per BLM)	1,961	m²	70.00	137,270
70	Entry matwell	7	m²	500.00	3,500
71	Stair nosings	216	m	30.00	6,480
	Sheet Vinyl and Rubber				
72	Sheet vinyl with welded joints and coved edge	331	m²	80.00	26,480
73	Hydropoxy to concrete	331	m²	30.00	9,930
	Total				**239,340**
	WALL FINISHES				
	Linings				
74	13 GIB Fyreline including skirting	4,571	m²	50.00	228,550
75	13 GIB Standard including skirting	3,513	m²	35.00	122,955
76	13 GIB Aqualine including skirting	1,019	m²	40.00	40,760
77	Extra value for curved walls	33	m²	20.00	660
	Finishes				
78	Ceramic tiles (supplied at the net value of $70 per square metre)	415	m²	180.00	74,700
79	Waterproofing system	415	m²	80.00	33,200
80	Paint to plasterboard	8,688	m²	18.00	156,384
	Strapping and Insulation				
81	50 x 50 timber wall strapping	2,073	m²	40.00	82,920
82	Extra value for curved walls	33	m²	50.00	1,650

No.	Description	Quantity	Unit	Rate	Total
83	Insulation	2,073	m	25.00	51,825
	Total				**793,604**
	CEILING FINISHES				
	Linings				
84	13 GIB Fyreline	2,150	m²	45.00	96,750
85	13 GIB Standard	301	m²	35.00	10,535
	Frames and Insulation				
86	Acoustic insulation	2,451	m²	30.00	73,530
	Finishes				
87	Paint to plasterboard	2,451	m²	25.00	61,275
	Total				**242,090**
	FITTINGS AND FIXTURES				
88	Kitchen joinery		Sum		250,000
89	Bar fitout		Sum		150,000
90	Reception area		Sum		50,000
91	Staff areas		Sum		2,500
92	Wardrobe	48	No	1,000.00	48,000
93	Linen room fitout	2	No	1,500.00	3,000
94	Floor mounted vanity unit	48	No	600.00	28,800
95	Wall shelving	120	m²	400.00	48,000
96	1800 x 457 x 1800 high lockers (12No. spaces)	2	No	2,500.00	5,000
97	Autex pinboards	50	m²	80.00	4,000
	Total				**589,300**
	SANITARY PLUMBING				
98	Internal water supply including back flow prevention		Sum		20,000
99	Toilet pan and cistern complete with water and waste services	48	No	3,000.00	144,000
100	Bowl urinal complete with water and waste services	3	No	3,000.00	9,000
101	Wash hand basin complete with water and waste services	52	No	1,500.00	78,000
102	Shower fittings with tempering valve, water and waste services	48	No	2,500.00	120,000
103	Sink insert complete with water and waste services	4	No	1,500.00	6,000
104	Floor drain including trap, grate and waste connection	48	No	1,500.00	72,000
105	Cleaners sink complete with water and waste services	3	No	1,800.00	5,400
106	Hot water cylinder complete including cold water connection	10	No	5,500.00	55,000
107	Over bench boiling unit complete including cold water connection	2	No	2,500.00	5,000
108	Extra value for multi-storey vertical plumbing (per fitting)	48	No	500.00	24,000
109	Builders works in connection with sanitary plumbing		%	3.00	17,500
110	Allow to check and repair as required the complete drainage system		Sum		20,000

No.	Description	Quantity	Unit	Rate	Total
	Total				**575,900**
	HEATING AND VENTILATION SERVICES				
111	Packaged air conditioning system	2,490	m²	275.00	684,789
112	Air ventilation system	2,490	m²	125.00	311,268
113	Controls and BMS		%	12.00	120,000
114	Builders works in connection with HVAC		%	3.00	35,000
	Total				**1,151,056**
	FIRE SERVICES				
115	Automatic fire sprinkler system incorporating a manual fire alarm system and an automatic smoke/heat detection system	2,490	m²	95.00	236,563
116	Dry or wet riser	1	No	20,000.00	20,000
117	Builders works in connection with fire services		%	3.00	6,000
	Total				**262,563**
	ELECTRICAL SERVICES				
118	Main switchboard and distribution board		Sum		30,000
119	Submain and switch boards		Sum		15,000
120	Electric power and lighting	2,491	m²	180.00	448,380
121	Emergency lighting	2,491	m²	20.00	49,820
122	Electrical to Mechanical Services		Sum		25,000
123	Sensors, daylight controls and BMS		%	10.00	50,000
124	Builders works in connection with electrical		%	3.00	15,000
	Total				**633,200**
	VERTICAL AND HORIZONTAL TRANSPORTATION				
125	Passenger lift for four level building excluding shaft	1	No	120,000.00	120,000
126	Passenger lift for three level building excluding shaft	1	No	65,000.00	65,000
127	Builders works in connection with lifts		%	3.00	6,000
	Total				**191,000**
	SPECIAL SERVICES				
128	Voice and data system	2,490	m²	60.00	149,408
129	Card access security	4	No	5,000.00	20,000
130	Intruder security		Sum		30,000
131	Audio and visual infrastructure		Sum		25,000
	Total				**224,408**
	SUNDRIES				
132	Ceramic tiles on waterproofing membrane on plywood sarking to balcony	119	m²	460.00	54,740
133	Canopy	8	m²	800.00	6,400
	Total				**61,140**

Appendix B

High Level Estimates

Option 1C - Primary Use Retail & Offices

Description	Quantity	Unit	Rate	Cost
Building strengthened to 100% NBS as required for change of use				$ 11,999,000
Additional work for change of use				
Additional 50% increase in steel due to change of use	14,698	kg	8.00	117,580
Design Development Contingency (8%)				9,406
Sub total				126,986
Preliminary & General (12%)				15,238
Sub total				142,225
Margin (5%)				7,111
Estimated additional cost				$ 149,336
Building Works				**$ 12,148,336**
Construction Contingency (10%)				1,214,834
Asbestos Removal (Provisional Allowance)				200,000
Sub total				13,563,170
Building Consent				70,000
Sub total				13,633,170
Professional Fees (15%)				2,044,975
Option 1C Estimated Total Cost				**$ 15,678,145**

Option 2A - Retain All Facades - Primary Use Hotel

Description	Quantity	Unit	Rate	Cost
Existing Building				
Propping and retention of exterior façades		Sum		3,575,729
Underpinning existing façade walls	122	m	475.00	57,950
Additional cost for new building work within and connecting to existing facades	2,491	m²	800.00	1,992,800
Sub total				5,626,479
Design Development Contingency (8%)				450,118
Sub total				6,076,597
Preliminary & General (15%)				911,490
Sub total				6,988,086
Margin (5%)				349,404
				$ 7,337,491
New Building Work				
Demolition work	2,491	m²	175.00	435,925
Construct new building	2,491	m²	3,100.00	7,722,100
Sub total				8,158,025
Design Development Contingency (8%)				652,642
Sub total				8,810,667
Preliminary & General (15%)				1,321,600
Sub total				10,132,267
Margin (5%)				506,613
				$ 10,638,880
Building Works				**$ 17,976,371**
Construction Contingency (10%)				1,797,637
Asbestos Removal (Provisional Allowance)				200,000
Sub total				19,974,008
Building Consent				80,000
Sub total				20,054,008
Professional Fees (15%)				3,008,101
Option 2A Estimated Total Cost				**$ 23,062,109**

Option 3A - Retain All Facades Increase Height to 20m - Primary Use Hotel

Description	Quantity	Unit	Rate	Cost
Existing Building				
Propping and retention of exterior façades		Sum		3,575,729
Underpinning existing façade walls	122	m	475.00	57,950
Additional cost for new building work within and connecting to existing facades	2,491	m²	800.00	1,992,800
Sub total				5,626,479
Design Development Contingency (8%)				450,118
Sub total				6,076,597
Preliminary & General (15%)				911,490
Sub total				6,988,086
Margin (5%)				349,404
				$ 7,337,491
New Building Work				
Demolition work	2,491	m²	175.00	435,925
Construct new building	3,891	m²	3,200.00	12,451,200
Sub total				12,887,125
Design Development Contingency (8%)				1,030,970
Sub total				13,918,095
Preliminary & General (15%)				2,087,714
Sub total				16,005,809
Margin (5%)				800,290
				$ 16,806,100
Building Works				**$ 24,143,590**
Construction Contingency (10%)				2,414,359
Asbestos Removal (Provisional Allowance)				200,000
Sub total				26,757,949
Building Consent				100,000
Sub total				26,857,949
Professional Fees (15%)				4,028,692
Option 3A Estimated Total Cost				**$ 30,886,642**

Option 2B - Retain Roadside Facades - Primary Use Retail & Offices

Description	Quantity	Unit	Rate	Cost
Existing Building				
Propping and retention of exterior façades		Sum		2,403,359
Underpinning existing façade walls	86	m	475.00	40,850
Additional cost for new building work within and connecting to existing facades	2,491	m²	800.00	1,992,800
Sub total				4,437,009
Design Development Contingency (8%)				354,961
Sub total				4,791,969
Preliminary & General (15%)				718,795
Sub total				5,510,765
Margin (5%)				275,538
				$ 5,786,303
New Building Works				
Demolition work	2,491	m²	175.00	435,925
Demolition of exterior walls	432	m²	65.00	28,080
Construct new building	2,491	m²	3,100.00	7,722,100
Sub total				8,186,105
Design Development Contingency (8%)				654,888
Sub total				8,840,993
Preliminary & General (15%)				1,326,149
Sub total				10,167,142
Margin (5%)				508,357
				$ 10,675,500
Building Works				**$ 16,461,802**
Construction Contingency (10%)				1,646,180
Asbestos Removal (Provisional Allowance)				200,000
Sub total				18,307,983
Building Consent				80,000
Sub total				18,387,983
Professional Fees (15%)				2,758,197
Option 2B Estimated Total Cost				**$ 21,146,180**

Option 3B - Retain Roadside Facades Increase Height to 20m - Primary Use Retail & Offices

Description	Quantity	Unit	Rate	Cost
Existing Building				
Propping and retention of exterior façades		Sum		2,403,359
Underpinning existing façade walls	86	m	475.00	40,850
Additional cost for new building work within and connecting to existing facades	3,891	m²	800.00	3,112,840
Sub total				5,557,049
Design Development Contingency (8%)				444,564
Sub total				6,001,612
Preliminary & General (15%)				900,242
Sub total				6,901,854
Margin (5%)				345,093
				$ 7,246,947
New Building Work				
Demolition work	2,491	m²	175.00	435,925
Demolition of exterior walls	432	m²	65.00	28,080
Construct new building	3,891	m²	3,200.00	12,451,360
Sub total				12,915,365
Design Development Contingency (8%)				1,033,229
Sub total				13,948,594
Preliminary & General (15%)				2,092,289
Sub total				16,040,883
Margin (5%)				802,044
				$ 16,842,927
Building Works				**$ 24,089,874**
Construction Contingency (10%)				2,408,987
Asbestos Removal (Provisional Allowance)				200,000
Sub total				26,698,862
Building Consent				100,000
Sub total				26,798,862
Professional Fees (15%)				4,019,829
Option 3B Estimated Total Cost				**$ 30,818,691**

Option 2C - Retain Roadside Facades - Primary Use Residential Apartments

Description	Quantity	Unit	Rate	Cost
Existing Building				
Propping and retention of exterior façades		Sum		2,403,359
Underpinning existing façade walls	86	m	475.00	40,850
Additional cost for new building work within and connecting to existing facades	2,491	m²	800.00	1,992,800
Sub total				4,437,009
Design Development Contingency (8%)				354,961
Sub total				4,791,969
Preliminary & General (15%)				718,795
Sub total				5,510,765
Margin (5%)				275,538
				$ 5,786,303
New Building Work				
Demolition work	2,491	m²	175.00	435,925
Demolition of exterior walls	432	m²	65.00	28,080
Construct new building	2,491	m²	3,100.00	7,722,100
Sub total				8,186,105
Design Development Contingency (8%)				654,888
Sub total				8,840,993
Preliminary & General (15%)				1,326,149
Sub total				10,167,142
Margin (5%)				508,357
				$ 10,675,500
Building Works				**$ 16,461,802**
Construction Contingency (10%)				1,646,180
Asbestos Removal (Provisional Allowance)				200,000
Sub total				18,307,983
Building Consent				80,000
Sub total				18,387,983
Professional Fees (15%)				2,758,197
Option 2C Estimated Total Cost				**$ 21,146,180**

Option 3C - Retain Roadside Facades Increase Height to 20m - Primary Use Residential Apartments

Description	Quantity	Unit	Rate	Cost
Existing Building				
Propping and retention of exterior façades		Sum		2,403,359
Underpinning existing façade walls	86	m	475.00	40,850
Additional cost for new building work within and connecting to existing facades	2,491	m²	800.00	1,992,800
Sub total				4,437,009
Design Development Contingency (8%)				354,961
Sub total				4,791,969
Preliminary & General (15%)				718,795
Sub total				5,510,765
Margin (5%)				275,538
				$ 5,786,303
New Building Work				
Demolition work	2,491	m²	175.00	435,925
Demolition of exterior walls	432	m²	65.00	28,080
Construct new building	3,891	m²	3,200.00	12,451,360
Sub total				12,915,365
Design Development Contingency (8%)				1,033,229
Sub total				13,948,594
Preliminary & General (15%)				2,092,289
Sub total				16,040,883
Margin (5%)				802,044
				$ 16,842,927
Building Works				**$ 22,629,230**
Construction Contingency (10%)				2,262,923
Asbestos Removal (Provisional Allowance)				200,000
Sub total				25,092,153
Building Consent				100,000
Sub total				25,192,153
Professional Fees (15%)				3,778,823
Option 3C Estimated Total Cost				**$ 28,970,976**

APPENDIX 5:

Commercial Business Assessment

Hydro Grand – Commercial Case

The commercial due diligence for this project has been completed by Darron Charity as the Development Manager for the project. Darron has over 25years of experience in the commercial construction industry including large scale project delivery in project management and project director roles. Darron has extensive project due diligence and project feasibility experience including commercial experience for various Government Agencies. As the development manager, Darron's role is to ensure the project is scoped and designed to be commercially sound and financially viable that will protect his client's investment and risk in the development.

Darron's brief to the project team was to investigate all options that could provide a commercially sound and financially viable development on the site known as the former Hydro Grand.

The existing building "Hydro Grand" has been vacant for over 10 years and is considered to be in a dilapidated and poor state of repair. Over time the building has been extensively changed in terms of its internal fit out and fabric. The Hydro Grand site is bounded by two vacant lots, one to the west and one to the south. Both vacant lots were subject to consideration and or inclusion in the redevelopment options investigated.

From the outset of technical investigations it was evident that the one condition that had to be completed before any refurbishment or rebuilding could be considered for the Hydro Grand was to address the structural issues related to the existing dilapidated structure. This was especially the case following the Christchurch earthquake sequence and heightened market awareness concerning the seismic risks inherent in older unreinforced masonry buildings. Powell Fenwick (structural engineers) were asked to develop structural schemes that would enable the existing building's structural performance to be able to achieve scenarios of 34%, 67% and up to 100% of the New Building Standard (NBS).

In parallel the Buchan Group (project architects) were asked to consider refurbishment options (refer to Buchan Group Proposed Mixed Use Development Plans) for the existing building. In essence bringing the existing building up to current building code and safety standards as well as considering the potential to reconfigure the current footplate and form of the Hydro Grand into a new working hotel. Design options also explored the option of re-establishing the original multi-gabled roof form in order to provide an additional seven hotel rooms within the attic roof space of the existing building to increase new revenue from the limited nett lettable areas.

For any scheme to be progressed the structural engineers advised that retro fitting / structural strengthening work would lead / be the precursor of any architectural refurbishment works associated with the existing building footplate. On completion of the structural investigations by Powell Fenwick, Aecom (quantity surveyors) were asked to price out the structural refurbishment options to repair and strengthen the existing building to the various NBS levels.

Preliminary pricing exercising were completed by Aecom for the structural refurbishment of a mixed use development comprising a ground floor hospitality offering with back of house functions to service a 39 bed bespoke hotel. Total Gross Floor Area (GFA) of 2,550$m^2$with a Nett Lettable floor area (NLA) of 2,050m^2 (including hotel rooms). Indicative cost results of the structural strengthening schemes, priced as follows:

Element	34% NBS	67% NBS	100% NBS
Building Works	$10,760,000	$10,954,000	$11,828,000
Construction Contingency	$1,048,000	$1,095,000	$1,183,000
Asbestos Removal	$200,000	$200,000	$200,000
Building Consents	$70,000	$70,000	$70,000
Professional Fees (15%)	$1,769,000	$1,848,000	$1,993,000
Total Estimate Costs	**$13,563,000**	**$14,167,000**	**$15,278,000**
Excl GST & escalation			
Table . 1.1			

*Refer Aecom Report for detailed pricing breakdown

Of the structural scenarios explored and costed by Aecom, the client chose the 100% NBS solution as the preferred solution if any refurbishment option was going to progress any further. This preference was selected based on providing a direct comparison against a new build replacement building which would be designed at 100% NBS. There is also a public perception and market preference post Christchurch earthquakes from both customers wishing to stay in accommodation with 100% NBS rating and in order to attract national hotel operators.

From a financial feasibility perspective the 100% NBS strengthened existing building option was financially modelled for cost and revenue return. Financial indicators demonstrated that the strengthening option was non-financial, therefore this option was not considered further. Key financial indicators where;

Cost of Construction (100% NBS) -	$15,278,000 (ex gst & escal)
Client Equity	$confidential
Mixed Use Operating Revenues (Hotel franchise)	$600,000 PA
Cap Rate at year three (Timaru market should be 7-8%)	3.62% (over capitalised)
Return on Investment (year three)	-1.75%

On completion of the structural strengthening options and financial modelling the project team embarked on exploring numerous other scenarios for possible retention of the Hydro Grand. These included (not exhaustive);

- 1c) Strengthen building to 100% NBS and allow for change of use to retail on the ground floor with commercial offices above.

- 2a) Retain the entire exterior façade, demolish the roof and interior and rebuild to match the existing building envelope with the building's primary use being Hotel.
- 3a) Retain the entire exterior façade, demolish the remaining building and rebuild to a new height of 20m with the building's primary use being Hotel.
- 2b) Retain the roadside façade, demolish the remaining building and rebuild to match the existing building envelope with the building's primary use being retail on ground floor and offices above.
- 3b) Retain the roadside façade, demolish the remaining building and rebuild to a new height of 20m with the primary use of the building being retail on the ground floor and offices above.
- 2c) Retain the roadside façade, demolish the remaining building and rebuild to match the existing building envelope with the building's primary use being residential apartments
- 3c) Retain the roadside façade, demolish the remaining building and rebuild to a new height of 20m with the primary use of the building being residential apartments.

Tables 1.2 & 1.3 below both indicate the estimated pricing models for each of the seven options. Pricing options where completed by Aecom (refer to their detailed breakdown).

Table 1.2

Element	**Option 1C**	**Option 2a**	**Option 3a**
Building Works	$12,148,000	$17,976,000	$24,144,000
Construction Contingency	$1,215,000	$1,798,000	$2,414,000
Asbestos Removal	$200,000	$200,000	$200,000
Building Consents	$70,000	$80,000	$100,000
Professional Fees (15%)	$2,045,000	$3,008,000	$4,028,000
Total Estimate Costs	**$15,678,000**	**$23,062,000**	**$30,886,000**
Excl GST & escalation			

Table 1.3

Element	**Option 2b**	**Option 3b**	**Option 2c**	**Option 3c**
Building Works	$16,462,000	$24,090,000	$16,462,000	$22,629,000
Construction Contingency	$1,462,000	$2,409,000	$1,462,000	$2,263,000
Asbestos Removal	$200,000	$200,000	$200,000	$200,000
Building Consents	$80,000	$100,000	$80,000	$100,000
Professional Fees (15%)	$2,758,000	$4,020,000	$2,758,000	$3,778,000

Total Estimate Costs	**$21,146,000**	**$30,819,000**	**$21,146,000**	**$28,970,000**
Excl GST & escalation				

*Refer Aecom Report for detailed pricing breakdown

All of the above options were run through the financial feasibility model. Based on a mix of high capital costs and in some models, low revenue projection returns across the options, none of the options explored presented a commercially sound investment or financially viable outcome to progress with in any further detail.

The project team was then tasked to define a financially viable and commercially sound option for the site. A new build replacement option, built to 100% NBS, was developed (refer to architectural design details completed by the Buchan Group as part of the resource consent application).

New build replacement option consists of retail / hospitality on the ground floor and commercial offices above (2,020m^2 NLA). Pricing metrics for this option are:

Table 1.4

Element	**Replacement Option (New)**
Building Works	$7,500,00
Construction Contingency 8% (lower rate based on less risk based on new build)	$600,000
Asbestos Removal	$200,000
Building Consents	$80,000
Professional Fees (13%)	$920,000
Total Estimate Costs	**$9,300,000**
Excl GST & escalation	

The new build option as defined in Table 1.4 provides an economic solution for the client that is both commercially sound and financially viable. Capital cost investment on this option is circa $6M less than any other option explored and provides a sustainable return on investment for the client.

Cost of Construction (100% NBS) -	$7.5M (ex gst & escal)
Client Equity	$confidential
Mixed Use Operating Revenues (Including GF F&B)	$700,000 PA
Cap Rate at year three (Timaru market should be 7-8%)	7.25% (over capitalised)
Return on equity (year four)	12.5%

Summary & Conclusions

Demolition of heritage buildings is never undertaken lightly, and the reuse of heritage buildings can be an important opportunity to add character and value to a wider development. The client has therefore fully explored options for the retention, strengthening and repurposing of the Hydro Grand. The building is currently at less than 33% NBS and therefore needs significant structural strengthening works. These works necessitate extensive internal strip-outs of partitions, fabric, and all building services need replacing. Due to the greater complexity of working within a brittle external facade, the cost of retention and strengthening is significantly higher than the costs of a new build, with the new build option also providing certainty that 100% NBS will be achieved with attendant benefits in the ease with which tenants can be secured. Unlike the large urban territorial authorities, Timaru Council does not have any large funds available for heritage grants that could bridge the significant gap between retention and new build options.

The wider development likewise does not generate sufficient profits to be able to in effect subsidize a large loss-making element. Instead any commercially plausible development of the wider site is considered likely to consist of development on the vacant land with the Hydro remaining unoccupied. The client brief has been focussed on securing a high quality urban outcome for Timaru. The client has therefore committed considerable resources towards first fully exploring retention options, and then secondly ensuring a well-designed and specified replacement group of buildings as a positive long-term contribution towards Timaru. Such development has to be commercially realistic in order for it to proceed, and unfortunately retention of the Hydro Grand is not commercially possible, as reflected in the fact that the building has sat vacant for over a decade.

APPENDIX 6:

Heritage Impact Assessment

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THE HYDRO GRAND HOTEL, TIMARU
Commentary on Potential for Redevelopment
[revised – July 2016]

Introduction

The Hydro Grand Hotel was constructed in 1912-13 to the design of the architect/engineer Herbert Hall in association with Frederick Marchant, who was (or had been) an engineer to the Timaru Harbour Board. Hall (who lived from 1880 to 1939) settled in Timaru after working for a time in Sydney as an architect. He received training in Timaru from Daniel West, and worked mainly on residential projects before the First World War.

Following his return to New Zealand from Australia, he designed numerous buildings (both domestic and public) in Timaru and surrounding districts, including the Carnegie Library at Fairlie, and St David's Church, Cave (for which he was awarded the NZIA Gold Medal). Perhaps his best known and largest project was the neo-Georgian Chateau Tongariro Hotel (1929), erected at Mount Ruapehu.

The Hydro Grand is a three-storey building in what has been described as Edwardian Baroque-style, but also owes something to the English Queen Anne style of architecture.

The triangular shape of the site has resulted in a wedge-shaped building, which celebrates the acute angle at the meeting of Stafford and Sefton Streets, with a domed turret over an open circular balcony at roof level. As originally built, the ground floor walls of the corner dining room were glazed floor to ceiling, but these were later replaced by masonry walls with the present arched window openings. An original canopy has also long since disappeared.

The Timaru Herald reported in 1912,that "*The hotel, in the construction of which every provision has been made for the comfort of tourists and other guests, is splendidly finished in the Georgian style.*" Construction was of gravity brick with rendered exterior walls. Internal ceilings of plaster on lath incorporated asbestos as a fire protection measure. Bathroom floors were finished with *Decolite.*

It was regarded as highly sophisticated for its time, with an electric elevator, freight lift, steam-drying room and hot running water. A hot salt-water bath planned for the ground floor was never completed. The splendid views over Caroline Bay made the dining room a particular attraction.

On the first and second floors, shared balconies on the east side afforded views to the sea, with oriel windows providing shelter in adverse weather. The Herald reported that "*the dining room is probably the largest in Timaru and is unique in appearance in that the walls and ceilings are finished in rough cast. There are two fire places in it, and it should prove a very attractive room while the sunny balconies along the front, completely sheltered as they are from cold southerly winds and comfortably seated, promise to prove highly popular.*"

Over time, change has been made to the building to reflect changing expectations and requirements. Various bathing amenities have been installed in some guest rooms, and the ground floor has been modified to provide a bar and a dining room. Kitchens have been modernised, and part of the top floor was converted for use as a resident manager's flat. At some stage, the roof has been altered, resulting in the loss of the gables that were a notable feature of the original building – together with its corner turret.

The building is registered under the Heritage New Zealand Pouhere Taonga Act in category II (registration number #2052). It is also listed in Category B in the Timaru District Plan in the Schedule of Heritage Buildings, Structures and Sites (Item 10, covering Lots 2-3 DP 3530). The District Plan is remarkable for the manner in which it deals with historic heritage. Demolition of scheduled buildings is a discretionary activity, yet the plan provides no assessment criteria for the exercise of that discretion.

The acquisition of adjacent land has increased the total site area, and the Applicant seeks to redevelop the expanded site to create a modern hotel and conference centre. The intention is to demolish this and build new. A concept plan has been prepared for such a development.

Previous studies have shown that the building in its present configuration and with its present level of amenity will not readily adapt to meet the needs of a modern facility. In addition, the building, while fundamentally sound, does not meet modern standards for seismic strength, and all building services require to be modernised. Figures for the cost of undertaking such remedial works have encouraged Applicant to prefer a new build option for the site.

This proposition has not been universally welcomed, and there is a body of public opinion that wishes to see the existing building refurbished and reused.

This report is an assessment of heritage values associated with the Hydro Grand. It has been undertaken by Jeremy Salmond, a Director of Salmond Reed Architects Limited, of Devonport Auckland. A site visit was made to Timaru in July 2009, during which a detailed inspection of the building was made. Plans of a prospective redevelopment of the site have been examined.

The approach has been to consider if, and how, the existing building might be adapted in such a way that it could sensibly form part of a modern hotel, having regard to those parts of the building which might be said to contribute to its value as a part of the city's heritage.

Discussion

The hotel building is now vacant, except for the inevitable colony of pigeons. As with most unused buildings, the interiors of the hotel appear dirty and there is a pronounced air of decay and deterioration. There is some evidence of water entry and a small amount of wet rot decay to timbers.

Finishes are extremely tired looking, with now-unfashionable wallpapers, carpets and furniture. Some ceilings have been treated with sprayed on "limpet" asbestos, and the public areas can only be described as seedy and uninspiring. These qualities are not intrinsic to the building itself but are a consequence of unimaginative management in the face of declining patronage and revenues – a common fate for old hotel buildings throughout the country as standards and expectations have changed rapidly in the past decade. Exterior joinery is not in good condition, and none of the exterior openings is double glazed, which is likely to be necessary (in an hotel) for sound and thermal insulation.

The layout of the interiors is that of the original hotel, which offered a different standard of accommodation to that which is now considered a minimum in a modern hotel. Rooms are small, and while some have sanitary amenities, these are of poor quality.

It is conceivable that the building could be re-planned on each level to achieve something approaching the standard of a modern hotel, but it is clear that this would require substantial reconstruction to achieve sensible room sizes, and fire and acceptable acoustic separation. It is probable that only the fabric of the floor plates would survive this process, and that the whole of the interior would have to be re-partitioned and relined. Certainly the food services and other

support amenities and all public spaces will require complete replacement to achieve a satisfactory standard.

There is a significant volume of space within the roof, which is certainly capable of being developed for accommodation - especially with the reconstruction of the original gables which have been removed.

Proposed Development

A new commercial development incorporating a conference/functions centre has been proposed for an enlarged site that includes the Hydro Grand Hotel. The project, as presently proposed, relies on replacing the existing hotel building with new construction.

I have previously proposed that consideration should be given to incorporating the existing building into a redevelopment. The perceived value of this lies in the significance of the Hydro Grand as a landmark building in central Timaru, and the fact that the building is scheduled in the District Plan and registered under the Heritage New Zealand Pouhere Taonga Act.

I have argued that it is technically practicable to upgrade the building to a sufficient standard for use as a modern hotel. In doing so, I have acknowledged that a significant level of change to the existing building would be necessary, including at least the following:

- Removal of all internal partitions (to be replaced with new sound and fire insulating materials in a new layout;
- Seismic strengthening of existing structural walls;
- Introduction of new access facilities, including stairs and lifts;
- Upgrading existing floor plates to achieve compliant fire separation ratings;
- Upgrading (or replacing) existing exterior joinery to achieve acceptable sound reduction;
- Development of the existing roof space for accommodation.

In addition, there is a quantum of work related to the present state of the building, including

- A great deal of deferred maintenance (water entry, decay and pest infestation);
- Reinstatement of original roof elements which have been removed.

I do not have particular experience in hotel design, but my knowledge of heritage buildings suggests to me that the building *could* be adapted in the manner described. I note however, that this may mean that the numbers of

rooms required commercially for the type of development proposed may not be capable of being achieved on this site.

I have sought to show how a refurbished Hydro Grand could form part of an expanded development in such a way as to benefit the commercial visibility and identity of a modern hotel operation on this site.

The applicant has undertaken an economic analysis of the cost implications of a development that retains the existing building. I understand that it cannot be demonstrated that retention of the hotel as part of this development cannot be justified economically.

Conclusions

The existing Hydro Grand Hotel building is a notable architectural feature of the Timaru business district. Although its original roof gables have been removed, it remains a distinctive building. As an hotel, however, it is a building which was planned for standards which are not those of today. The facilities and amenities of the building are wholly unsuited to modern use, and all will require renewal. In addition, décor and finishes are unacceptable.

If the building is to be able to meet modern standards of hotel accommodation and amenity, it will be necessary to comprehensively re-plan each floor to achieve adequate room sizes and operational support facilities.

If, however, it is determined that existing floor plates are not capable of reuse – whether as structure, or because of the functional programme for an hotel - this would leave only the existing external walls of the building. The result would be effective "façadism" and could not be seen as an appropriate conservation option for the building.

I reluctantly acknowledge the conclusions of the economic analysis obtained by the Applicant, which appear to demonstrate that the cost of retention of the existing building, and adapting this to meet the contemporary performance standards of a modern hotel, cannot achieve a commercial return on that investment.

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Jeremy Salmond
5 July 2016

Heritage Impact Assessment

Jeremy Salmond , QSO M.Arch FNZIA • Registered Architect

Jeremy Salmond is a practising architect who specialises in the conservation of historic buildings. He was the founding director of Salmond Reed Architects, and in 2007 was awarded the Queen's Service Order (QSO) for his contribution to the preservation of New Zealand's heritage of significant buildings.

A grandson of the well-known Dunedin architect, Louis Salmond, he was brought up in Gore and studied first in Dunedin and then Auckland. After completing a Bachelor's degree in Auckland, he worked in England and New Zealand, before resuming studies for a Master of Architecture degree, finally establishing his own Devonport practice - the forerunner of Salmond Reed Architects today.

With wide practical experience in design, research, conservation and contemporary architecture, he is one of only a few architects in New Zealand qualified by training in conservation work. He is especially interested in the application of modern building technology to resolve conservation problems, and the role of design in the conservation process.

He has direct project experience with major projects to rehabilitate and adapt important heritage buildings, including the former Auckland Jewish Synagogue, Auckland's Civic Theatre, the Pompallier Printing House in Russell, St Matthew in-the-City Church Auckland, Sacred Heart Cathedral Wellington, the former Auckland Chief Post Office and Auckland War Memorial Museum. He is currently the heritage architect for the Britomart Precinct in Auckland and the Arts Centre in Christchurch.

In addition to these projects, Jeremy has prepared many conservation plans, and heritage analyses for various territorial authorities, to identify significant regional historic heritage and to assist in the development of regulatory and protective mechanisms in district plans. Jeremy regularly appears as expert witness at resource consent hearings and in the Environment Court, and speaks at conferences and to special interest groups in the conservation field.

His thesis for his Master of Architecture degree in 1982 was subsequently published as: **Old New Zealand Houses: 1800-1940**. This landmark publication is now in its 8th edition and he continues to write extensively on heritage conservation and to contribute essays to various professional publications. In 2010 he co-wrote **Villa: from Heritage to Contemporary.**

He is a member of Heritage New Zealand, the NZ Professional Conservators' Group, the Association for Preservation Technology International and the NZ Institute of Architects. He is a former Chairman of ICOMOS NZ and is currently an alternate member of the Auckland Council Urban Design Panel. In 1991 he was elected a Fellow of the New Zealand Institute of Architects for his "*outstanding contribution to the conservation of historic buildings*", and in 2002 he was elected as a Fellow of the Auckland Museum, for his contribution to the practice of building conservation in New Zealand.

APPENDIX 7:

Transport Assessment

Bay Hill Developments

The Bay Hill

Transportation Assessment Report

July 2016

TDG Ref: 13555 160711 bay hill ta rep.docx

Bay Hill Developments

The Bay Hill

Transportation Assessment Report

Quality Assurance Statement

Prepared by:

Chris Rossiter

Principal Transportation Engineer

Reviewed by:

Andrew Metherell

Senior Associate

Approved for Issue by:

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Status: Final report

Date: 11 July 2016

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Executive Summary

Bay Hill Developments proposes to construct a mixed use development on The Bay Hill overlooking Caroline Bay in Timaru. The development will replace the existing buildings which will be demolished. The site forms part of the Timaru Commercial 1A zone and has frontage to the local road The Bay Hill along its north-eastern boundary and to State Highway 78 (SH78) Sefton Street on its southern boundary. The land to the north of the site includes food and beverage activities, visitor accommodation and public car parking. The development proposal includes two buildings with frontage to The Bay Hill that will provide general retail, food and beverage outlets at ground level with offices and apartments at higher levels. A third building on Sefton Street will provide parking facilities for the development and hotel rooms.

The proposed mixed use development will create a combination of travel patterns. The residential apartments will predominantly generate outbound movements in the morning peak period with return movements occurring during the evening. The office building will generate inbound vehicle movements in the morning peak period and outbound movements in the evening. The directionality of other activities will generally be balanced throughout the day. The food and beverage facilities would be expected to have a peak in traffic generation during the lunchtime period and also during the early evening. Overall, the busiest traffic generating period for the site is expected to be during the evening commuter period as residents return from work, office employees depart and there is a generally high level of movement associated with the cafes, bars and restaurants.

Sefton Street has been constructed with one eastbound lane and two westbound lanes with parking permitted on a short section of the eastbound carriageway. The proposed development will include an access on Sefton Street to the car park building replacing the existing car park access. Since Sefton Street is a strategically important road and more than five right turn movements per hour are expected at the new access at peak times, it is proposed that a flush median strip is created on Sefton Street so that any right-turning vehicles can stop safely clear of through traffic.

The assessment of the additional traffic movements on the signalised intersections at each end of Sefton Street indicates that the proposed development will have no noticeable effect on the intersections' performance. It is expected that both intersections will continue to operate with a high level of service, LOS B.

The assessment of the proposal against the District Plan transport rules has concluded that the proposal shows a high level of compliance. There are some minor technical non-complying matters that will not give rise to any safety concerns. The most significant matter is the shortfall in on-site parking relative to the number of parks required by the District Plan.

The analysis of parking demands indicates that the car parking building will have sufficient capacity to meet the parking requirements of residents and some of the parking demands for the other activities. However, there will be an overflow demand for 40-50 spaces at peak times. It has been concluded that this demand can be met within the nearby public parking facilities. In particular, the demand will increase usage of the Bay Hill car parks which is currently under-utilised.

Overall, it has been concluded that the proposal can be supported from a transport perspective.

1. Introduction

Bay Hill Developments proposes to construct a mixed use development on The Bay Hill, a local road overlooking Caroline Bay in Timaru. This will replace the existing Hydro Grand building on the site which will be demolished. The development will include two buildings providing retail, food and beverage activity at ground level with offices and apartments at higher levels. A third building will provide parking facilities for the development and hotel accommodation.

This report provides a description of the existing transport environment surrounding the site and a description of the transport related components of the proposal. This is followed by an assessment of the expected traffic generation and traffic effects of the development.

2. Existing Transport Environment

2.1 Site Location

The development site is located at the eastern end of The Bay Hill in Timaru as shown in **Figure 1** and at the northern end of the Timaru Central Business District which is located within the Timaru Commercial 1A zone shown in **Figure 2**.

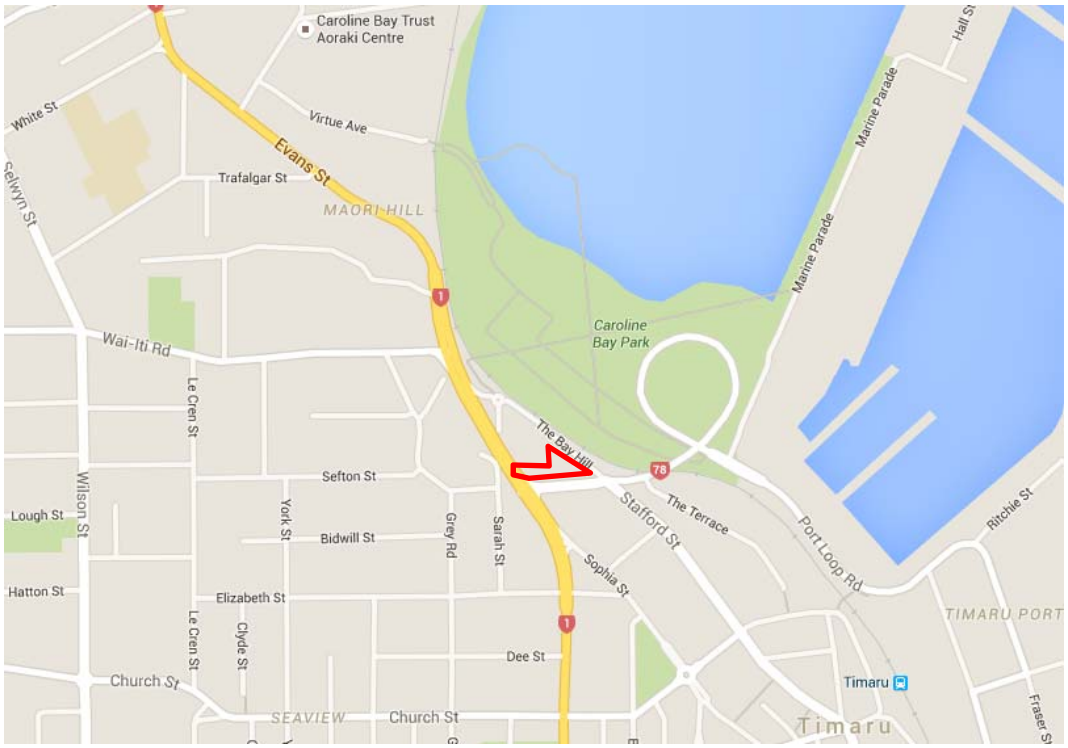


Figure 1: Site Location

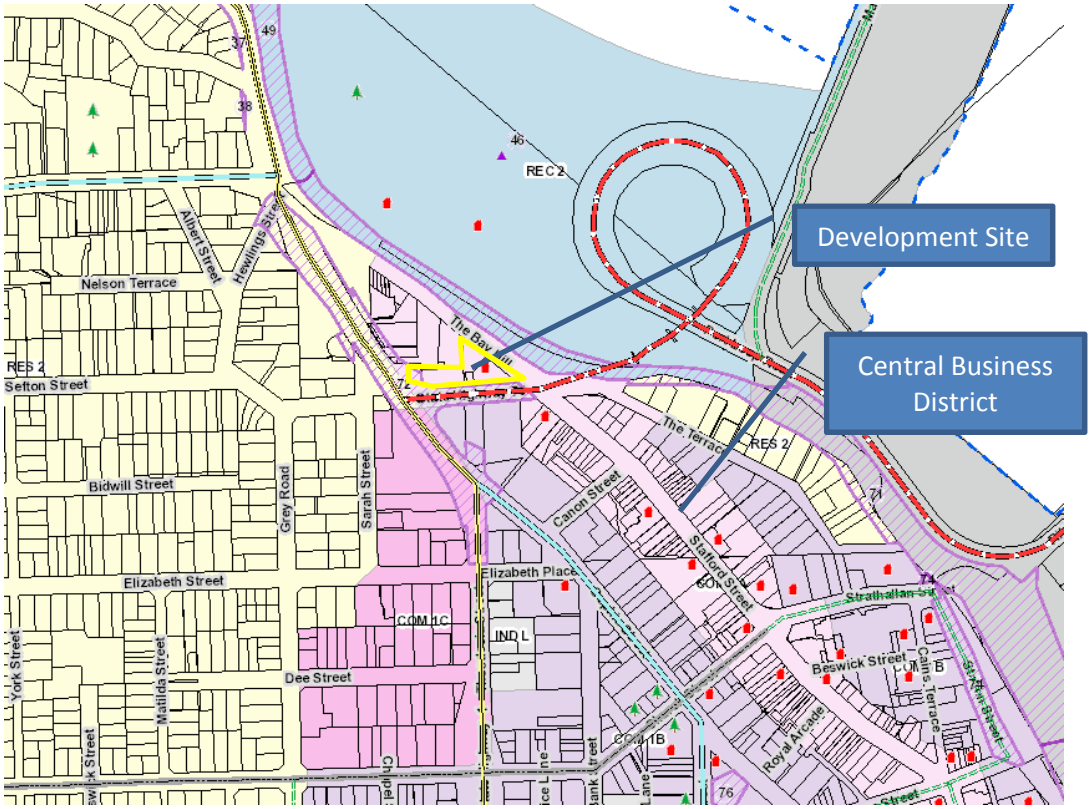


Figure 2: District Plan Zoning

The site has frontage to The Bay Hill along its north-eastern boundary and to Sefton Street on its southern boundary. The land to the north of the site includes bars, a café, restaurant, visitor accommodation and public car parking.

Figure 3: Site Aerial

2.2 Road Network

State Highway 1 (SH1) forms the main strategic road through Timaru and provides a connection to Christchurch to the north and Dunedin to the south. To the west of the site, SH1 Theodosia Street has been constructed as a four lane divided carriageway with a speed limit of 50km/h.

Sefton Street along the southern boundary of the site forms part of State Highway 78 (SH78) which provides access to the Port of Timaru via Port Loop Road. Sefton Street meets Theodosia Street at a signalised intersection. There are left turn slip lanes on the Sefton Street approach and on the northern approach to the intersection. The lane markings and islands on the Sefton Street approach have been upgraded recently to enable dual right turn movements. The signals operate with three phases so that right turn movements are fully protected and not opposed by any through movements.

Photograph 1: Sefton Street Approach to SH1 Theodosia Street

Sefton Street becomes Port Loop Road east of its intersection with The Bay Hill and Stafford Street. Stafford Street provides access to the central business district in Timaru. The Sefton Street / The Bay Hill / Port Loop Road / Stafford Street intersection is controlled by signals that operate with three phases which provide a separate phase for right turns from Sefton Street.

Sefton Street has been constructed with a 13m wide carriageway that provides a single traffic lane towards the port and two traffic lanes towards SH1. Parking is permitted on the northern side of the road over a distance of about 20m.

Photograph 2: On-street Car Parking on the Northern Side of Sefton Street

There are two driveways on Sefton Street about 40m east of the Theodosia Street signals that provide access to car sales yards.

Photograph 3: Car Sales Yard North of Sefton Street

The Bay Hill is classified as a local road and has been constructed to promote a low speed traffic environment with a narrow carriageway, parking on both sides of the road, wide footpaths and a 30km/h speed limit. There is a shallow ramp at the entry to The Bay Hill from Sefton Street that leads to a raised platform that reinforces the need for low vehicle speeds.

Photograph 4: Ramp and Raised Platform on The Bay Hill

Photograph 5: The Bay Hill – View North

Photograph 6: The Bay Hill – View North

There are 33 on-street parking spaces on The Bay Hill with a mix of right angle and parallel parking space configurations. Spaces on the western side of the road have a 30 minute parking restriction while spaces on the eastern side of the road have a 120 minute parking restriction.

The northern end of The Bay Hill can be accessed from Theodosia Street via a one-way road that leads to a small roundabout with a connection to two small public car parks with a total capacity of 56 spaces. The entry from SH1 includes a road hump to encourage drivers to reduce their speed.

Photograph 7: Roundabout at Northern End of The Bay Hill – View South

The northern car park includes 21 right angle parking spaces with a P120 restriction. The southern car park is accessed via a short lane and includes 35 public spaces with 15 spaces marked as privately leased and 17 spaces allowing all day parking.

Photograph 8: Northern Car Parking Area at Midday

2.3 Public Transport Network

Figure 4 shows public transport service routes in the vicinity of the site. The Timaru Link service connects the central business district with the outer suburbs. It includes clockwise and anti-clockwise routes that have bus stops on Theodosia Street west of the site.

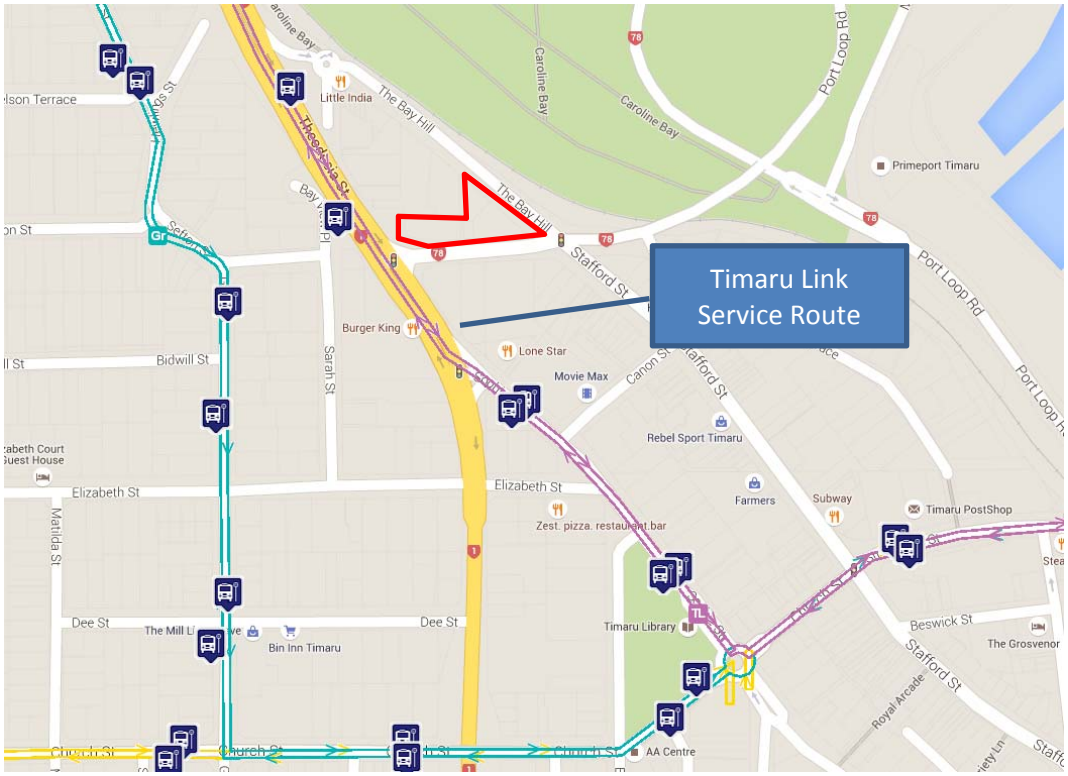


Figure 4: Public Transport Services

The bus stop for the anti-clockwise service is located about 20m north of the Sefton Street / Theodosia Street intersection. The stop has no seating or shelter. The clockwise service has a bus stop south of the Theodosia Street / The Bay Hill intersection.

Photograph 9: Bus Stop on Theodosia Street

The Timaru Link service operates at 40 minute intervals between 7:00am and 7:00pm during the week and from 10:00am to 5:00pm on Saturdays.

2.4 Pedestrian and Cycle Facilities

There are footpaths on both sides of Sefton Street and The Bay Hill. Signalised crossing facilities are provided at the signals at each end of Sefton Street so that pedestrians can safely cross SH1 and SH78.

There are no specific cycling facilities in the area and cyclists have to share the carriageways with motor vehicles.

3. Existing Traffic Patterns

3.1 Traffic Volumes

Table 1 shows the average daily traffic volumes recorded by NZTA on the state highway network within the vicinity of the site. The highest traffic volumes were recorded on SH1 north of Sefton Street. Over the five year period 2011-15, traffic volumes have been increasing at less than 1% per annum on SH1. Traffic growth on SH78 has been higher at about 4% per annum.

Year	SH1-Theodosia St Nth Sefton St	SH1-Theodosia St Church Rd Underpass	SH78-Port Loop Rd Nth Marine Parade
2011	23,000	13,600	2,800
2012	22,700	13,600	2,700
2013	22,500	13,500	3,000
2014	23,400	13,800	3,000
2015	23,600	14,000	3,300

Table 1: State Highway Annual Average Daily Traffic Volumes

3.2 Intersection Turn Counts

Traffic volumes at the signalised intersections at each end of Sefton Street were recorded on 10 December during the evening peak period**.** **Figure 5** shows the turn count volumes recorded during the survey for the peak hour, 4:15pm-5:15pm. It shows that on Sefton Street, the highest volume movement was from Port Loop Road to SH1 northbound. There are also high volume movements between Sefton Street and Stafford Street.

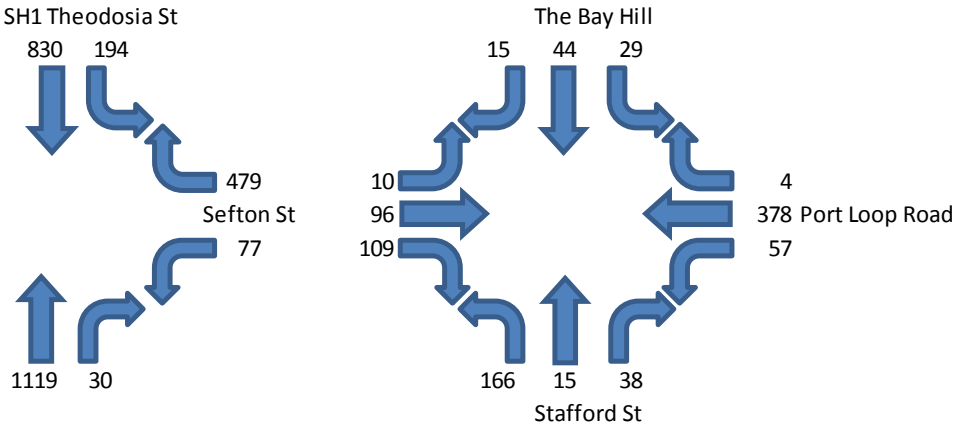


Figure 5: Survey Results – Evening Peak Hour

The two-way traffic volume on Sefton Street was about 800 vehicles per hour during the peak hour of the survey. The traffic volume on The Bay Hill was about 120vph with about 90vph travelling south.

Typically the peak hour traffic volume represents about ten percent of the average daily traffic volume. On this basis, Sefton Street carries about 8,000 vehicles per day and The Bay Hill carries about 1,200 vehicles per day. These volumes are consistent with the function of each road.

The existing performance of the signalised intersections has been assessed using SIDRA intersection analysis software. This suggests that both intersections operate with a good level of service, LOS B, during the evening peak period with all movements operating at LOS C or better.

3.3 Parking Demands

An occupancy survey of the two public car parking areas to the east of Theodosia Road was undertaken on Wednesday 9 December. The survey recorded occupancy of the 56 parking spaces including the 14 which were marked as leased spaces.

The duration of stay in the parking spaces ranged from 15 minutes to over four hours with an average of one hour.

Figure 6 shows the number of occupied spaces (excluding leased spaces) recorded between midday and 6pm. It shows a lunch-time peak occupancy of 16 spaces (40% occupancy), a low of one space occupied and occupancy rising during the evening peak.

The parking occupancy rates during a subsequent visit in February 2016 showed a much lower level of parking demand at lunchtime with one leased space being occupied, three long stay spaces being occupied and only one short stay space being occupied.

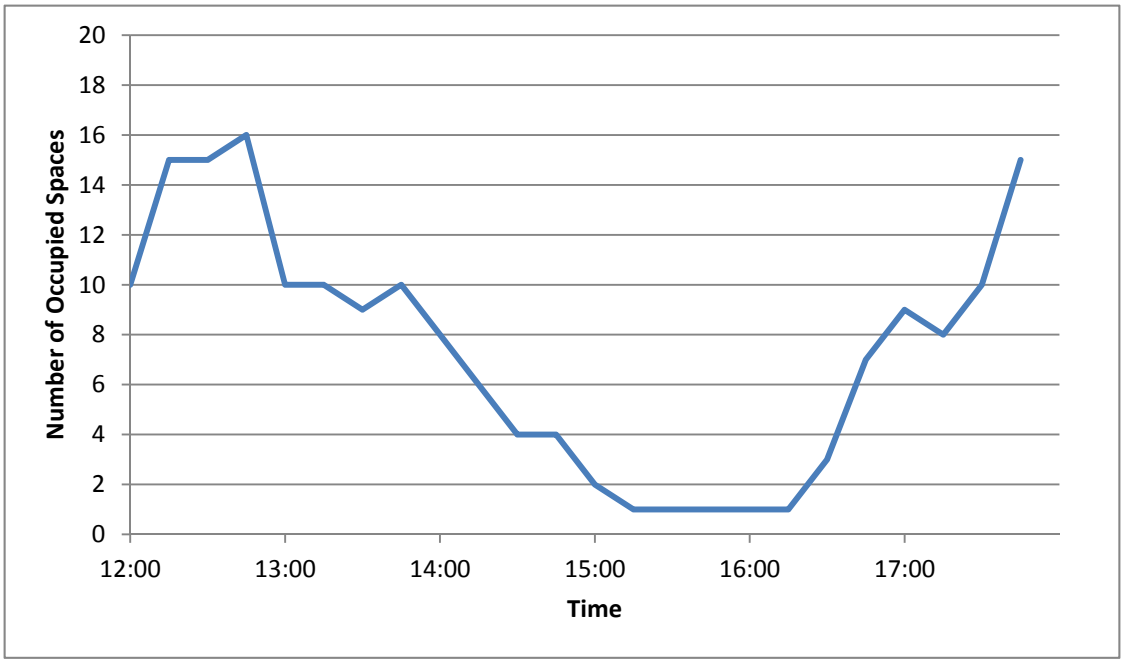


Figure 6: Number of Occupied Spaces (15 minute intervals) – Excluding Leased Parking Spaces

3.4 Road Safety

Figure 7 shows crash locations in the vicinity of the site that have been reported in the five year period 2011-2015. Three crashes have been reported at The Bay Hill / Stafford Street / SH78 intersection and eight crashes at the SH1 / SH78 intersection. There were 13 crashes reported at the SH1 / Wai-iti Road intersection north of The Bay Hill.

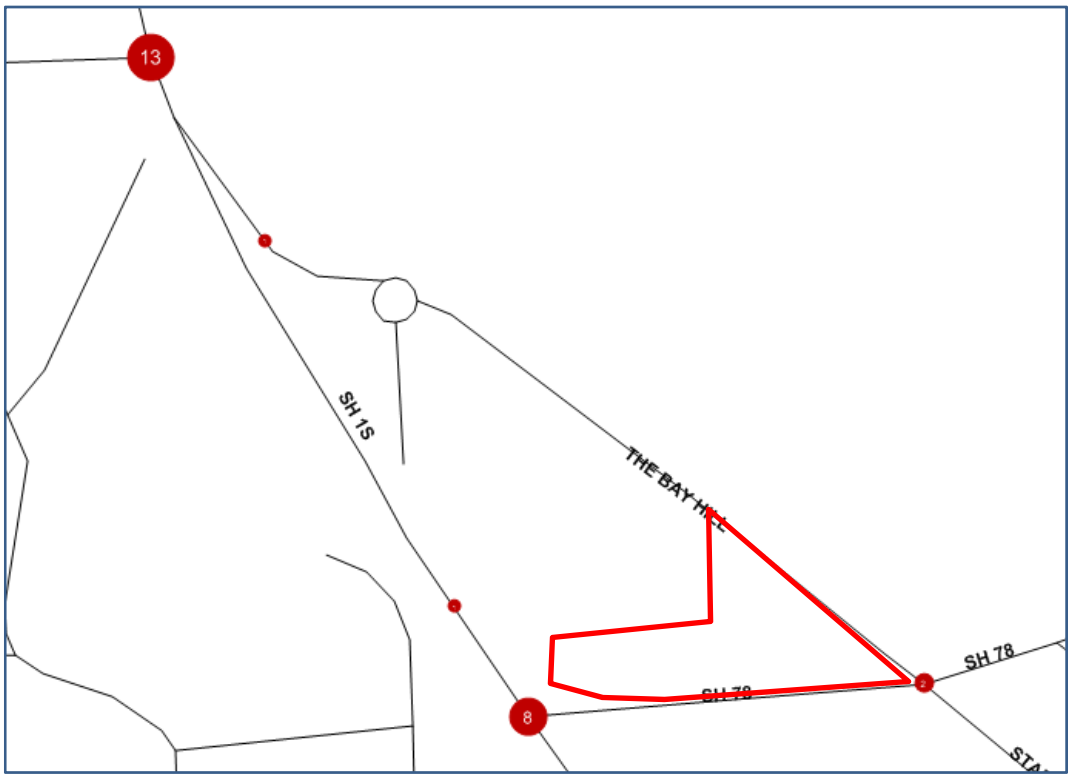


Figure 7: Crash Cluster Map (2011-2015)

There were no serious injuries reported with any of the crashes. One minor injury crash was reported at the SH1 / Sefton Street signalised intersection when a driver on Sefton Street approached the intersection too quickly and lost control turning right. Another minor injury crash occurred at the SH78 / Stafford Street / The Bay Hill intersection when a vehicle turning right from Sefton Street was hit by a westbound vehicle.

There were no crashes along the site frontage to The Bay Hill or Sefton Street. With the reported crashes being typical of signalised intersections and no particular crash patterns occurring, this review of road safety has not identified any specific road safety concerns with the road network surrounding the site.

4. Proposed Development

4.1 Site Layout

The proposed development comprises three buildings; an office block, an apartment block, and a parking building and hotel. **Figure 8** shows building 1 located in the south-eastern corner of site and will accommodate office activity above the ground floor. Building 2 is located at the centre of the site and will include residential apartments above the ground floor. The two buildings will be linked at the ground and mezzanine levels to accommodate a mix of retail, food and beverage activity. Building 3 is located at the western end of the site and has frontage to Sefton Road only. It will provide parking for the development on three levels including the basement and a hotel above.

The following table provides a breakdown of the proposal by activity.

Activity	Quantity
General Retail	400m^2 GFA
Food and Beverage	417m^2 GFA
Office	1,344m^2 GFA
Hotel	68 rooms
Residential	32 apartments

Table 2: Development Proposal Quantities

4.2 Site Access

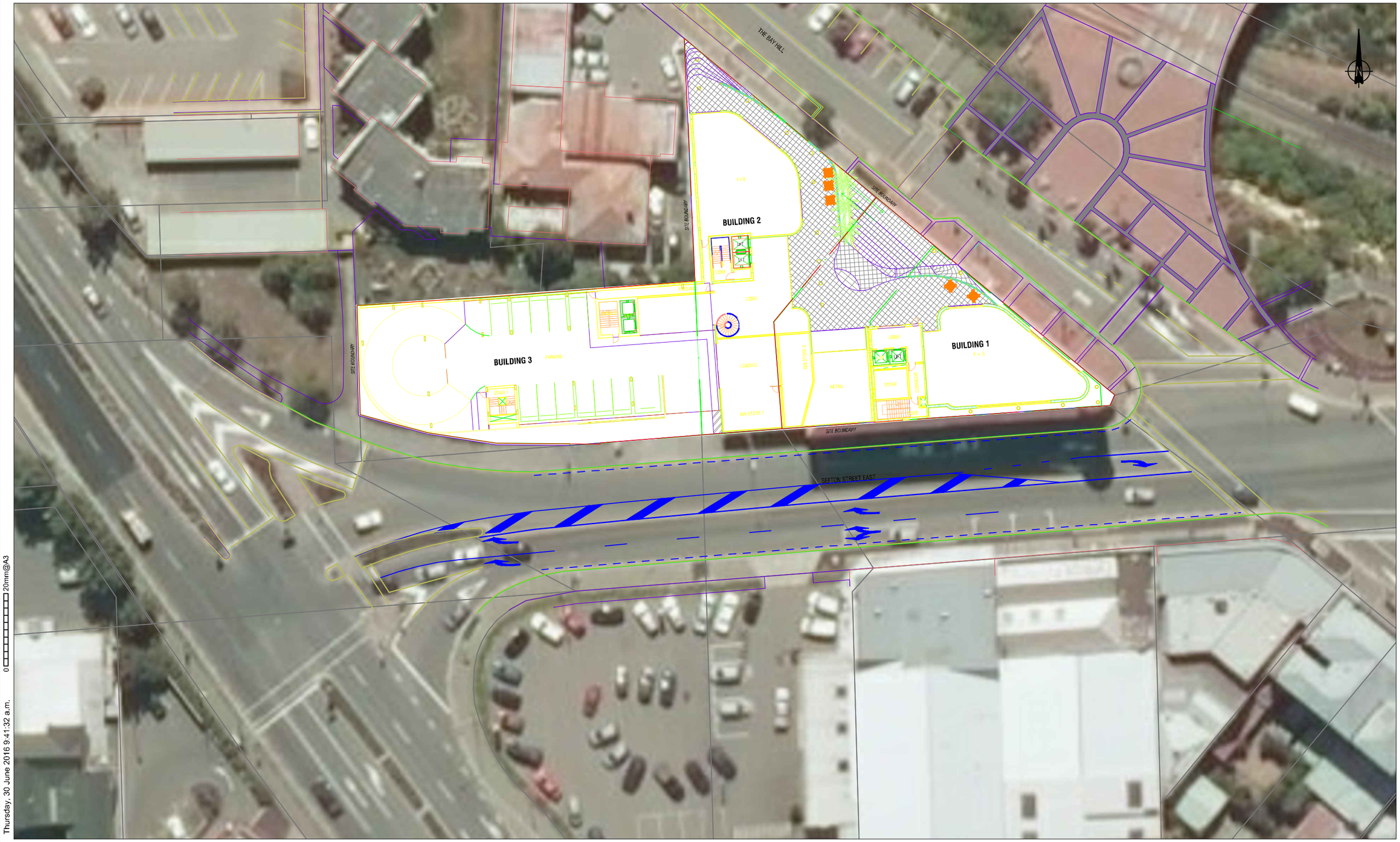
The main pedestrian access to the site will be from The Bay Hill to a plaza leading to entrances to buildings 1 and 2. A central ground floor lobby area will provide pedestrian access to the parking building and hotel.

The only vehicle access to the site will be from Sefton Street about midway between Theodosia Street and Stafford Street. This access is about 7m wide to allow for two way movement and will be used by both private vehicles and by service vehicles.

4.3 Parking

Building 3 will provide parking over three levels; basement, ground floor and first floor. A single lane circular ramp will link each parking level with access to the ramp being controlled by signals. The basement level will provide 32 parking spaces configured as 2.5m wide right angle bays either side of a single parking aisle. The ground floor and first floor provide a further 31 spaces across these two levels. All spaces will have a marked depth of 5m. The aisle width behind the spaces generally exceeds 6.2m. There are three spaces by the driveway where reverse entry parking will be required.

At this stage, no decisions have been made on how the parking spaces will be managed but it is anticipated that the majority of spaces will be allocated so that car park users do not have to search for a space.



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BAY HILL DEVELOPMENT

GROUND FLOOR AND ROADS

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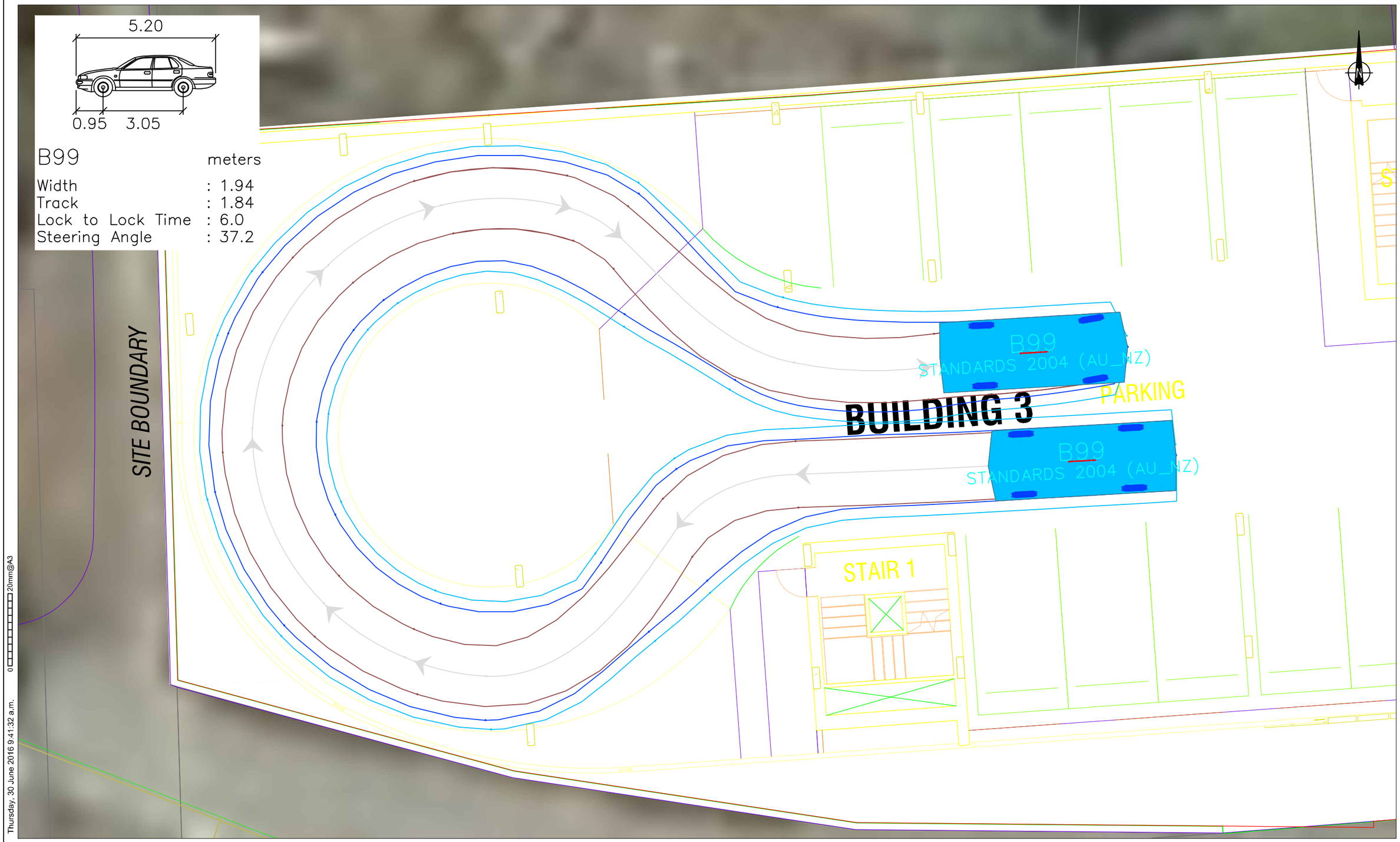

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BAY HILL DEVELOPMENT

RAMP MOVEMENTS

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4.4 Servicing

The site layout includes a loading dock at ground level that is accessed from the driveway to Sefton Street. The loading dock dimensions are sufficient to allow a medium sized rigid truck to stop clear of any car park traffic.

Trucks using the loading dock will enter and depart from the site in a forward direction. The site access leads to a manoeuvring area which is sufficient for the truck to reverse into the loading dock. On departure, the truck would need to execute another reverse manoeuvre to align itself with the exit lane. The entry and exit manoeuvres are shown in **Figure 10**.

MEDIUM RIGID TRUCK
meters

Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 37.3

BUILDING 3

PARKING

STAIR 1

STAIR 2

PASSAGE

CORE

LIFT

LIFT

LOBBY

LOADING

BIN STORE 1

BIN STORE 3

RETAIL

LOBBY

LIFT

LIFT

STORE

CORRIDOR

CORE

SITE BOUNDARY

SEFTON STREET EAST

MEDIUM RIGID TRUCK
RTS 18 (NZ)

MEDIUM RIGID TRUCK
RTS 18 (NZ)

MEDIUM RIGID TRUCK
RTS 18 (NZ)

MEDIUM RIGID TRUCK
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BAY HILL DEVELOPMENT

LOADING DOCK ACCESS

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5. Traffic Generation and Movement Patterns

5.1 Expected Traffic Generation and Movement Patterns

The mixed use development being proposed will have three distinct sources of traffic generation.

The traffic generation rate of residential activity is dependent upon the location and type of the dwelling but is typically in the range of 8-10 vehicle movements per day (vpd) per unit on average. Inner city apartments will normally be at or below the lower end of this range because residents can use travel modes other than a private vehicle to travel to or from their workplace. While Timaru is not a large city, it is considered likely that the average daily traffic generation for the proposed apartments will also be relatively low and a rate of 8vpd per unit has been adopted.

The typical peak hour in the morning will be 8:00am to 9:00am with a peak hour generation of 0.8 vehicle movements per hour (vph) per unit. In the morning, about 85% of all residential vehicle movements will be away from the site. In the evening peak hour, 5:00pm to 6:00pm, 65% of all movements are expected to be into the site. Again, a peak hour generation of about 0.8vph per unit is expected.

Hotels can have a relatively high traffic generation rate per occupied room compared with residential development because visitor travel typically involves taxis. For the purposes of this assessment, a peak hour traffic generation rate of 1.2vph per room has been adopted which is consistent with the 85 percentile rate in the NZTA Research Report 453 "Trips and Parking Related to Land Use".

The office activity in building 1 is expected to have daily traffic generation of about 26vpd per 100m^2 GFA and a peak hour traffic generation of about 2.5vph per 100m^2 GFA[1]. During the morning peak period, about 80% of all vehicle movements are expected to be towards the site. This directionality will reverse during the evening peak.

The mixed use activities anticipated at ground level will generally have a very low traffic generation during the morning commuter peak with vehicle movements being dominated by employee travel rather than customers. The food and beverage activity will generate peak travel demands of about 10vph per 100m^2 GFA during the lunchtime period and also in the early evening. The retail activity will generally rise during the morning to a mid-afternoon peak and then fall through the late afternoon.

The following table provides a summary of the total traffic generation and movement patterns in relation to the site during the morning and evening peak periods.

[1] NZTA Research Report 453 Trips and Parking Related to Land Use

ACTIVITY	QUANTITY	AM		PM	
		Outbound	Inbound	Outbound	Inbound
Apartments	32	21	5	9	17
Hotel	62	49	32	33	48
Office	1,300m^2	5	28	26	7
Food and Beverage	400m^2	0	4	20	20
General Retail	420m^2	0	4	21	21
Total		75	73	109	113

Table 3: Expected Traffic Generation and Movement Patterns

Since the parking building will not meet the parking demands for all of the proposed activities and the hotel activity will involve taxis, the development traffic generation will be split between the parking building and the car parks off The Bay Hill. All vehicle movements associated with the food and beverage activity are expected to occur on The Bay Hill. **Table 4** shows the expected traffic movements at the parking building entrance and on The Bay Hill.

ACTIVITY	AM		PM	
	Outbound	Inbound	Outbound	Inbound
Parking Building	44	35	42	37
The Bay Hill	31	38	72	71

Table 4: Expected Traffic Generation and Movement Patterns

6. Parking

6.1 Expected Parking Demands

Since the peak parking demand periods for the activities proposed within the mixed use development are not expected to coincide, there will be some scope for complementary use of parking facilities. In order to investigate the total parking demands for the development, a parking demand model has been created that takes into account the variation in demands across the day.

The expected parking demands of the mixed use development have been modelled using demand profile information derived from the ITE Parking Generation manual. **Figure 11** shows that the different activities anticipated will generate peak demands at different times of the day. It shows residential and hotel parking demands being low during the day but rising in the evening. Office parking demands rise in the early morning and remain high during the day before falling in the evening. Retail parking demands will typically rise through the morning to a midday peak and fall in the afternoon whereas food and beverage activity exhibits multiple peaks during the day.

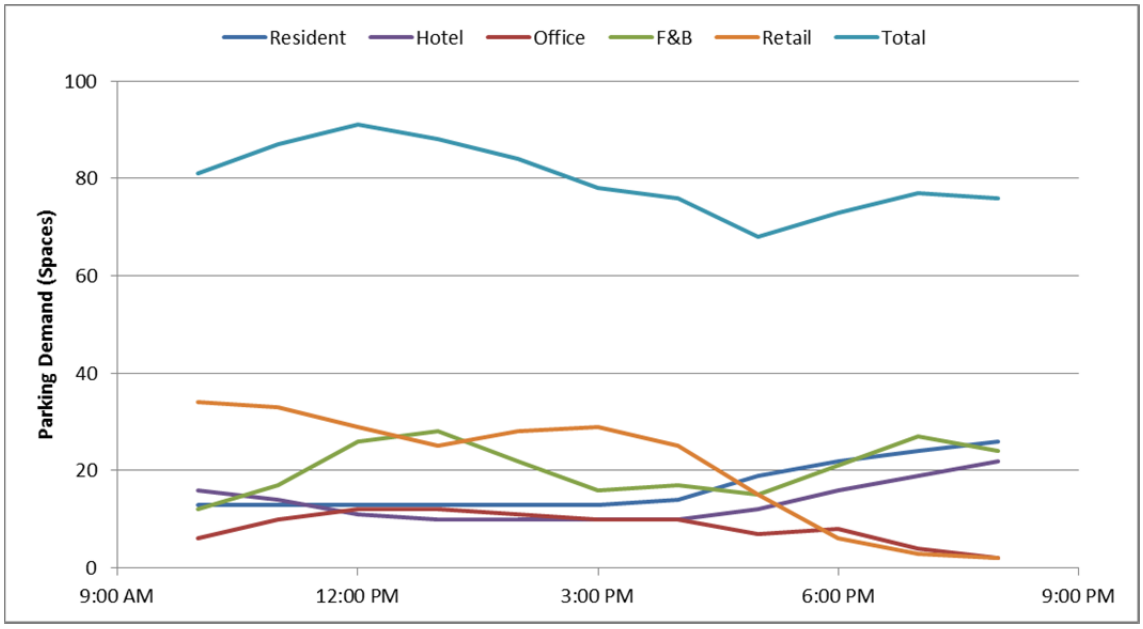


Figure 11: Expected Variation in Parking Demands (Weekday)

Figure 12 shows the expected cumulative parking demands across the day. The peak parking demand period is expected to occur during the middle of the day because of the high parking demands associated with food and beverage activity which coincides with the peak parking demands for the office and also high parking demands for retail activity. The overall parking demands are expected to fall during the afternoon and then rise again in the evening as residential and hotel parking demands increase. Overall, the model indicates that the peak parking demand could be for about 90 spaces including residential parking spaces.

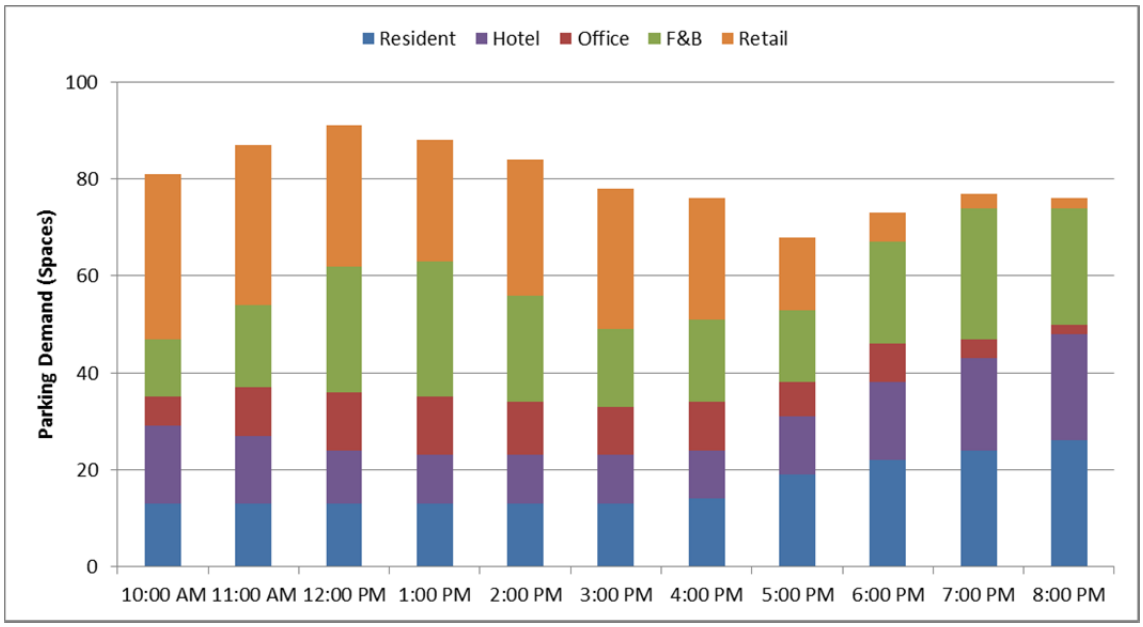


Figure 12: Expected Variation in Parking Demands by Activity (weekday)

6.2 Parking Demand Distribution

It is understood that parking spaces will be provided for all residential units with the balance of parking being shared by the hotel, office and other activities. Since the balance of parking demands will exceed the capacity of the car park, there will be increased parking demands for spaces in The Bay Hill car parks and elsewhere in the vicinity.

Since the Bay Hill car parks are currently under-utilised, it would be expected that these will attract the majority of the increased parking demand.

7. Expected Transport Effects

7.1 State Highways

Sefton Street currently includes driveways to two motor vehicle sales yards, one on the northern side of the road and one on the southern side of the road. Under the proposed development, the sales yard on the northern side of Sefton Street will be replaced by a parking building with the access being moved to the east of the current driveway. In order to maximise safety for vehicles turning right into the parking building, it is proposed that a 2.5m wide flush median strip is created on Sefton Street. This can be achieved by removing the on-street parking (two spaces) on the northern side of the road. This treatment will still provide a 4.5m wide eastbound traffic lane and two approach lanes at the Stafford Street signals. The median will also allow vehicles accessing the sales yard car park on the south side of the road to stop clear of through traffic. It is considered that this treatment is consistent with protecting the strategic function of Sefton Street.

SIDRA has been used to investigate the effects of the additional traffic generated by the development on the signals at each end of Sefton Street. The analysis indicates that the signals will continue to provide a high level of service, LOS B, even allowing for a twenty percent growth in through traffic on SH78 Sefton Street which is representative of five to ten years of annual growth.

The forecast 95 percentile queue length for the right turn bay from Sefton Street into Stafford Street is about 10m. This will not create a conflict with vehicles that use the median to turn right into the car park building because the forecast delay for the turning movement is less than ten seconds and no queuing is expected.

7.2 Local Road Network

The proposed development will increase parking demands in the area. Since the two existing car parks on The Bay Hill are currently under-utilised, it is expected that these will be used by employees and visitors to the new development. This will increase the volume of traffic on The Bay Hill.

The office related vehicle movements will be predominantly associated with employee travel and will generally occur during the commuter peak periods. The volume of movements will be dependent upon the total number of employees that choose to drive to work and the number of spaces allocated to the office activity within the parking building. In practice, it is expected that the office activity could generate up to 20 vehicle movements during the morning peak period on The Bay Hill and a similar number in the evening.

The retail, food and beverage activities would not be expected to generate a high volume of vehicle movements during the morning commuter peak period but would have peaks during the lunchtime period and early evening. Based on typical traffic generation rates for these types of activity, the activities could generate 70-80vph during peak periods. This represents an extra one to two vehicles per minute on The Bay Hill. In practice however, it is expected that the actual traffic volumes will be lower than this because the site location close to the town centre and to Caroline Bay Park will make walking a realistic travel option.

7.3 Parking

It is understood that all residential units will be provided with a parking space and on this basis, the residential parking requirements are not expected to generate any off-site parking demands.

The balance of available parking will be shared between the hotel, office, food and beverage activities. At this stage, a specific allocation of parking has not been agreed. The combined parking demands of these activities will exceed the 30 remaining spaces within the building. Although there will be some scope for complementary use of the parking spaces because the peak parking demands for these activities will not coincide, there will be an overflow demand for parking in the surrounding area.

Apart from the two car parks on The Bay Hill, there is also an off-street public car park on The Terrace within 200m of the site that will have some capacity to meet the expected demands for these activities. Based on the parking occupancy survey at the Bay Hill car parks, these car parks will have sufficient capacity to meet the overflow demands of the proposed activities.

7.4 Road Safety

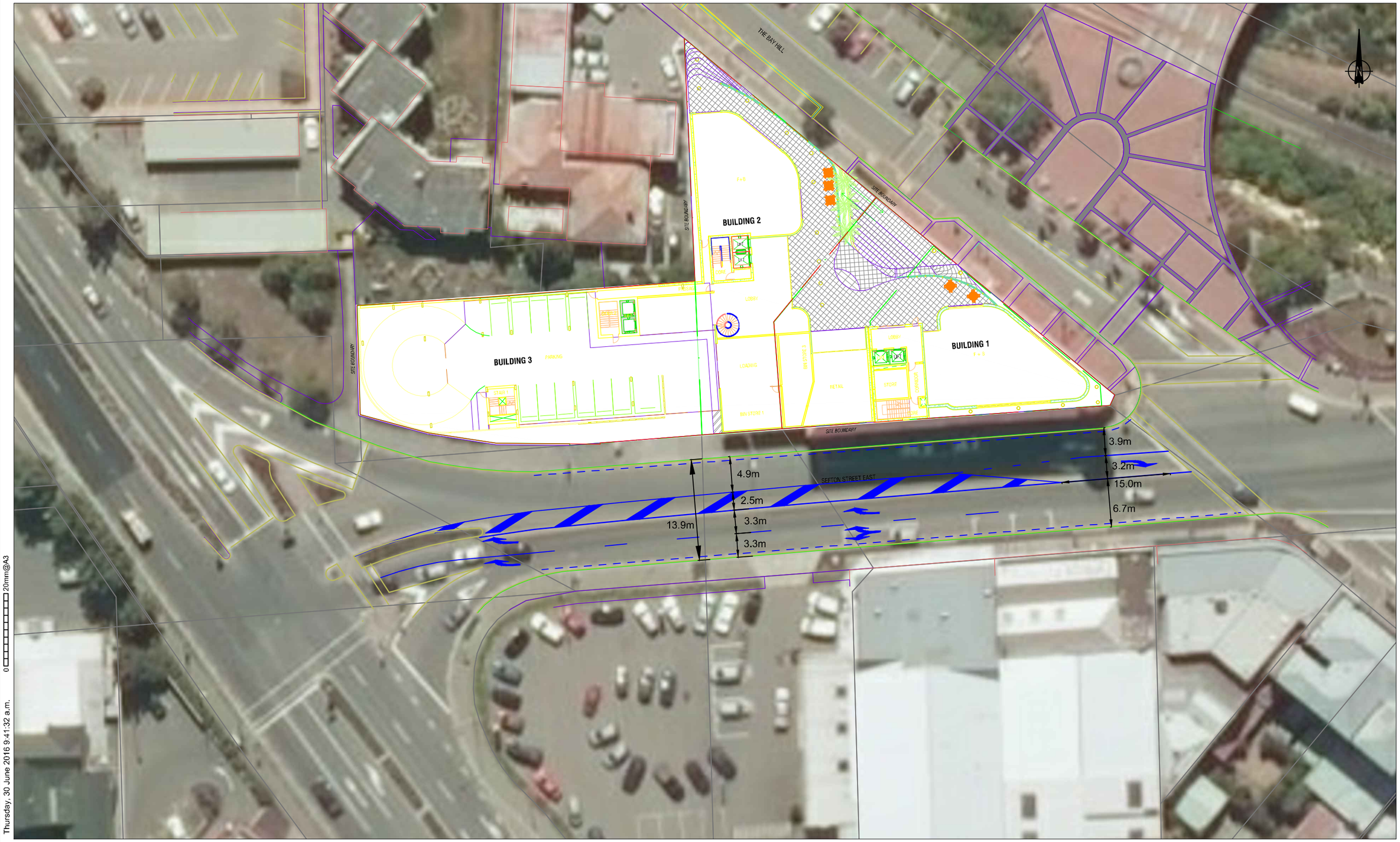
Although the proposed activities could increase the volume of traffic movements on The Bay Hill, the narrow road means that vehicle speeds will remain low. Even with higher pedestrian volumes crossing the road, it is considered unlikely that this will lead to adverse safety effects because of the low vehicle speeds.

The analysis of the Sefton Street signals with the additional traffic indicates that the signals will continue to operate efficiently and therefore do not raise any concerns with safety.

The Austroads Guide to Road Design Part 4A, Unsignalised and Signalised Intersections, includes warrants to guide the design of intersections and accesses. At peak times, the right turn volume entering the car parking building could exceed five vehicles per hour. This volume exceeds the warrant for a basic right turn treatment but the volume is not sufficient to trigger the warrant for a full right turn lane. It is proposed that a flush central median strip is created on Sefton Street by removing the on-street parking on the northern side of the road as shown in the concept plan in **Figure 13**. This will provide sufficient space for right running vehicles to stop safely clear of through traffic. It is considered that this will contribute to improved safety along the road.

Vehicles exiting from the car park will need to stop across the pavement in order to see vehicles approaching from both directions. The available sight distances will exceed minimum requirements when the driver is 3m from the edge of the traffic lane.

The driveway configuration does not provide a visibility splay for pedestrians approaching from the east and it is recommended that visual or audio signals are provided to alert pedestrians to departing vehicles.



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BAY HILL DEVELOPMENT
SEFTON STREET ALTERATIONS

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8. Timaru District Plan

8.1 Transport Rules Assessment

A summary of the assessment of the proposal against all transport related rules in the Timaru District Plan is contained in Appendix A. Additional discussion is provided below where the proposal either does not comply with a rule or where explanation of how compliance has been achieved is necessary.

8.1.1 Rule 6.7.2 (1)(a) Parking Space Dimensions

The parking space dimensions conform to the specifications laid out in the national standard NZS2890.1 for Off-street Parking for User Class 2. This type of user is expected to be familiar with the parking environment. Parking bays have a marked width of 2.5m and depth of 5m. The width of the parking aisles vary within the car park from 6m to over 7m. There are spaces on each level opposite stair wells where the parking aisle does not meet the minimum requirements of NZS2890.1 and entry to the spaces may require a reverse manoeuvre or reverse entry parking.

Since the parking spaces will not be utilised by the general public and will be allocated to either residents or to employees, it is considered that users would be familiar with the building constraints and any need for a localised reverse manoeuvre would be acceptable.

8.1.2 Rule 6.7.2 (1)(b) Parking for People with Disabilities

The ground floor level includes two parking spaces that would be suitable for people with disabilities and provide additional space for wheelchair manoeuvring. These spaces have an overall width of 3.5m which meets the minimum requirements of NZS2890.6, Off-street parking for people with disabilities.

8.1.3 Rule 6.7.2 (2) Parking and Loading Spaces Location

The parking building will have a capacity of about 60 spaces which is below the minimum parking requirements for all the activities proposed. The analysis of parking demands indicates that the peak demand for all activities will be about 90 spaces and there could be an off-site parking demand for 40-50 spaces because the residential parking spaces are not expected to be available to the general public. It is considered that this can be met within the available spare capacity of the surrounding car parks.

The development includes a loading dock at ground level to service the mixed use activities.

8.1.4 Rule 6.7.2 (3) Loading Spaces

The loading bay within the site is 4.5m high, 6m wide and 9m deep. The manoeuvres required to access the loading bay are shown in Figure 10. This demonstrates that a medium sized rigid truck can enter the site in a forward direction, access the loading dock and then depart from the site in a forward direction.

8.1.5 Rule 6.7.3 (13) Site Access

While the site has road frontage to The Bay Hill, a local road, and to Sefton Street, a National Route, access is proposed from Sefton Street only. This approach has been adopted to minimise the number of vehicle movements on The Bay Hill which has been constructed as a low speed road with a pedestrian focus. The proposed access on Sefton Street will replace the existing driveway that is currently being used for car sales and will be the only access provided along the entire block frontage with Sefton Street. The average daily volume of vehicle movements using the driveway is expected to be low as it will not be used by the general public and safety mitigation measures are proposed in the form a flush central median on Sefton Street.

8.1.6 Rule 6.8.3 Performance Standards for Parking

Table 5 provides a summary of the District Plan parking requirements for the proposed development. Under the District Plan rules, 134 parking spaces are required.

Activity	Quantity	Requirement	Spaces
Residential	32 apartments	1 space / unit	32
Hotel	68 rooms	1 space / room	68
Office	1,300m^2	1 space / 50m^2 GFA	26
Retail	420m^2	Commercial 1A Zone	0
Food and Beverage	400m^2	1 space / 50m^2 GFA	8
		Total	134

Table 5: District Plan Parking Requirements

The development proposal includes parking for 62 vehicles of which 32 will be allocated for residents, leaving 30 spaces for the other activities. Under the District Plan rules, the hotel creates the highest requirement for parking. In practice, this is considered to be a very high requirement for a central city hotel where a high proportion of visitors could be expected to travel by modes other than private car. The ITE Parking Generation manual suggests that the peak parking demand for a business hotel, that is a hotel with no associated function rooms and limited catering facilities, would be about 0.6 spaces per room rather than one space per room.

The analysis of parking demands indicates that there will be a demand for 70-80 spaces for non-residential activities. On this basis, there will be a demand for 40-50 parking spaces in the area surrounding the site. This can largely be met by the Bay Hill car parks which are currently under-utilised and have a practical spare capacity of 30-40 vehicles. The balance of the parking demands could be met in The Terrace car park or on the street.

8.1.7 Summary

Overall, it has been concluded that the proposal shows a high level of compliance with the District Plan rules. The most critical area of non-compliance is in regard to the number of parking spaces. However, the analysis of parking demand suggests that there will be

sufficient capacity in the nearby public car parks to meet the over flow parking demands from the site.

9. Conclusions

The proposed mixed use development will generate a combination of travel patterns. The residential apartments will predominantly generate outbound movements in the morning peak period with return movements occurring during the evening. The office building will generate inbound vehicle movements in the morning peak period and outbound movements in the evening. The directionality of other activities will generally be balanced throughout the day. The food and beverage facilities would be expected to have a peak in traffic generation during the lunchtime period and also during the early evening. Overall, the busiest traffic generating period for the site is expected to be during the evening commuter period as residents return from work, office employees depart and there is a generally high level of movement associated with the food and beverage activity.

The assessment of the additional traffic movements on the signalised intersections at each end of Sefton Street indicates that this will have no noticeable effect on the intersections' performance. It is expected that both intersections will continue to operate with a high level of service, LOS B.

The parking demands generated by the proposal are expected to peak at lunchtime and then gradually fall during the afternoon before rising to a lower peak in the early evening. The proposed car parking building will have sufficient capacity to meet the parking requirements of residents and provide a shared parking resource of about 30 spaces for the other activities. During the lunch-time period, this could result in a demand for 40-50 off-site parking spaces. The parking analysis has concluded that this could be met within the nearby public car parks. In the evening, it is expected that the car park building would be capable of meeting the parking demands of the hotel and residents,

Sefton Street has been constructed with one eastbound lane and two westbound lanes with parking permitted on the northern side of the road only. The proposed development will include an access on Sefton Street to the car park building replacing the existing car park access. Since more than five right turn movements per hour are expected at the new access, it is proposed that a flush median strip is created on Sefton Street so that the right-turning vehicles can stop safely clear of through traffic.

The assessment of the proposal against the District Plan transport rules has concluded that the proposal shows a high level of compliance. There are some parking spaces within the parking building that have a restricted parking aisle which may affect access. However, this does not generate any safety concerns and is expected to be acceptable to car park users who will be familiar with the constraints of the site.

Overall, it has been concluded that the proposal can be supported from a transport perspective.

Appendix A

District Plan Transportation Rules Compliance Assessment

Rule	Requirement	Complies	Comments
6.7.2 (1)(a)	Every parking and/or loading space shall have dimensions in accordance with the table for manoeuvring and parking space dimensions or in accordance with any relevant car parking standard such as the New Zealand Building Code Clause D1, Australian Standard 2890.1 - 1993 or other standards.	No	See report
6.7.2 (1)(b)	Where parking for people with disabilities is required parking spaces shall be not less than 3.6 metres wide.	Yes	
6.7.2 (1)(c)	**Size of and Access to Parking and Loading Spaces** Be provided with such access drives and aisles as are necessary for ingress and egress of vehicles to and from the road, and for the manoeuvring of vehicles within the site.	Yes	
6.7.2 (2)	Every parking and/or loading space shall be located on the same site as the activity to which it relates, be available at all times for both visitor and staff use and shall have adequate usable access to that activity or building unless parking is not permitted to be provided on that site or a cash contribution has been accepted in lieu of parking. Each loading space shall adjoin an adequate area for goods handling and shall be convenient to any service area or service lift.	No	See report
6.7.2 (3)	In addition every loading space shall be of usable shape and shall be of the following dimensions: (a) For transport depots and other similar activities, not less than 9 metres depth. (b) For retail premises, travellers accommodation, offices, warehouses, bulk stores, industry, servicing premises and other similar uses, not less than 8 metres in depth. (c) Offices and other non-goods handling activities, where the gross floor area is not greater than 1500 square metres, and where on-street space is available for occasional servicing by larger vehicles, 6 metres long, 3 metres wide, 2.6m high. Notwithstanding anything to the contrary in the foregoing clauses, where articulated vehicles are used or are intended to be used in connection with any site, sufficient loading spaces not less than 11 metres in depth shall be provided for the purpose. (e) No loading space shall be less than 3.5 metres in width. (f) No loading space shall be less than 3.8 metres in height. (g) Gradients shall be kept to a minimum. For service and manoeuvring areas the gradient shall not exceed 1:12.5.	Yes	See report

Rule	Requirement	Complies	Comments
6.7.2 (4)	**Formation and Availability of Parking and Loading Spaces** The whole of the parking and loading space or spaces, access drives, manoeuvring areas and aisles shall, before the commencement of the activity to which those parking and loading spaces relate, and thereafter for as long as that activity is continued, be formed, provided with a sealed surface, drained, marked out or delineated, and maintained.	Yes	
6.7.2 (5)	Parking areas must be kept clear and available at all times, free of impediment, for vehicles used in conjunction with the particular activity to which the parking spaces relate on the site, and must not be used for the deposit or storage of any goods or materials or for any other purpose.	Yes	
6.7.2 (6)	**Grades** The maximum gradients for parking surfaces and floors are 1:6 transversely, and 1:20 longitudinally, along the direction of the space, although on steep sites a gradient of 1:12.5 will be acceptable for manoeuvring areas.	Yes	
6.7.2 (8)	**Kerbs** Where a parking or manoeuvring area adjoins a road, a kerb or similar barrier, not less than 150 millimetres high and at least 600 millimetres from the road boundary, shall be provided on those parts of the frontage not used for vehicular access, or landscaping.	Yes	
6.7.2 (9)	**Road Widening Designations** No required parking or loading spaces, manoeuvring area, or part thereof shall be located on road designated for road widening.	Yes	
6.7.2 (10)	**Vehicle Access to Sites** All loading areas shall be provided on the site, or sufficiently close to the site (but not on any road or service lane) to ensure the ready use of such loading facilities by vehicles in conjunction with the site.	Yes	
6.7.2 (11)	Every parking or loading space shall have an approved vehicle access.	Yes	
6.7.2 (12)	Where on any site access is from a National, or Regional, or District Arterial or Principal Road, sufficient space shall be provided so that no reverse manoeuvring onto or off the road is necessary.	Yes	
6.7.3 (1)	**Reverse Manoeuvring** For all non-residential uses, where any parking or loading spaces are required, sufficient space shall be provided on the site so that no reverse manoeuvring onto or off the road is required.	Yes	

Rule	Requirement	Complies	Comments
6.7.3 (2)	**Driveway Width** Where parking for two or more household units or two or more parking spaces for any other activity are required by the Plan either for a single site or for multiple sites using the same access, vehicle ingress and egress shall be formed, sealed and drained for a minimum distance of 9 metres from the road boundary.	Yes	
6.7.3 (6)	**Gradient of Access** Access shall be generally formed to a lesser grade than 1 in 5 from a transitional curve from the back of the footpath or where there is no footpath, from a level approved by Council. Where, because of topography a grade of 1 in 5 or better cannot be achieved, a steeper grade may be allowed provided Council's prior consent to a discretionary activity is obtained. In those instances Council may impose specific conditions as to layout and surfacing.	Yes	
6.7.3 (8)	**Vehicle Crossings** In Residential Zones, up to a 6 metre width of vehicle crossings may be provided for every site.	n/a	
6.7.3 (9)	In Commercial and Industrial zones, vehicle crossings shall be provided so as to provide for two way traffic onto and off the site, except where a site is served by a service lane.	Yes	
6.7.3 (11)	**Distance from Intersections** Vehicle crossings shall be located as far as is practicable from intersections and in no case shall any vehicle crossing be located closer than 10 metres to an intersection as measured from the intersection point of the prolongation of the road reserve boundaries or in such a position as to create a traffic hazard.	Yes	
6.7.3 (13)	**Sites Fronting National, or Regional, or District Arterial or District Principal Roads** With the exception of the Commercial 2A Large Format Store (Retail Park) Zone, where any site fronting a Primary Road (National Route, Regional Arterial, District Arterial or Principal Road) has frontage to a Secondary Road (Collector or Local Road or a Service Lane), all vehicle access to the site (providing for either ingress or egress) shall be provided to the Secondary Road. A Secondary Road is defined in General Rule 6.6.2(3).	No	See report
6.7.3 (14)	**Rear Access** In Commercial and Industrial Zones, where suitable and adequate vehicular access to the rear of a site is possible by the use of a service lane, or land over which Rights of Way are held in respect of that site, that means of access to parking and loading spaces (provided for either ingress or egress) shall be used. No additional vehicle access shall be created across the frontage.	Yes	

Rule	Requirement	Complies	Comments
6.7.5 (2)	With the exception of activities in the Commercial 2A Large Format Store (Retail park) Zone, and in the Industrial L Zone located at Washdyke between State Highways 1 and 8 and Lot 4 DP 413460, any activity with vehicle access to and/or from a state highway is a discretionary activity where it involves service stations, truck stops, supermarkets, shopping centres, restaurants, retail activities including shops, and places of assembly.	No	Discretionary activity
6.8.2 (1)	**Rules for Parking** (1) The Performance Standards for Parking in 6.8.3 shall apply where either: (a) An activity is established on a site; or (b) There is a change of activity to one for which more parking spaces are required by the District Plan; or (c) A building is constructed, substantially reconstructed, or added to. Where a building is added to the parking requirement shall apply to the additional area.	Yes	
6.8.2 (2)	On an application for a discretionary activity Council may decide that a lesser standard of parking may be required where it can be shown by the developer that the parking standard is inappropriate.		See report
6.8.3 (1)(5)(6)(10)	**Performance Standards For Parking** The following performance standards in respect of on-site parking spaces shall be a minimum requirement and shall apply to all activities in all zones.	No	See report

Table 6: District Plan Part 6 Transportation Rules Compliance Assessment Summary

APPENDIX 8:

Urban Design Panel Report

THE BAY HILL – MIXED USE DEVELOPMENT CAROLINE BAY TIMARU

Applicant	Bayhill Developments represented by Allan Booth
Architects	The Buchan Group represented by James Burgess
Planner	PLANZ represented by Jonathan Cleese
Timaru CC	represented by Mark Geddes

The Project

The scope of the Panel review is the assessment of the Applicant's proposal for a mixed use commercial and residential complex on a prominent site overlooking Caroline Bay and to demolish the existing but vacant building, a listed 100 year old commercial structure. The key purpose of the review is to assist the Applicant and the Council to promote a high quality urban design outcome for the site. The Panel notes it has been specifically asked by the Council not to consider the merit (or not) of demolishing the site's listed heritage building. It's scope is limited to the assessment of the proposed new development.

Preparation for this review by the Panel

Prior to the meeting with the Applicant and his consultant team, the Panel reviewed the site and its context. This included a walk around the site and environs, review of the proposal document and refreshment of the Panel's knowledge of Timaru City generally and its history, in particular of the use and stories associated with the building that has been there for the past 100 or so years.

The Site

The site lies in a prominent location on The Bay Hill in Timaru and is highly visible from the Caroline Bay Reserve, the main road into the central area from the north and from the northern end of Stafford Street, the City's main and well used shopping area. In topographic terms, it sits on a high point with adjacent properties all around it lying slightly lower. There are extensive views in all directions from the site, especially at upper levels.

The site is situated in an especially interesting location relative to the main shopping and commercial areas of the city. These lie generally within a shallow basin sheltered from the sea and Caroline Bay by the buildings themselves but also by the topography. The main journey from these activities to the site is along the gently rising main shopping street, Stafford Street. At its intersection with Sefton Street East, the commercial development generally ceases and an extensive view opens up impressively to Caroline Bay and the Reserve below to the north. The existing building on the site features as the crescendo to this shopping street and a fulcrum point directing people to Caroline Bay Reserve.

There is a strong element of change and surprise at that moment for those travelling along Stafford Street. The dome on the corner of the building further heightens the dramatic effect at this point.
On the western side of the site, The Bay Hill falls away gently to the west along the top of the bluff above the Caroline Bay reserve. The land on this side of the site is occupied by a range of older style residential and accommodation. The building frontages to The Bay Hill are largely given over to hospitality uses with capacity for a number of patrons.

Immediately to the north of the site, is a public open space known as "the Piazza". This is a rather interesting piece of public infrastructure, being built out in front of the bluff above the Caroline Bay Reserve and providing staircase access between it and The Bay Hill above. It offers a large viewing platform looking out to Caroline Bay and seems popular with pedestrians along The Bay Hill. It will be a prominent feature for those looking out to the north from the proposed development.

Site Constraints

For a prominent site in a generally built up area of the City there are few site constraints to be considered. The most important of these is the heavy use by large vehicles of Sefton Street East which connects the highway to the Port. The type of traffic on this street is considered to impose a limit on safe pedestrian access to the site from Stafford Street. It also brings with it a degree of traffic noise and danger for pedestrians all along its length.

The other key consideration that should be considered as a constraint and an important influence on the development of the site is the microclimate. As a prominent site sitting on top of a sizeable bluff above the Caroline Bay Reserve, it is directly exposed to the prevailing north east wind off the ocean and to high sunshine levels. Protection from the wind in the area is a common concern to the Applicant and his neighbours. Nearby properties with outdoor entertainment and hospitality have all erected windproof screens mostly glazed, to provide sheltered microclimates for patrons. These of course require regular cleaning as the wind is salt laden a lot of the time. So, attention to the effects of the wind is an important precursor to the creation of successful environmental conditions on the site, affecting point of access and egress, outdoor seating and activity areas and enjoyment of the view and outlook from internal spaces.

The Existing Building

The existing 100 year old structure, former home of the Hydro Grand Hotel and still known locally by this name, is roughly triangular in shape with a roof dome at the building apex at the intersection of Stafford Street, The Bay Hill and Sefton Street East. One long face faces north east out over The Bay Hill and Caroline Bay, another runs along the Sefton Street facing south east. The third side of the triangular building form faces out over a car sales yard on the remainder of the site with views of the Mountains to the West. The ridge of the steep pitched roof

is approximately 15 metres above the high point of the land. Like most buildings of the Victorian age it is built up generally to the street boundaries and there are virtually no balconies or open space associated with the building. The open space on the western side of the building is largely given over to car display. Having been unoccupied now for some years the building is generally poor condition, at least cosmetically.

Site Potential

The site itself is generally gentle in topographic terms and this does not present any constraints additional to those just outlined above. It is seen, however, to lie at a special point in the city and could be considered by some to warrant the development of an "iconic" building. As this word is in danger of over use, the Panel is happy to say that the site deserves a building that makes best use of this prominent piece of land. The existing building has achieved this, in the Panels' view, by its general bulk, the placement of a dome, strong architectural qualities of the building being a good balance of solid and void (windows and walls) on the face and a simple but strong roof over the whole thing. It also faces, in an uncomplicated manner, straight out over the Caroline Bay Reserve where it is seen from some distance as well as close up as a tall and becoming city feature. In this way the building almost certainly helps to articulate the form of the north end of the City. The Panel therefore is looking for a new building that exploits this in its form and bulk, but also possibly by striking use of materials, details and finishes.

The Application

The Panel has reviewed the proposal prepared with the Applicant by The Buchan Group. It has taken into account the presentation on Wednesday 04 May 2016 by these parties, the discussion that followed at the meeting and the Panels' information on the site and context outlined above briefly in this report. At the outset of the meeting, the Panel encouraged the applicant and his advisors to feel as free as possible to discuss their ideas and objectives and stressed that the Panel was there to act as a constructive sounding board as much as anything.

Presentation by the Applicant

Mr Alan Booth, the Applicant described his vision for the project. While it has to stack up financially, he indicated his interest in making the development reflect many features of Timaru and South Canterbury. As some of these are not well known or close by, he sees the development as being a place to describe these and stimulate interest in people to go off and visit them. These include Maori rock drawings, early features of Timaru history, aircraft developments, famous horses like Phar Lap, racing and so on. He believes these could become themes that could be incorporated into the building and its materials.

Presentation by the Architects

Jonathan Cleese provided further background to the project team and process to date and described the planning provisions, essentially a fully discretionary activity.

James Burgess, for the Buchan Group presented the building proposals, covering the distribution of the retail, commercial, residential and car parking activities on the site, the building forms and materials being considered. He stressed the importance of the public realm on and around the site and the factors taken into account in forming this.

The Discussion

Following the presentation, the members of the Panel each raised points for discussion and clarification. These were fairly wide ranging in their nature due to the multi-purpose nature of the development and the objectives set for the project by the Applicant. The Panel generally commended the Architects for the presentation and many of the features of the proposals. They also thanked them for the answers given to the questions raised and that a lot of thought that had been put into the scheme. The features worthy of note include mixed use development, the development of two buildings that break up the potential mass of one large, particularly as the site is larger than the existing Hydro Grand building, holding the corner of The Bay Hill and Sefton Street East, enhancing the continuity of building development along the Bayhill frontage and articulation of the base, middle and top of the new buildings.

Matters of clarification included the levels used throughout the development and especially Bay Hill where these were not readily apparent, access to some activities, access between the car parks and the activities they serve, means of dealing with privacy issues between the office areas and the residential, potential conflict with any future development on the site to the west, visual treatment of the carpark area facing Sefton Street East, potential difficulty of leasing the shops in the central public realm, to mention a few key concerns.

THE PANELS' COMMENTS

Highly important:

- The Panel considers the full potential of the site, being clearly a landmark site in the City, has not yet been reached and that some additional height above the 20 metre height limit could be considered at the eastern corner of the site. The Panel does not consider that this would create a precedent in the city and in particular on any adjacent sites as these do not have the same geographic position possessed by this site. Timaru has many well-proportioned towers and gains character from these.

- The size of the public realm within the site appears to be on the small side. Some of the early diagrams of the development suggested some quality emerging and this has not been followed through in the developed drawings. The Panel considers the public realm on the site should have its beginnings at the intersection with Stafford Street and lead naturally and easily into the triangular public realm space in the centre of the site; the overuse of steps and ramps to be avoided. In particular, the bulk of the office building hanging over a good portion of the public realm seems to be a negative and should be cut back
- Further to the Panels' concern about the size of the public realm in the centre of the site, it considers the space as drawn is in danger of being perceived more as a private outdoor space on the site rather than for public use due in part to its size, visibility and access by ramp and steps.
- The open space, particularly beneath the north corner of the office block, is considered to be one of the "sweet spots" of the site and needs further work on the layout and use of this space and the avoidance of the north easterly wind here. Generally, any wind mitigation should be well integrated into the scheme to avoid retrofitting later. Some shading diagrams would be helpful in this matter.
- The Panel does not consider the Piazza, the Bay Hill and the public realm on the site have to be seen as one continuous space but should be developed sympathetically. In this regard there should still be some a clear link between the Piazza and the development, perhaps more axially aligned.
- The Panel considers there is merit in a review of the location of the residential accommodation on the site and the of the office space. It differs from the Architect's statement that the office should be close to Stafford Street and the residential be on the western side of the site and suggests the scheme might be better resolved if the residential was to run parallel to Sefton Street East and the office space extend out to The Bay Hill where the residential is currently proposed. At the junction of the two buildings the vertical circulation could be placed which would put it at the innermost point of the public realm where some of the retail is currently positioned. The residential development would all face north and east (and some west). The office space would not be as affected in the north corner by any development of the site next door in the future. Access between the car parking and the various uses would be essentially unchanged.
- The Panel recommends careful screening of the car park area from Sefton Street East to enhance the street environment as a key point of access to the city and to the Port. It is recommended an interim landscape is provided until the proposed later building stage is undertaken.
- Study of fully closing off the space between the two buildings or realigning them to reduce the potential for wind funnelling between the two buildings.
- Weather protected internal linkage between car parks and office/apartment foyers is considered essential for high end, upper market accommodation.

Also, for further study:

- Careful attention in the public realm to the problem of wind down currents created by tall facades, involving the use of canopies and wind deflectors

- Careful choice of external materials and details to combat the effects of sea air, high winds and glare, not just visual
- Careful study of levels between paved areas in the Public realm to ensure these do not act as barriers
- Consideration of CPTED principles, particularly along Sefton East St facade, including provision of good external lighting
- Careful attention to noise control between activities to avoid conflict
- Integration of the project vision into the scheme put forward by the property owner in conjunction with the architecture, hard and soft landscape and any integrated artworks
- Making the internal workings of the buildings more readily apparent from the outside and celebrating the activity provided by the cores e.g., lifts and stairs.
- Provision of cycle parking.
- While not setting out to mimic the form and elevations of the north block, some reflection of the design approach to this block within the east block might be more successful and help to integrate the two. Having said that, there is no need for the buildings to look exactly the same.
- Generally strengthen the appearance of the buildings to make them appear to stand up proudly on this site and combat the strong weather patterns it is subjected to. The penthouse level in particular needs this strengthening.
- Integration of signage and plant into the design at concept stage.
- Consider balcony functionality with respect to orientation, size and shape, privacy and materials.

Urban Design Panel Members:

D N Sheppard
T Church
W Fulton
G McDonald

6 May 2016

APPENDIX 9:

Asbestos Ground Contamination Report

22 December 2015 Project No. 1540086-001-L-Rev0-ACM

Allan Booth
Starwood Limited
52-54 Racecourse Road
Timaru 7910

ASSESSMENT OF ACM IN SOIL - THE BAY HILL, TIMARU

Dear Allan

Starwood Limited engaged Golder Associates (NZ) Limited (Golder) to undertake an assessment for the presence of asbestos containing material (ACM) in soil at the location of the former Seaview Hotel, The Bay Hill, Timaru (the site).

This letter presents a summary of the findings of the ACM assessment and is subject to the statement of limitations in Attachment A.

Background

The ACM assessment was undertaken based on the recommendation of a Preliminary Site Investigation prepared by Golder (2015). The recommendation was offered to assess the presence of possible asbestos residues in soil resulting from the demolition of the former Seaview Hotel. The recommendation stated that:

"Soil samples are collected during the geotechnical investigations and assessed (visually) for the presence of ACM. If ACM is not observed then there is no cause to suspect that asbestos fibres would be present in site soils".

ACM Assessment

The assessment comprised the screening of six soil samples collected across the footprint of the former Seaview Hotel (and adjacent area) during a Golder geotechnical investigation in November 2015 (see Attachment B for sample locations). The samples were hand excavated and placed into a bulk bag, with sample weights ranging from 5-10 kg. The samples were fully representative of the soil encountered at each location with no sorting of the soil during sampling.

The screening involved placing the entire contents of each bulk bag on a shaker table and sieving each sample through a 7mm diameter (screen). The screening was undertaken in accordance (where appropriate) with the Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia, May 2009.

The soil that did not pass through the 7 mm screen was visually inspected for the presence of ACM. The results of the inspection are summarised in Table 1.

Table 1: Summary of ACM screening

Sample number	Depth (m)	Result
CPT 1	0 – 0.3	No ACM observed
CPT 1	0.3 – 0.5	No ACM observed
CPT 2	0 – 0.4	No ACM observed
CPT 3	0 - 0.2	No ACM observed
CPT 4	0 – 0.2	No ACM observed
CPT 5	0 – 0.2	No ACM observed

ACM was not observed in any of the six samples. This indicates that it is unlikely that asbestos fibres are present in soil at concentrations which would pose a risk to human health.

If you have any questions on the contents of this letter, please contact Terry Widdowson on 03 903 2411 or twiddowson@golder.co.nz.

Yours sincerely

GOLDER ASSOCIATES (NZ) LIMITED

Jack Grinsted
Environmental Scientist

Terry Widdowson
Senior Contaminated Sites Consultant

JG/TW/dj

Attachments: A - Report Limitations
B - Site Plan and Sample Locations

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References

Golder 2015. Preliminary Site Investigation, Hydro Hotel, Timaru. Prepared by Golder Associates (NZ) Limited for Starwood Limited, October 2015.

Attachment A - Report Limitations

This Report / Document has been provided by Golder Associates (NZ) Limited ("Golder") subject to the following limitations:

i) This Report / Document has been prepared for the particular purpose outlined in Golder's proposal and no responsibility is accepted for the use of this Report / Document, in whole or in part, in other contexts or for any other purpose.

ii) The scope and the period of Golder's Services are as described in Golder's proposal, and are subject to restrictions and limitations. Golder did not perform a complete assessment of all possible conditions or circumstances that may exist at the site referenced in the Report / Document. If a service is not expressly indicated, do not assume it has been provided. If a matter is not addressed, do not assume that any determination has been made by Golder in regards to it.

iii) Conditions may exist which were undetectable given the limited nature of the enquiry Golder was retained to undertake with respect to the site. Variations in conditions may occur between investigatory locations, and there may be special conditions pertaining to the site which have not been revealed by the investigation and which have not therefore been taken into account in the Report / Document. Accordingly, if information in addition to that contained in this report is sought, additional studies and actions may be required.

iv) The passage of time affects the information and assessment provided in this Report / Document. Golder's opinions are based upon information that existed at the time of the production of the Report / Document. The Services provided allowed Golder to form no more than an opinion of the actual conditions of the site at the time the site was visited and cannot be used to assess the effect of any subsequent changes in the quality of the site, or its surroundings, or any laws or regulations.

v) Any assessments, designs and advice made in this Report / Document are based on the conditions indicated from published sources and the investigation described. No warranty is included, either express or implied, that the actual conditions will conform exactly to the assessments contained in this Report / Document.

vi) Where data supplied by the client or other external sources, including previous site investigation data, have been used, it has been assumed that the information is correct unless otherwise stated. No responsibility is accepted by Golder for incomplete or inaccurate data supplied by others.

vii) The Client acknowledges that Golder may have retained subconsultants affiliated with Golder to provide Services for the benefit of Golder. Golder will be fully responsible to the Client for the Services and work done by all of its subconsultants and subcontractors. The Client agrees that it will only assert claims against and seek to recover losses, damages or other liabilities from Golder and not Golder's affiliated companies. To the maximum extent allowed by law, the Client acknowledges and agrees it will not have any legal recourse, and waives any expense, loss, claim, demand, or cause of action, against Golder's affiliated companies, and their employees, officers and directors.

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1. Test locations are approximate only.
2. Parcel boundaries from LINZ, Crown Copyright Reserved.
3. Schematic only, not to be interpreted as an engineering design or construction drawing.
4. Drawn by: AR Reviewed by: SC.

Golder Associates

TITLE | SITE PLAN AND ASBESTOS IN SOIL INVESTIGATION LOCATION PLAN

DECEMBER 2015

PROJECT | 1540086

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