



# AGENDA

## RĀRANGI TAKE

NOTICE OF MEETING OF THE

# CAPITAL PROJECTS AND TENDERS COMMITTEE

to be held on **Tuesday, 15<sup>th</sup> September 2020** commencing at **3.00 pm** in the Council Chambers, 36 Weld Street, Hokitika and via Zoom

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Chairperson: Deputy Mayor Carruthers

Members: His Worship the Mayor  
Cr Hart  
Kw Madgwick

Cr Davidson  
Cr Hartshorne  
Kw Tumahai



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In accordance with clause 25B of Schedule 7 of the Local Government Act 2002, members may attend the meeting by audio or audiovisual link.

# Council Vision:

We work with the people of Westland to grow and protect our communities, our economy and our unique natural environment.

## Purpose:

The Council is required to give effect to the purpose of local government as prescribed by section 10 of the Local Government Act 2002. That purpose is:

- (a) To enable democratic local decision-making and action by, and on behalf of, communities; and
- (b) To promote the social, economic, environmental, and cultural well-being of communities in the present and for the future.

### **1. NGĀ WHAKAPAAHA APOLOGIES**

(includes leave of absence notification)

### **2. WHAKAPUAKITANGA WHAIPĀNGA DECLARATIONS OF INTEREST**

Members need to stand aside from decision-making when a conflict arises between their role as a Member of the Council and any private or other external interest they might have. This note is provided as a reminder to Members to review the matters on the agenda and assess and identify where they may have a pecuniary or other conflict of interest, or where there may be a perception of a conflict of interest.

If a member feels they do have a conflict of interest, they should publicly declare that at the start of the meeting or of the relevant item of business and refrain from participating in the discussion or voting on that item. If a member thinks they may have a conflict of interest, they can seek advice from the Chief Executive or the Group Manager: Corporate Services (preferably before the meeting). It is noted that while members can seek advice the final decision as to whether a conflict exists rests with the member.

### **3. NGĀ TAKE WHAWHATI TATA KĀORE I TE RĀRANGI TAKE URGENT ITEMS NOT ON THE AGENDA**

Section 46A of the Local Government Official Information and Meetings Act 1987 states:

- (7) An item that is not on the agenda for a meeting may be dealt with at the meeting if –
  - (a) the local authority by resolution so decides, and
  - (b) the presiding member explains at the meeting at a time when it is open to the public, -

- (i) the reason why the item is not on the agenda; and
  - (ii) the reason why the discussion of the item cannot be delayed until a subsequent meeting.
- (7A) Where an item is not on the agenda for a meeting, -
- (a) that item may be discussed at the meeting if -
    - (i) that item is a minor matter relating to the general business of the local authority; and
    - (ii) the presiding member explains at the beginning of the meeting, at a time when it is open to the public, that the item will be discussed at the meeting; but
  - (b) No resolution, decision, or recommendation may be made in respect of that item except to refer that item to a subsequent meeting of the local authority for further discussion.

#### **4. NGĀ MENETI O TE HUI KAUNIHĒRA MINUTES OF MEETINGS**

Minutes circulated separately via Microsoft teams

- **Capital Projects and Tenders Committee Meeting Minutes – 12 May 2020**
- **Capital Projects and Tenders Extraordinary Meeting Minutes – 11 August 2020**

#### **5. ACTION LIST** (page 6)

#### **6. NGĀ TĀPAETANGA PRESENTATIONS**

- NIL

#### **7. PŪRONGO KAIMAHI STAFF REPORTS**

- **Capital Projects Shovel Ready Projects Verbal Update**  
Louis Sparks, Group Manager: District Assets
- **Hokitika Swimming Pool Redevelopment** (pages 7 - 120)  
Louis Sparks, Group Manager: District Assets

#### **8. KA MATATAPU TE WHAKATAUNGA I TE TŪMATANUI RESOLUTION TO GO INTO PUBLIC EXCLUDED**

(to consider and adopt confidential items)

Resolutions to exclude the public: Section 48, Local Government Official Information and Meetings Act 1987.

The general subject of the matters to be considered while the public are excluded, the reason for passing this resolution in relation to each matter and the specific grounds under Section 48(1) of the Local Government Official Information and Meetings Act 1987 for the passing of the resolution are as follows:

Item No.	General subject of each matter to be considered	Reason for passing this resolution in relation to each matter	Ground(s) under Section 48(1) for the passing of this resolution
1.	Confidential Minutes – 12 March 2020	Good reason to withhold exist under Section 7	That the public conduct of the relevant part of the proceedings of the meeting would be likely to result in the disclosure of information for which good reason or withholding exists.  Section 48(1)(a)
2.	Confidential Minutes – 11 August 2020	Good reason to withhold exist under Section 7	That the public conduct of the relevant part of the proceedings of the meeting would be likely to result in the disclosure of information for which good reason or withholding exists.  Section 48(1)(a)
3.	Tender 20-21-02 - Litter Bin Collection Contract	Good reason to withhold exist under Section 7	That the public conduct of the relevant part of the proceedings of the meeting would be likely to result in the disclosure of information for which good reason or withholding exists.  Section 48(1)(a)
4.	Tender 18-19-08 - Arahura Water Treatment Plant Contract	Good reason to withhold exist under Section 7	That the public conduct of the relevant part of the proceedings of the meeting would be likely to result in the disclosure of information for which good reason or withholding exists.  Section 48(1)(a)

This resolution is made in reliance on sections 48(1)(a) and (d) of the Local Government Official Information and Meetings Act 1987 and the particular interests or interests protected by section 7 of that Act, which would be prejudiced by the holding of the relevant part of the proceedings of the meeting in public are as follows:

<b>Item No.</b>	<b>Interest</b>
1,2,3,4	Enable any local authority holding the information to carry on, without prejudice or disadvantage, negotiations (including commercial and industrial negotiations) (Schedule 7(2)(i)).
1,2,3,4	Maintain legal professional privilege (Schedule 7(2)(g)).
2,3,4	Protect the privacy of natural persons, including that of deceased natural persons (Section 7(2)(a)).

**DATE OF NEXT CAPITAL PROJECTS AND TENDERS COMMITTEE MEETING  
DATE 10<sup>TH</sup> NOVEMBER 2020  
COUNCIL CHAMBERS, 36 WELD STREET, HOKITIKA AND VIA ZOOM**

**15.09.20 - CAPITAL PROJECTS AND TENDERS COMMITTEE – ACTION LISTING**

Date	Item	Action Required	Status	Lead Officer
11.02.20	Establish a WCWT Trail Sub-Committee	Report to Council to dissolve the Westland Wilderness Trust	Meeting with GDC & Trustees arranged to dissolve the trust.	Chief Executive

**DATE:** 15 September 2020

**TO:** Capital Projects and Tenders Committee

**FROM:** Group Manager District Assets

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## **HOKITIKA SWIMMING POOL REDEVELOPMENT**

### **1 SUMMARY**

- 1.1 The purpose of this report is to provide Council with the concept plan for the Hokitika swimming pool development and request approval for the expenditure.
- 1.2 This issue arises because Council received \$3 million Government funding from the Infrastructure Reference Group to renovate the Hokitika swimming pool. Council needs to approve the developed concept prior to proceeding.
- 1.3 Council seeks to meet its obligations under the Local Government Act 2002 and the achievement of the District Vision adopted by the Council in May 2018, which are set out in the Long Term Plan 2018-28. These are stated on Page 2 of this agenda.
- 1.4 This report concludes by recommending that Council. receive the report, adopts the concept plan subject to stakeholder endorsement and proceeds to completing Stage 1 with the \$3 million grant expenditure, and includes Stage 2 in Council's 2021-2031 Long Term Plan process.

### **1 BACKGROUND**

- 2.1 During the first Covid-19 lockdown period, the NZ Government announced a contestable fund for 'shovel ready' projects. Council applied to the fund and was granted \$3 million funding for the Hokitika Swimming Pool Redevelopment.
- 2.2 The scope of the works was initially based on a report commissioned by Council in 2016, attached as **Appendix 1** titled Full Condition & Compliance

Assessment of Facility. In the report it highlighted a number of shortcomings with the current infrastructure that required attention.

2.3 Additional to this work was to include a new learners (toddlers) pool.

### **3 CURRENT SITUATION**

3.1 Council staff have been working with architects and pool services specialists to develop a concept plan for the swimming pool complex renovation. This is attached as **Appendix 2**.

3.2 The project will be delivered in two stages – Stage 1 is the upgrade of the existing infrastructure to improve the facilities offering. Stage 2 is new build to add an additional warm water pool for learners.

3.3 Council staff have engaged and discussed the concept proposed with Destination Westland as managers of the pool facility and feedback has been considered in the concept design.

3.4 At the time of writing the staff have not yet meet with key stakeholders but a meeting was scheduled for the 10<sup>th</sup> Sep .

3.5 Council is confident the proposed concept plan for Stage 1 can be completed within the proposed funding allocation.

3.6 Stage 2 will be included in the Long Term Plan 2021 – 31 and Consultation Document (LTP). The concept has yet to be priced.

### **4 OPTIONS**

4.1 Option 1. Do not adopt the proposed development plan

4.2 Option 2. Adopt the proposed development plan.

### **5 SIGNIFICANCE AND ENGAGEMENT**

5.1 The proposed redevelopment project has been assessed against Council's policy on Significance and Engagement. The project has a high degree of significance. This level of significance is due to the facility being a strategic asset, the \$3 million proposed spend on the project and that the facility is a well utilised recreation facility with high public interest. This project has already stirred a high level of engagement within the community both



through direct contact and local media.

- 5.2 The engagement and consultation approaches being undertaken for Stage 1 include face-to-face meetings and discussions with appropriate experts and key stakeholders. The affected parties for the proposed development will be the user community, Destination Westland as managers of the pool facility and the adjoining land owners. The recommended approach is to discuss the project openly with all of these parties. Discussions have already taken place with Destination Westland and a number of individuals representing the pool user groups to ensure Council is aware of the desires and needs of all stakeholders and consider these as part of the planning.
- 5.3 Stage 2 will require full consultation with the community as it is additional to the existing infrastructure and will be included as part of the next LTP process.

## 6 ASSESSMENT OF OPTIONS (INCLUDING FINANCIAL IMPLICATIONS)

- 6.1 **Option 1.** Do not adopt the proposed development plan.
  - 6.1.1 Advantages - There are no advantages if Council does not adopt the concept plan.
  - 6.1.2 Disadvantages – Council would not proceed with the project and lose the \$3 million project grant funding for the entire project.
- 6.2 **Option 2.** Adopt the proposed development plan (note that further enhancements may be made following stakeholder consultation).
  - 6.2.1 Advantages – Council will have adopted a concept plan allowing staff to proceed with planning for the project. Council will have approved the \$3 million capital expenditure as required and can then use the central government grant to upgrade the existing pool. Further improvements to the development plan could be made following stakeholder consultation.
  - 6.2.2 Disadvantages – this project will ensure that the swimming pool remains viable for a long period. This may deter potential plans for a new pool on another location.
- 6.3 Financial implications for the project include on-going maintenance and operational costs once the project is complete.

6.4 The report relates to unbudgeted expenditure as provided in a central Government grant. Staging the expenditure has to be managed and planned in collaboration with the finance team. Further stages of the development need to be included in Council's Long Term Plan.

## 7 PREFERRED OPTION(S) AND REASONS

7.1 **Option 2:** That Council adopts the proposed development plan as it fulfils current shortcoming of the existing facility. It upgrades the services, changing room facilities, reception area, enhances the pool function and adds additional life to a tired asset. The Community will have the opportunity to provide their feedback on further enhancements through the LTP process.

## 8 RECOMMENDATION(S)

- A) **THAT**...Council receive the report.
- B) **THAT**...Council adopts the concept plan subject to stakeholder endorsement and proceeds to completing Stage 1 with the \$3 million grant expenditure.
- C) **THAT**...Council includes Stage 2 in Council's 2021-2031 Long Term Plan process.

**Louis Sparks**  
**Group Manager, District Assets**

**Appendix 1:** Full Condition & Compliance Assessment of Facility

**Appendix 2:** Concept plans



**Document Control**

Project Name: Westland District Council – Hokitika Swimming Pool  
 Project Number: 1202  
 Report Title: Full Condition & Compliance Assessment of Facility

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Version	Date	Status	Prepared
A	08.07.2016	Client Review	Toby Mason

<b>Written by:</b>	Toby Mason (Director) & Stephen Van Domelen (Senior Mechanical Engineer)
<b>Reviewed by:</b>	Bryan Greig (Director)

This report caters specifically for the requirements for this project and this client. No warranty is intended or implied for use by any third party and no responsibility is undertaken to any third party for any material contained herein.



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## 1 INTRODUCTION

CREATE has been engaged by Westland District Council to carry out a full Condition & Compliance assessment at the Hokitika Swimming Pool Facility at 53 Weld St, Hokitika.

The report has been commissioned by Westland District Council and is intended solely for their purpose.

### 1.1 BRIEF

CREATE has been commissioned by Westland District Council to conduct a comprehensive assessment of the existing facility, in order to establish a truer understanding of the current condition and compliance aspects of the facility. The assessment review of all plant, services and infrastructure, is to provide the Council with a fuller understanding of where any risks lie in terms of compliance, imminent capital expense and ongoing maintenance and operational costs.

The assessment would include the following infrastructure elements at the facility:

- 33.3m lap pool with toddlers pool
- Entry and amenity block
- Plant room, ventilation system and reticulation
- Concourses and surrounds
- Free standing Domestic Spa

Our report covers 3 key points, outlined as follows:

1. **Full Compliance and Condition Assessment of Current Asset:** CREATE to conduct a full condition and compliance assessment, and provide an indication of prioritization of these items, in terms of highest risk.  
*Purpose: to help define risk and expenditure required to safeguard asset and inform any asset management plan.*
2. **Rough order of costs to remediate/upgrade:** For all the items above in 1), we have provided a rough order of costs to remediate/upgrade.  
*Purpose: to help define short, medium and longer-term strategy for expenditure and informed asset management.*
3. **Asset Replacement:** Provide WDC with a cost estimate to replace the aquatic asset at current market rates.  
*Purpose: to help define an upper bound of potential Capital Expenditure.*

## 1.2 BACKGROUND INFORMATION

The following information has been provided by the pool operator and/or determined from the photographs provided from site:

- The pool was built in 1961 as an open air pool, and the current tank, walls and floor are original.
- The roof was then added in 1994 and comprised of primary curved knee laminated timber portals with lightweight solid timber infill roof purlins. The low level perimeter block walls to amenities and pool hall side walls are concrete block walls. Apparently no earthquake strengthening has been undertaken at the facility.
- There is a degree of insulation to the roof but the walls are essentially uninsulated. On some days excessive condensation is recorded in the pool hall. The roof cladding appears to be in reasonably poor condition.
- There is no significant air extraction system other than a very small and old fan. There is no heat ventilation to the pool hall.
- The pool operator has recorded the fact that there appears to have been ground movement, thought to be attributed to the proximity to the river.
- There is a single body of water 33m x 13.5m with depth ranging from 0.88m to 1.4m and is linear fall (i.e no shelves). There is a very small 'toddlers area' which is attached to the shallow end and uses the same water.
- Currently no significant leaks have been recorded.
- The pool water is treated by using 13% sodium hypochlorite, filtered using a sand filter and heated by coal fired boiler.
- Spa pool is independently heated and treated.

## 1.3 SUPPORTING INFORMATION

WDC have provided the following information to support the assessment:

- Access to site
- Existing Drawings on Council Files – although limited information was available.

## 1.4 CREATE SCOPE OF SERVICES

**SCOPE ITEM 1:** Compliance and Condition Assessment of Current Asset: The main body of work sits around this item and is outlined in Table 1 below.

**SCOPE ITEM 2:** Rough order of cost to implement recommendations to achieve full compliance. This will be based on experience with numerous aquatic facilities.

**SCOPE ITEM 3:** Asset Replacement: Provide WDC with a cost estimate to replace the aquatic asset at current market rates. This could include a description of facilities and size to support a cost estimate.

We have included an option of how the existing 33m pool at Hokitika could be reconfigured to increase community use.

Table 1: Summary of CREATE's Scope Items Relating to Compliance Assessments:

Assessment Item & Compliance	
Amenities & Plant Room Building - Seismic Performance - DSA in accordance with NZSEE Guidelines.	<i>Not Requested</i>
Fire Design Assessment: Gap Analysis in Accordance with C/AS4.	Applicable
Compliance for Accessibility – NZBC-D1 & NZS 4121	Applicable
Compliance Assessment of Existing Pools and F&T System – NZS4441 & NZS5826.	Applicable
Thermal & Vapour Control	Applicable
Ventilation including compliance with ventilation requirements NZBC-G4.	Applicable
Condition Assessment of Pools Infrastructure & Commissioning of Leak & Pressure Tests	Applicable
Storage of Hazardous Goods (HASNO) to NZBC-F3	Applicable
Condition Assessment of Pool Plant and Services	Applicable
Assessment of Sanitary Requirements NZBC-G1	Applicable
Compliance of plant and services under NZS 4219 Seismic Performance of Engineering Systems in Buildings	Applicable
Discharge to sewer and storm water	Applicable
Acoustic Assessment - Not required	<i>Not Requested</i>
Compliance in terms of E1 & E2	<i>Not Requested</i>



### Detail Seismic Assessment

The seismic assessment is typically a key part of the compliance report but excluded from our scope of works. We have therefore excluded any remedial works for this item from our scope for ROC in item 3.

### Condition Assessment of Pool Plant and Electrical Services

We have conducted a visual inspection of all filtration and treatment plant, and HVAC plant to amenity buildings. We were unable get an electrical contractor to site to conduct an assessment of the main electrical items and hence is omitted at present from our report.

### Condition Assessment of Pools Infrastructure

We have reviewed the condition of the existing concrete pools where access permitted.

We requested leakage tests, in accordance with NZS4441 but due to the operational requirements at the facility this was not possible to conduct these. Hence no leakage tests were conducted on either the pool tanks or separate pressure tests on the in-ground reticulation pipework.

Our ability to assess the condition of the in-ground pipework was severely limited by the restricted access.

#### 1.4.1 Key Personnel

Our proposed design team for this project is as follows:

Organisation	Person in Charge	Area of Responsibility
CREATE Lead Consultant	Toby Mason (Director)	Compliance with Means of Escape and Accessibility
	Stephen Van Domelen (Senior Mechanical Engineer)	Heating and Ventilation, Hydraulics, F&T
LDP	John McKensey	Electrical

#### 1.5 SITE VISIT

CREATE inspected the facility on 16.05.16 to carry out the inspection and met with the operator to gain access to the necessary plant and services.

Where access has permitted, we conducted a visual inspection of filtration and treatment plant, and HVAC plant to amenity buildings.

We conducted a visual inspection of the existing concrete pools where access permitted. The pool operator was unable to commission a leak test of the pool or to pressure tests for the in-ground reticulation pipework due to operational restrictions.

We note, our ability to assess the condition of the in-ground pipework will be limited by the restricted access.

## 1.6 COMPLIANCE REQUIREMENTS AND OBLIGATIONS

As discussed, our report has been commissioned by Council and our understanding is that it was solely for internal use. The purpose of the report is to give WDC a fuller understanding of the current condition of the facilities infrastructure and where any short falls may exist in current compliance, with a view to upgrading in the future. The report covers a wide range of elements such as fire safety, accessibility, plant, ventilation & pools. Water Quality and Pool Safety etc are more operational issues, was not specifically covered as part of our report, and are covered only by the extent under NZS4441 Swimming Design Standard.

The report highlights certain areas where the facility infrastructure is deemed not to meet current compliance requirements. As with all existing facilities the requirement to adopt these compliance objectives, are generally only triggered when alterations or new works is undertaken.

Councils however have their own policies regarding managing risk and may look to implement these irrespectively.

With regards to the main areas of compliance:

- Compliance with NZS4441 Swimming Design Standard is not a “mandatory” requirement, but defines current Best Practice for the design of aquatic facilities and provides a frame work to help manage risk. It is used as guidance for the designing of new facilities and often becomes a stated performance requirement. It is also commonly used for bench marking existing facilities and forming performance objectives for any upgrade works.
- Seismic Assessment and how to deal with Earthquake Prone buildings is clearly defined by dangerous and unsanitary legislation and GDC will have its own policies in place.
- Other compliance elements raised in the report are only triggered when there is a need to go for Consent. ie Fire Safety, Accessibility, Ventilation and etc.

In terms of operational requirements and the need for WDC to meet the necessary water quality standard (as defined by NZS 5826), increased procedures related to testing, dosing and re-filling the spa pool are required as well as testing and dosing for the lap pool.

## 1.7 LIMITATIONS AND EXCLUSIONS FROM CREATE'S SCOPE OF SERVICES

Services to be excluded from CREATE's scope of works:

- Physical works associated with conducting Leak Tests & Pressure Tests
- Physical Testing and/or scanning of Structural Elements
- Physical testing of artificial light levels, electrical systems and earthing – (qualified electrician required)
- General maintenance items such as gardens, spouting, joinery etc.
- Geotechnical assessment
- Seismic strengthening if required
- Detailed design, preparation of plans, images, etc.
- Preparation of cost plan
- Operation and Management elements such as Water Safe, Managing Water Quality, and Emergency Response etc.

## 2 AQUATIC FACILITY

### 2.1 DESCRIPTION OF FACILITIES ON SITE

The complex contains the following key infrastructure elements:

- Building: Constructed in 1961 as an open air pool, and the current tank, walls and floor are original
- Construction: The roof was then added in 1994 and comprised of primary curved knee laminated timber portals with lightweight solid timber infill roof purlins. The low level perimeter block walls to amenities and pool hall side walls are concrete block walls. Apparently no earthquake strengthening has been undertaken at the facility.
- Insulation: There is a degree of insulation to the roof but the walls are essentially uninsulated. On some days excessive condensation is recorded in the pool hall. The roof cladding appears to be in reasonably poor condition.
- Lap Pool: 33.45m x 13.45m, 6 Lanes, varying in depth from 0.87m to 1.4m. Overflow channels along full perimeter. Pool construction appears to be insitu concrete
- Toddlers Pool: 2.6m x 2.4m attached to the shallow end of the Lap Pool and shares the same water.
- Spa Pool: 2.3m x 1.9m above ground spa pool with internal heater and filtration system. Located within the main Pool Hall to the North of the Lap Pool.
- Pool side bleacher seating for approximately 120 spectators

Key Plant, Filtration & Operation:

- Pool F&T system. Filtration of pools is provided through a Pressure Sand Filter. Primary disinfection through 13% sodium hypochlorite. The Lap Pool is one water body with the Toddlers Pool.
- Coal Fired Boiler provides direct heating to lap pool/toddlers pool only.
- HVAC System Provided 100% fresh untampered ventilation to the pool halls spaces when operating as designed. Restrooms are served via rooftop exhaust fans. Change rooms do not allow for ventilation, however are conditioned by wall mounted split system heat pumps.

## External Areas:

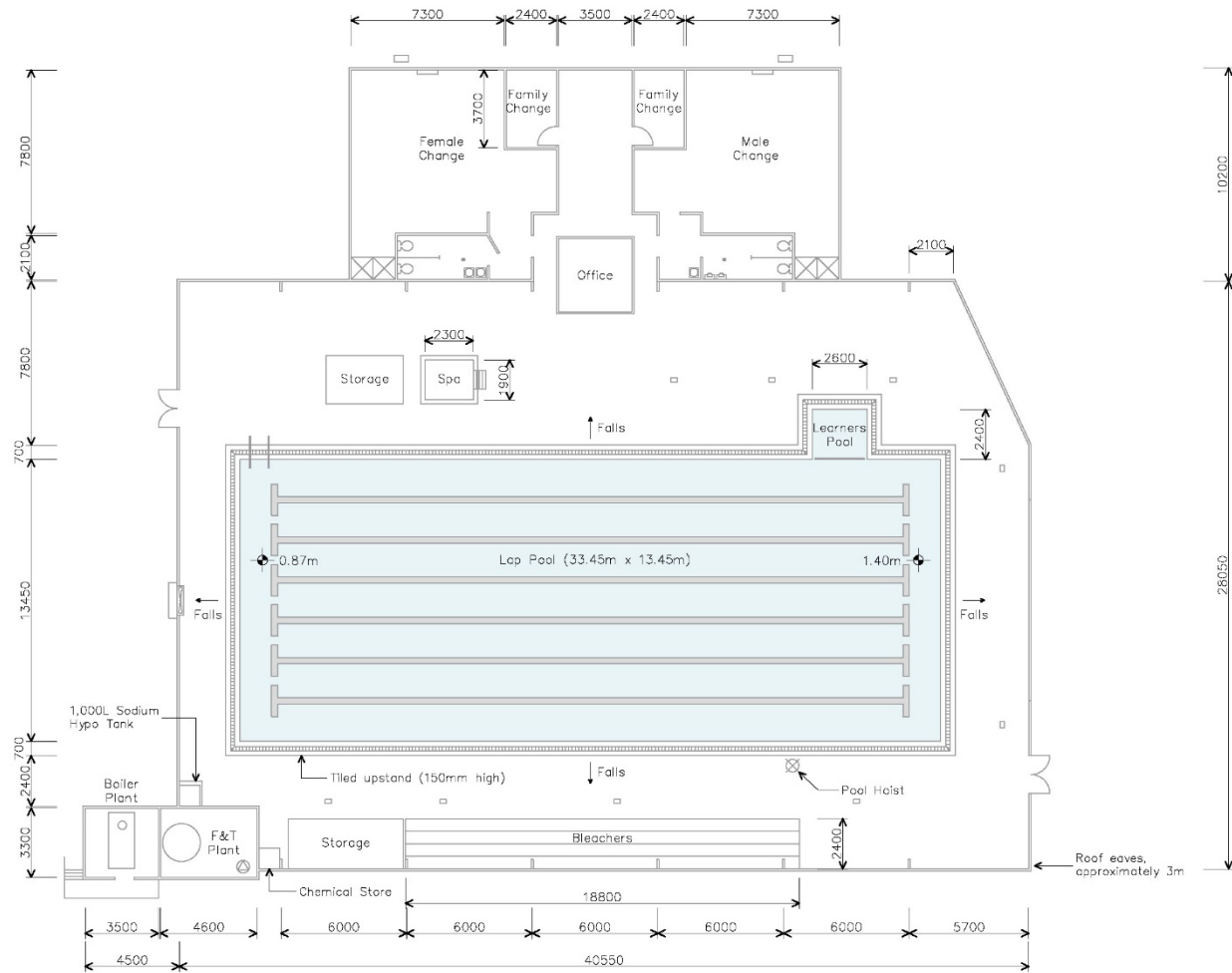
- Dedicated car parking for the facility is quite limited. There is general public road side parking to the front for 3-4 carparks adjacent to the entry main entry on Weld St. There is a separate off street parking area to the west of the pool hall that can accommodate a further 4 cars approximately.
- To the East the facility borders onto a railway line.
- To the South the facility borders directly onto industrial/office buildings.

## 2.2 AERIAL VIEW



CREATE

2.3 PLAN LAYOUT



Plan View of Existing Facility

CREATE

s:\10\_projects\1202 hokitika swimming pool condition assessment\10 general\10.6 reports-working docs\hokitika swimming pool - assessment report v1.docx

Date: 8/07/2016

### 3 CONDITION AND COMPLIANCE ASSESSMENT SCOPE ITEM 1

#### 3.1 REPORT STRUCTURE

##### SCOPE ITEM 1: Condition and Compliance Assessment

For ease of interpretation and clarity, the report has been set out as follows:

Section 3 of the report contains a summary of key observations & findings relating to each assessed element, outlined in Section 1.4 Table 1. This pulls forward the key aspects from the detailed assessment reports, which are contained in the appendices and outlined in the table below:

*Table of Appendices*

Assessment Item	Appendices
Compliance Assessment of Existing Pools and F&T System – NZS4441	1
Compliance for Accessibility – NZBC-D1 & NZS4121	2
Compliance of all the covered spaces in terms of NZBC ventilation requirements NZBC-G4	3
Fire Design Assessment: Gap Analysis in Accordance with C/AS4	4
Assessment of Sanitary Requirements NZBC-G1	5
Storage of Hazardous Goods (HASNO) to NZBC-F3	6
Vapour Control	7
Site Photographs	8



### 3.2 FIRE DESIGN ASSESSMENT: GAP ANALYSIS IN ACCORDANCE WITH C/AS4

The Pool Building has been assessed using the appropriate Acceptable Solution to highlight areas within the building that currently do not comply with the New Zealand Building Code (NZBC) with regards to “means of escape from fire”.

This Gap Assessment has been completed based on NZBC Acceptable Solution C/AS4; Acceptable Solution for Buildings with Public Access and Educational Facilities, (Risk Group CA). It identifies the following areas:

- Highlights where the existing building fully complies with the Acceptable Solution
- Highlights where there are gaps between the building’s fire systems and features and the requirements of the Acceptable Solution
- For each gap, assesses whether an “as near as reasonably practicable” (ANARP) solution can be achieved and provides options to improve the compliance to the required level.

This assessment is based on no Changes of Use or alterations to the existing building envelop, as such ‘External Spread of Fire’ has not been addressed in this report as per the requirements of Section 112 of the NZ Building Act. If proposed work is to alter the building envelop the requirement for fire rating to the new walls is required to be addressed. If a Change of Use is proposed means of escape from fire, protection of other property, structural performance, and fire-rating performance is required to be addressed.

Testing of hardware and fire safety systems is not covered in this report and should be completed as part of the buildings annual warrant of fitness.

#### 3.2.1 Key Compliance Recommendations

As detailed in the appended report, several areas have been identified as non-compliant with the Acceptable Solution. There are several minor areas that can be addressed as part of either building maintenance or planned building work. The following are the areas where a solution is inexpensive, readily available and will have a significant impact on occupant safety and increase the means of escape facilities of the swimming pool complex:

- The buildings occupant capacity is limited to 250 persons. It is recommended that management put procedures in place to identify occupant levels and prevent levels exceeding 250 persons.

- A Type 2 manual call point alarm system is installed. This system will require “break glass” type call point be installed on egress routes and sounders installed to warn occupants in all areas.
- Illuminated exit signs are installed on all escape paths in the locations shown on plans below.
- Panic hardware is fitted to the main pool hall fire exits on the east and west ends of the building.
- Management put in place procedures to ensure the main entry doors are unlocked (both doors) while the building is in use.

The items identified above will have a significant impact on the ability of the occupants to safely escape in the event of fire. Additional fire safety systems such as emergency lighting to the entire main pool hall and increasing the alarm system to a Type 4 smoke detection system will be required as part of any future building project, especially if the proposed occupancy is to be increased to 420 persons as per the calculated design occupancy below.

Type 4, Smoke detection and alarm system with manual call points is required to the Admin Area and Main pool Hall. Direct connection to fire service is also required. Compliant heat detection as a minimum is installed in toilets, fitness room, change room and club room.

As an ANARP solution it is recommend that a Compliant Type 4 system with full smoke detection be installed.

The fire resistance ratings (FRRs) that apply for risk group CA without a Sprinkler system are as follows:

- Life rating = 60 minutes: The building is considered as a single Firecell, therefore no Life ratings are required.
- Plant, boiler and incinerator rooms: The existing plant room is to have fire rated wall and doors, with a 90 minute separation is required by the Building code. As the plant is existing it is not reasonably practicable to reline the wall to increase the fire rating. If required, the existing wall would need to be relined and fire penetrations protected with 60 minute fire collars to ensure the rating is ANARP.
- Other Finishes: The surface finishes are consistent with the existing approved design based on the relevant Building codes at time of consent. ANARP Solution: To alter the surface finishes to the existing building would not be reasonably practical

Fire exit provisions are generally complaint, however panic hardware is required to be installed to all exists and stepped thresholds need to be remediated to reduce height to <20mm as of an ANARP solution.

Firefighting: Check required to ensure Signage is Compliance and upgrade as required

Visibility on Escape routes: Checks required to ensure Compliance is achieved and upgrade as required

### 3.3 COMPLIANCE FOR ACCESSIBILITY – NZBC D1 & NZS 4121:2001

Generally provisions on site to meet requirements under D1. Below, we have made comments on compliance and identified areas where remedial works or further checks are recommended:

**Entry:** The entry area does make some provisions for accessibility, with main route greater than 1200mm wide, doors in excess of 760mm wide. However the main desk has no set down areas for people in wheel chairs and accessible route narrows around reception to <1200mm.

**Footpaths and Ramps:** Generally compliant foot paths are provided and no ramps apparent on site, however:

- The areas external to the eastern exit, requires a level zone for 1200mm beyond the threshold and a barrier to stop egress onto the railway track is suggested.

**Slip resistance:** Checks should be considered for all wet surfaces and surrounds to ensure compliance can be demonstrated with D1/NZS4121:

- Confirmation is required that the slip resistance of showers are compliant for a wet surface.
- Slip resistance of roughen concrete surrounds and painted concrete in showers can wear smooth over time. These areas need to be monitored on as part as ongoing maintenance to ensure adequate slip resistance can be provided.

**Access to Pools:**

33m Pool: Currently there is limited provision for unaided access to this pool through the use of a pool hoist. This is not compliant with D1 where a ramp or platform lift is required. Drop-in accessible stairs would help increase accessibility to the pools as a minimum to make some level of provision for disabled patrons.

**Signage:** Generally the provision for way finding signage is inadequate and non-compliant.

**Visible Factor:** Generally artificial light levels need to be checked in Accordance with NZBC G8 but appeared to be compliant. Emergency light levels needs to be checked on site for compliance with NZBC F6. Texture and contrast strips could be included on the upstands around the pools and to aid with visibility.

**Thresholds:** Generally the thresholds comply in terms of accessibility, however the steps at fire exists generally exceed <20mm and as such are not compliant.

**Toilet and Change Facilities:** There are currently no accessibility provisions in terms of toilets and showers on site. Recommendation is for a minimum of 2 compliant accessible toilets, showers and change rooms.

**Car parking:** There is currently no provision for accessible parking spaces on site. It would be advisable to allocate at least 1 space at the main entry.

### 3.3.1 Key Compliance Recommendations

**Car parking:** Provide at least 1 accessible car park space at the main entry.

**Toilet and Change Facilities:** Provide a minimum of 2 compliant accessible toilets, showers and change rooms

Provide hard surface areas external to the eastern exit, beyond the threshold and a barrier to stop egress onto the railway track as suggested.

**Access to Pools:** Drop-in accessible stairs would help increase accessibility to the pools as a minimum to make some level of provision for disabled patrons.

## 3.4 COMPLIANCE ASSESSMENT OF EXISTING POOLS AND F&T SYSTEM – NZS4441 & NZS5826

### 33.3m Pool & Learners Pool: Assessment of Compliance NZS4441

- The reticulation pipework to and from this pool restricts the filtration flow rate to around 22% of that required by NZS4441. The single 1800mm sand filter provides around 21% of filter area required by the NZS4441.
- Max Turnover rate 8.1 hours assuming 24hr filtration is not within the recommended turnover rates of 2-3hrs.
- At the time of inspection no pool water was returning over the pool edge gutter and so only equalising through the lower level connection to the balance tank. Apparently when in operation, pool water only flows out across a limited section of gutter in the toddlers pool rather than equally from around the lap pool edges, hence not compliant in terms of pool edge overflow.
- Pool floor slope compliant at <1:15
- Entrapment Hazards:
  - Exist around step ladder stairs where the gap from the stairs is 70mm & the gap from the rail is 80mm. Entrapment is considered possible if the void is between 8 & 25mm or between 50 & 250mm.

- The stainless steel barrier between the Toddlers Pool and Lap Pool creates an entrapment hazard with 60mm gaps. Entrapment is considered possible if the void is between 8 & 25mm or between 50 & 250mm.
- Equalizing piping from deep end of Lap Pool to Balance Tank. The maximum velocity through the free area of the Equalizing grilles shall not exceed 0.5m/s under any possible operating conditions, including pool draining. In addition, a second outlet grille is required with a minimum distance of not less than 1200mm.
- Depth indicators around the main lap pool are located on the walls. Although present should be located at the side entry points and at changes in depth.
- Pool water quality is currently being checked 4 times daily. Per NZS5826 manual testing for public pools should occur prior to daily use, then every 3-hours (5x daily, Mon-Fri).
- Overall Dims not checked as pool is not conjured for compliance with FINA.
- Pool Depths: Dive blocks were not in place at the time of inspection. Pool depths were sufficient to support dive entry with pool being >1350mm at the dive entry end. Shallow end is less than 1.05m recommended for tumble turns.
- Pool Floor delivery along the centre is not recommended for swimming competitions in this depth of pool. Side delivery in shallower pool is recommended.

#### **Spa Pool: Assessment of Compliance NZS4441**

- The spa pool is a standalone above ground body of water, similar to that found in residences. This is more of a domestic spa rather than commercial spa pool, an assessment was not completed for this body of water.
- Spa pool water quality is currently being checked 2-3 times daily. Per NZS5826 testing for public spa pools should occur prior to daily use, then every 2-hours (7x daily, Mon-Fri). In addition, the pool should be drained and re-filled weekly.

### Balance Tank Summary of Compliance NZS4441

- The volume available in the whole balance tank appears to provide 90% of the requirement as noted in NZS4441.
- Insufficiently sized balance tanks can lead to water loss when displaced water (for swimmers) returns to the balance tanks.
- No overflow sited during inspection.

Pool side first aid room is typically required to meet NZS 4441 requirements.

#### 3.4.1 Key Compliance Recommendations

**Filtration:** Upgrade Filtration system to main pool to provide compliance to at least 70% of NZS4441. New delivery and return pipes within surrounds, new filtration, pumps and dosing. Relevel tiles to pool upstand to balance overflow around main pool. Install new equalising line to balance tank.

### 3.5 THERMAL & VAPOUR CONTROL

Hokitika Aquatic Centre building is predominantly uninsulated and poorly ventilated using cold natural air direct from outside. This leads to high degrees of energy loss and condensation within the spaces. This has an adverse effect on energy use and this internal environment. Excessive condensation enhancing the corrosiveness of the internal environment and causes accelerated deterioration of the building fabric over time, it is also unpleasant for most patrons.

**Roof:** The insulated roof is constructed using XPS (rigid insulated board) which provides both vapour control and insulation with profile metal sheeting aboard for weather protection. It was evident on site that there are breaches in the vapour control to the XPS and signs of condensation leaking through what should be sealed joints, this is leading to staining on the XPS and timber.

**Walls:** The walls are uninsulated, constructed from both clear light cladding at high level and 20 series block work at low level. It was clearly evident on site that there was excessive condensation on the walls.

**Internal Gutters:** The gutters along the pool hall eaves appear to show signs of degradation and were leaking at the time of the inspection, leading to water pooling on the surrounds. In addition the gutters appear un-insulated and presents significant cold bridge, thus condensation.

**Fresh Air:** The ventilation in the pool hall space is provided by unheated fresh air. At the time of the inspection the atmosphere in the pool hall was relatively unpleasant with excessive condensation and mist within the pool hall, as the warm air from the pools condensed in the space above and on the cold uninsulated surfaces.

**Changes rooms:** Again the building enclosure to the change room is essentially largely uninsulated. The presence of the new heat pumps in both spaces helps elevate the temperature and reduce the condensation in these two changes areas. It was noted that limited natural ventilation is provided in these change areas and non-compliant.

### 3.5.1 Remedial Works & Recommendations:

The cladding is in excess of 22 years old and as such will be approaching the end of its intended life and likely due for reinstatement shortly. As part of any future upgrade and remediation, the recladding of the building should seriously be considered as part of any works. This should look at the roof and walls to provide a full insulated and vapour control environment that will help save guard the life of the asset and help reduce running costs.

## 3.6 VENTILATION INCLUDING COMPLIANCE WITH VENTILATION REQUIREMENT – NZBC-G4

The ventilation system for the pool hall has the ability to achieve compliance with NZBC G4 based on the existing systems in place, however the fresh air intake louvre is blocked off with plywood at certain times to reduce condensation.

The pool hall requires a minimum of 2.5-litres/second (L/s) per square meter of fresh. Therefore the main pool hall will require 2,520-L/s of fresh air to meet compliance with NZBC-G4.

No ventilation air is provided to the lobby, office or any change rooms. The male and female restrooms each have a 50-L/s rooftop exhaust fans. The required ventilation flow rate required for these areas based on existing conditions total 586-L/s. None of these spaces are compliant with NZBC-G4.

NZBC-G4 requires two permanent openings, one high level & one low level with a free area of no less than 1,200-mm<sup>2</sup> per kW of gas input (or equivalent heat input from the coal boiler). The Boiler Plant is not compliant with NZBC-G4.

### 3.6.1 Key Compliance Recommendations

**Ventilation:** Upgrade Ventilation system to whole facility as outlined above.

### 3.7 CONDITION ASSESSMENT OF POOLS INFRASTRUCTURE & COMMISSIONING OF LEAK & PRESSURE TESTS

The pools were all originally outdoor pools constructed in 1961 and were enclosed in 1994. The information as to their original construction is unclear and limited information is available from Council records.

Access to the pools at the time of inspection was limited to visual inspection from pool edge.

Based on the estimated age of the in-ground tanks and from our experience with similar pool tanks, the structure is unlikely to comply with current NZBC requirements in terms of B1 & B2. Although it is unlikely to present a life safety concern. The age of the pool would indicate that it is approaching the end of its intended design life (50 years) but that's not to say extended use cannot be achieved with good ongoing maintenance.

The main pool tank appeared to have suffered vertical settlement toward the north east corner by around 20mm. This leads to an uneven return flow across the pool edges and therefore not ideal or strictly compliant. This can be rectified through re-levelling of the pool edge tiles.

The integrity of the tanks generally appear to be reasonable and we understand that part of the pool was painted with Epotec paint within the last year, with the remainder due to be painted next year.

Leakage testing of the pool tanks in accordance with NZS4441 was excluded from our scope. The operator recorded no discernible issues with pool leakage at the time of inspection, however was noted that manual top up 2-3 times a week was required, however the volume was not recorded. Leakage could therefore be apparent.

Typically these concrete pools require regular inspection of the water proofing details at the time of re painting to assess. Typically allowance should be made to replace the pool seals on a 10 yearly cycle, with new Sikadur Combiflex system or equivalent.

Perimeter anti slip mats had then been installed to protect the public. Inspection and rectification of the tiles needs to be attended to as part of general maintenance cycle to protect the public.

Limited access to in ground pipe works prevented visual inspections. Pressure testing of these elements was excluded from our scope.

#### 3.7.1 Key Compliance Recommendations

Pool: Continue to be proactive in painting and remediate pool as part of ongoing maintenance plan to avoid it falling into a state of disrepair. Plan for potential replacement of the pool in 10-15years as part of an asset management plan.



### 3.8 STORAGE OF HAZARDOUS GOODS (HSNO) TO NZBC-F3

We have conducted an assessment of the chemicals stored on site and consulted with HAZTEC (HASNO Consultant) regarding the controls required to be in place under HASNO Regulations.

Our assessment is limited to those chemicals recorded at the time of inspection and logged in the attached report.

#### Compliance has been checked under the follow legislation:

- The Hazardous Substances and New Organisms Act 1996.
- The Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001.
- The Hazardous Substances (Dangerous Goods and Scheduled Toxic Substances) Transfer Notice 2004.
- The Hazardous Substances (Emergency Management) Regulations 2001
- Including, reference to New Zealand Building Code Clause F3, Hazardous Substances and Processes-Verification Method F3/VM1.

Volumes of chemicals record on site at the time of inspection:

Material on site	Use	Vessel Size	Qty.
Sodium Hypochlorite - Commercial (Concentrate 13%)	Pool Water - Primary Disinfection	1,000 L	1
Sodium Hypochlorite - Commercial (Concentrate 13%)	Fecal Contamination – Shock Dosing	20 L	1
Sodium Bisulphate	pH Control	20 L	1
Sodium Bicarbonate (Baking Soda)	Alkalinity Control	20 L	1

**Compliance Requirements:**

Refer to attached report for HASNO control requirements for each chemical reflective of volumes recorded on site at the time of inspection.

There are areas that require additional HASNO controls required to be implemented which included some of the following key items:

- SDS Sheets for Sodium Hypochlorite required on-site.
- Access to protective clothing, eye wash etc.
- Sodium Hypochlorite levels are measured by climbing up on top of tank. Safety provisions should be incorporated.

**Limitations:**

The above findings is subject to the volumes of materials recorded on site at the time of inspection.

The above is reflective of the SDS sheets provided.

### 3.9 CONDITION ASSESSMENT OF POOL PLAN AND ELECTRICAL SERVICES

F&T plant appear to be in reasonable order. Grundfos Pump (4.0kW) serving the 1800mm sand filter appears to be in good condition.

The filters themselves appear in reasonable order given their age, time of most recent media replacement was unknown.

#### ELECTRICAL

##### Main Switchboard

The main switchboard is over 20 years old and is located within the F&T plant room, so exposed to a corrosive atmosphere. We recommend that the switchboard be replaced and located in a room or cupboard that is supplied with fresh (non-pool) air. Cabling will need to be relocated/extended to suit.

##### Pool hall floodlights

The pool hall floodlights appear to be providing less than the recommended illuminance for safe use. AS2560.2.5 (Sports Lighting – Swimming Pools) recommends 120 lux average and 0.5 uniformity for recreational use. NZS4441 (Swimming Pool Design Standard) has a similar recommendation – 200 lux on the water and 100 lux on the surrounds. We recommend adopting AS2560.2.5. Whilst not measured, the present illuminance appears to be less than 100 lux and the floodlights are aimed near horizontal producing excessive glare. In addition, the floodlights are presumed to be original, so more than 20 years old and therefore near the end of their useful life.

LED options are now available and may provide energy savings, although the type of replacement lighting, locations and quantities would be subject to detailed design.

If the roof soffit were altered to be white and preferably without the interference to reflection presently created by the rafters, less floodlighting (quantities and/or wattage/lumen output) would be required. This would also reduce ongoing energy costs.

##### General lighting

Given the present age of the facility, all of the original lighting will be near the end of its useful life and can generally be replaced with energy efficient LED alternatives. This also includes emergency and exit lighting.

### 3.10 ASSESSMENT OF SANITARY REQUIREMENTS – NZBC-G1

We have conducted a review of the sanitary fixtures required for compliance under NZBC G1.

To achieve full compliance with the current code, for the potential occupancy load determined in accordance with G1, would require the following additional facilities:

- (x2) ACC Toilet Facilities. Each ACC Toiler Facility to come complete with (x1) WC & (x1) hand basin. At least one ACC Toilet shall have an accessible shower.
- (x1) Male WC's
- (X2) Female WC's
- (x3) Showers. At least one of these showers is required to be accessible as per note above.

### 3.11 COMPLIANCE OF PLANT AND SERVICES UNDER NZS4219 SEISMIC PERFORMANCE OF ENGINEERING SYSTEMS IN BUILDINGS

We have conducted an assessment of the seismic performance of engineering systems for compliance under NZS4219:2009. Engineering systems are defined as non-structural systems permanently installed in a building, and providing environmental control, water, gas, steam electrical or communications services, and active fire suppression or fighting systems. Engineering systems associated with Hokitika Swimming Pool are somewhat limited and include the exhaust air fan, boiler, sand filter and piping.

**Exhaust Air Fan:** Axial exhaust fan rigidly attached to the building exterior wall - Compliant

**Boiler:** Boiler is freestanding without seismic restraints. Recommend four (x4) anchors, one at each corner of boiler. If independent fixings are used an attachment between fixing & boiler, as well as attachment between fixing and concrete floor are required – Non-Compliant

**Sand Filter:** Sand Filter is freestanding without seismic restraints. Recommend four (x4) anchors, evenly spaced around the perimeter of the filter base. If independent fixings are used an attachment between fixing & filter, as well as attachment between fixing and concrete floor are required – Non-Compliant

**Piping:** Ø100mm supply piping freestanding within F&T Plant Room. Piping Ø50mm and greater requires bracing every 3m. Recommend one (x1) intermediate support to ensure piping greater than 150mm above ground level. Support can be anchored to the concrete flooring – Non-Compliant

### 3.12 DISCHARGE TO SEWER AND STORM WATER

Discharge from site through both storm water and sewer was difficult to ascertain from lack of information available. We presume the main toilet flow out as part of main town sewerage system but the storm water and pool water is likely to be directed straight to the river. The pool water is low level of chlorinated with no filter media being present so the contamination whilst non-compliant is deemed relatively low.

As part of any potential upgrade works the pool discharge should be diverted to town sewerage system. Roof storm water discharge can continue to flow to the river.

CLIENT REVIEW

#### 4 SCOPE ITEM 1: ROC FOR COMPLIANCE RELATED WORKS

Fire Safety System: Installation of Type 4 System including Beam Detection in the Main Pool Hal and Point detection elsewhere, new Fire exit Doors with appropriate panic hardware.

**Ball Park Budget Cost Estimate: \$30-50K excluding P&G, Margins and Fees**

Filtration: Complete Upgrade of Filtration and Reticulation system to main pool to provide compliance to at least 70% of NZS 4441.

- Demolition of existing plant and excavation for new piped services
- New delivery and return pipes within surrounds, new filtration, pumps and dosing.
- Reinstatement of surrounds
- Re-level tiles to pool upstand to balance overflow around main pool. Install new equalising line to balance tank
- Allow to repaint pools

**Ball Park Budget Cost Estimate: \$400-500K excluding P&G, Margins and Fees**

Sanitary and Accessibility: New Builder works associated with meeting Accessible and G1 Provisions:

- Installation 2 new Accessible Toilet, Shower & Change Rooms
- 1 new Male and 2 new female WCs
- 3 new pools side Showers.
- Drop in Accessible Pool Stairs
- Provision of Accessible Car Park
- Modification to Reception Desk

**Ball Park Budget Cost Estimate: \$50-60K excluding P&G, Margins and Fees**

Re Cladding of Pool hall building with Insulated King Span Cladding to roof and walls, to address vapour control issues:

- Due to age of facility allow to replace exiting purlins with new 300x45 Hyspan LVL H3.1 LSOP – sanded and clear finish only. Galvanized mild steel cleats and bolts.
- Re clad existing pool hall with 60mm insulated Kingspan cladding to roof and walls except around front amenity building and rear store room. Use standard KS details and obtain all necessary warranties.
- Install new 150mm RWP to all sides of pool hall and tee into existing storm water.

**Ball Park Budget Cost Estimate: \$750-950K excluding P&G, Margins and Fees**

Modification of in ground sewer and storm water to address flows to river:

**Ball Park Budget Cost Estimate: \$20-30K excluding P&G, Margins and Fees**

New Ventilation Requirements to comply with G4 only – (remain un-conditioned space):

**Ball Park Budget Cost Estimate: \$30-40K excluding P&G, Margins and Fees**

New Mains Switch Board and Wiring: Allowance for installation of new MSB and associated wiring

**Ball Park Budget Cost Estimate: \$40K excluding P&G, Margins and Fees**

New lighting: LED Lighting to Pool Hall and General Lighting

**Ball Park Budget Cost Estimate: \$50-60K excluding P&G, Margins and Fees**

The above excludes all builders work other than that described in terms of sanitary provisions. Excludes structural strengthening of main pool hall.

## 5 SCOPE ITEM 2: ROC FOR ENHANCEMENT TO EXSITING POOL

Enhancing the Use of the Existing Pool 33m Pool:

We would recommend that if the above was to be under taken that the main pool be split to accommodate and new LTS at the shallow end and reduce main pool to 25x 6 lane regional competition pool:

Proposed new pool bodies:

- LTS Pool 13.45m x 8.45m sloping from 700mm at the East to 900mm. New inset seat 350mm wide 350mm deep along length of pool. Pool would be a separate water body and run at 32-33°C.

New subdividing bulkhead between pools 1m wide.

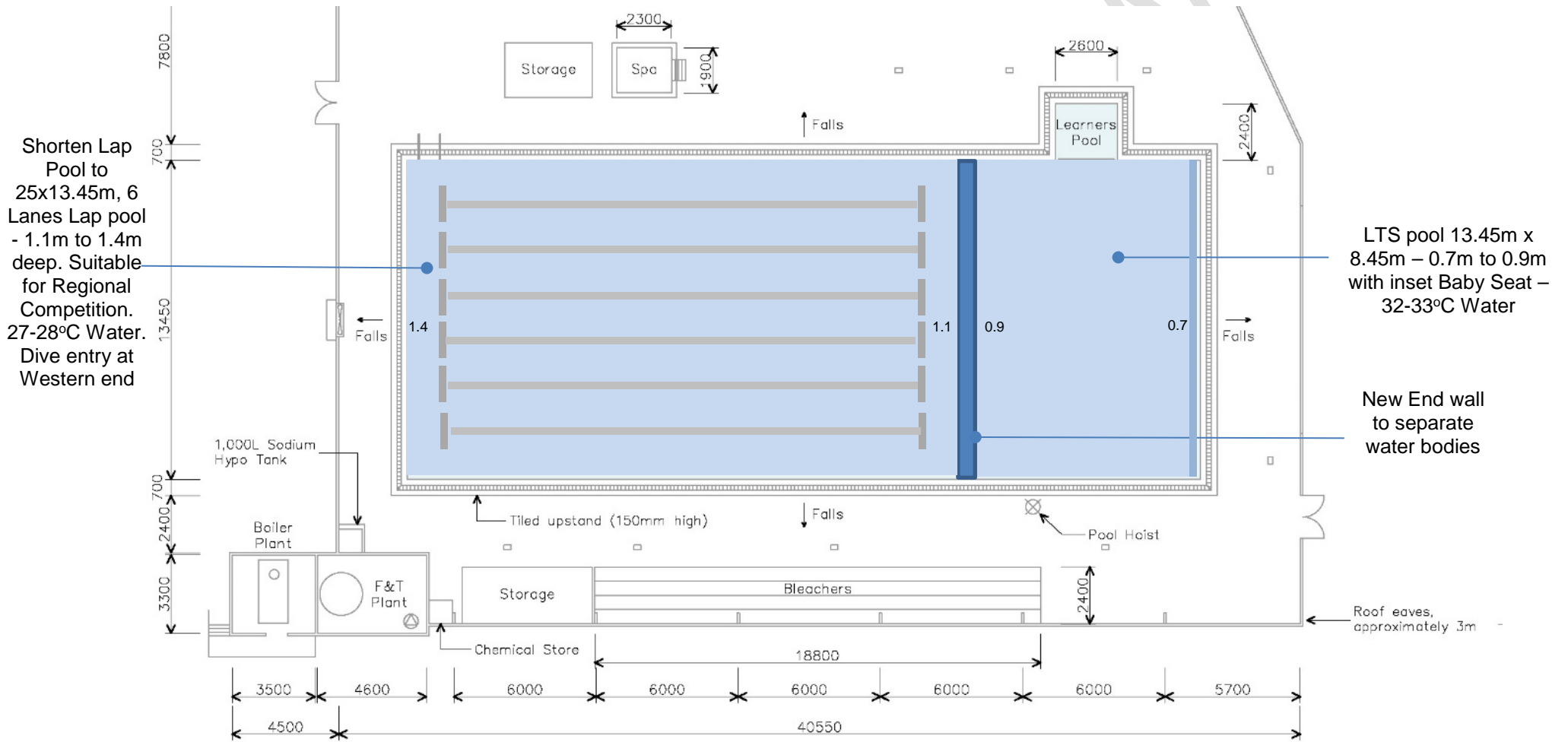
- Main Lap Pool 25mx 13.45m Sloping from 1.1m at the East to 1.4m. Pool would be a separate water body and run at 27-28°C. 1.4m Allow dive entry at western end. (Note FINA National Standard requires Min 8 x 2.5m lanes Short Course x 21m width overall)

Above works would require new dedicated filtration and reticulation system for LTS Pool and subdivision of the existing balance tank to service each water body. Estimated additional cost of work in the region of \$200-250k.

See Attached Plan of Modifications to Existing Pool



5.1 PLAN LAYOUT – ENHANCING USE OF EXISTING 33M POOL



Plan View of Existing Facility

CREATE

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Date: 8/07/2016

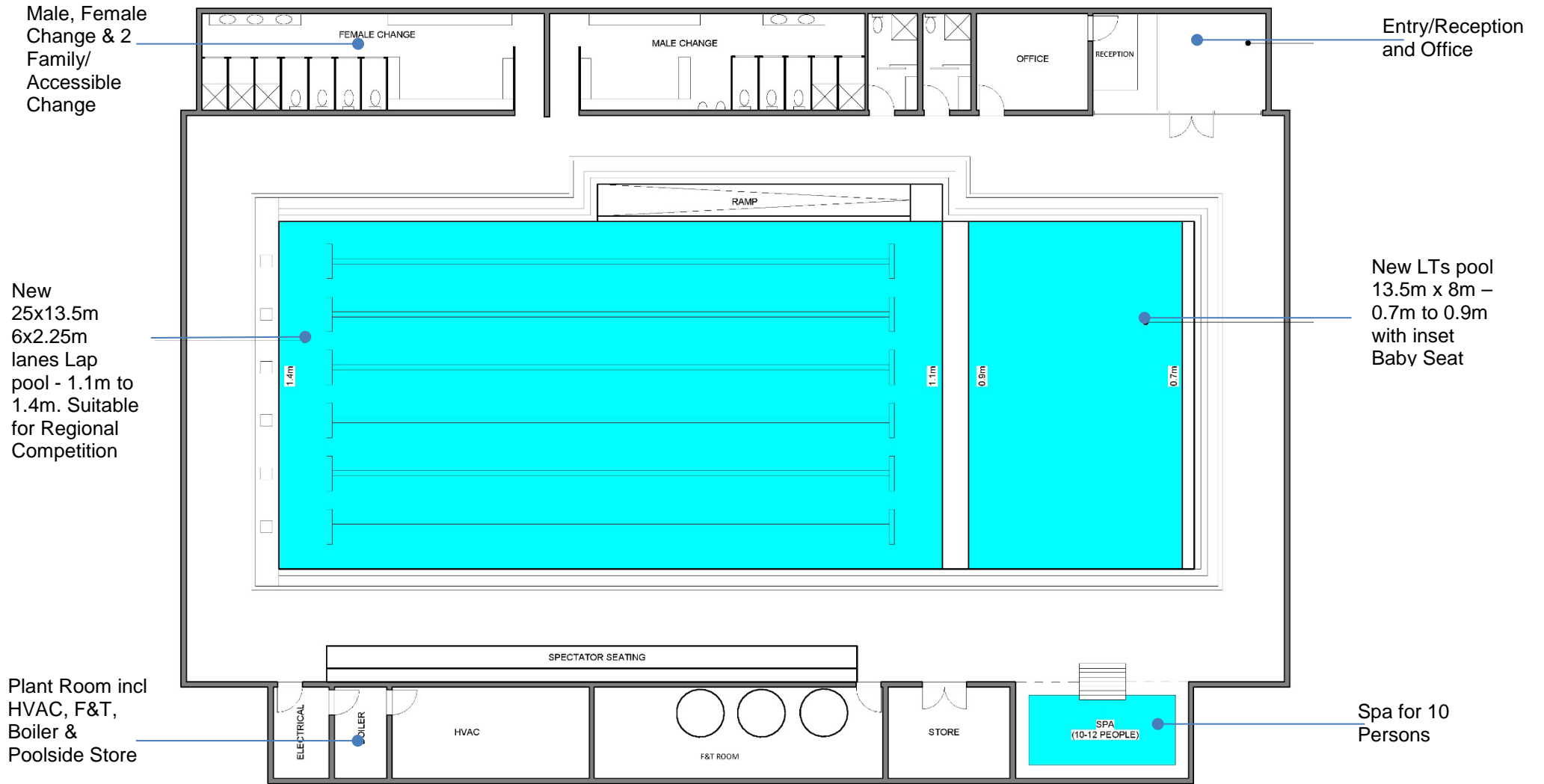
## 6 SCOPE ITEM 3: REINSTATEMENT COST OF NEW COMPARABLE FACILITY

To build a new aquatic facility that encloses the following at today's market rates:

- New Lap pool 25x13.5m with 6 x 2.15 lanes - 1.1m to 1.4m deep– Water Temp 27-28°C. Dive entry at one end. Pool suitable for Regional Competition. (FINA National Standard – requires Min 8 x 2.5m lanes Short Course x 21m width overall)
- New LTS pool 13.5m x 8m – 0.7m to 0.9m – Water Temp 32-33°C
- 3m Max Surrounds
- Seating for 75 spectators
- Commercial in built spa 35m<sup>2</sup> (10 People)
- Modern Changes facility for Male and Female
- 2 Family Change/ Accessible Change Cubicle with Toilet, Shower and WHB
- Reception and Staff offices
- Plant room
- HVAC Heating and Ventilation System
- Fulling Insulated and Vapour control enclosure with double glazed windows and doors
- External car parking for 20 spaces, 2 of which are accessible spaces
- Type fire safety system and audio loop
- Energy efficient heating system for HVAC and Pools
- DHCW system

To enclose these would require a facility of around 1175m<sup>2</sup> as shown on plan below, with an estimated preliminary construction cost of around \$3900-4200/m<sup>2</sup> or \$4.5-4.9Million NZD at current market rates which excludes P&G and Margins fees and Contingency. It also excludes external works which could be in the region of an additional \$300-400k.

6.1 PLAN LAYOUT OF NEW COMPARABLE AQUATIC FACILITY



Plan View of New Comparable Aquatic Facility

CREATE

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Date: 8/07/2016

SUPPORTING COMPLIANCE ASSESSMENTS:

APPENDIX 1: COMPLIANCE ASSESSMENT OF EXISTING POOLS AND F&T SYSTEM – NZS4441

CLIENT REVIEW

CREATE

Date: 28/06/2016



WESTLAND DISTRICT COUNCIL  
 HOKITIKA SWIMMING POOL  
 APPENDIX 1: POOL SITE INSPECTION REPORT

**Project:** HOKITIKA SWIMMING POOL Compliance Assessment

**Location:** 53 Weld St, Hokitika

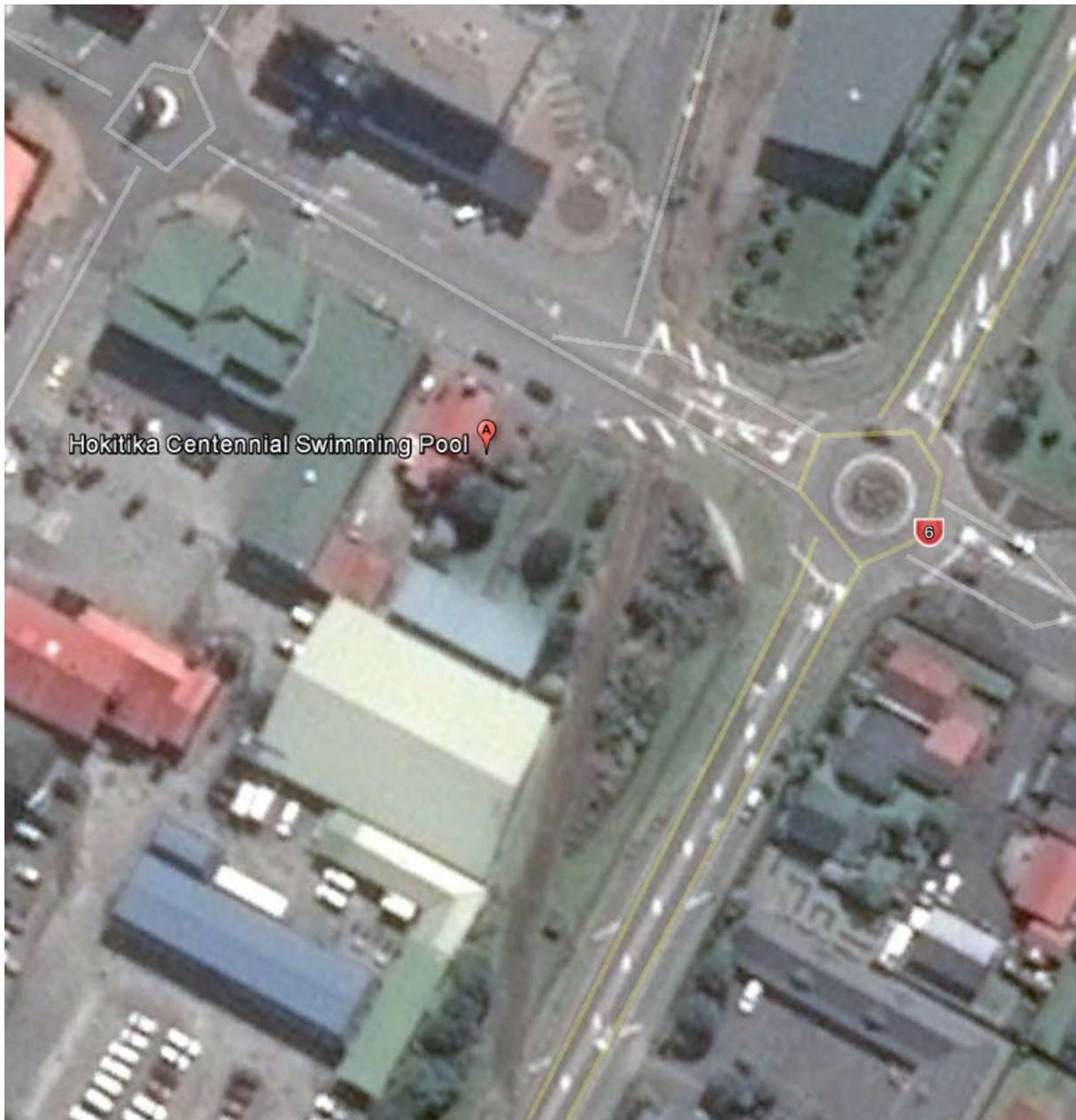
**Our Ref:** 1202

**Report by:** Toby Mason of CREATE Ltd

**INVESTIGATIONS**

<b>Summary</b>	Date of inspection	16 <sup>th</sup> May 2016
	In attendance	Toby Mason
<b>Information Provided</b>	Drawings	Nil
	Photos	Nil
	Contractor Quotes	Nil
	Previous Investigations	No Information provided by WDC
	Testing: Leak/Pressure	Due to operation this was not conducted. Manual Water top up required as water level drops to a point where water no longer returns over the overflow. Anecdotal reports of manual water top up being 2-3 times a week, and depending of the volumes it could be excessive. overflow
<b>Operation &amp; Maintenance</b>	Integrity	No concerns reported. The pools appears to have subsided at some point in the past and is lower at the toddlers pool where the water now only overflows at this one point. The Pool is drained annually for painting and no reports of remedial work to pool tank being required
	Loading	Typical Indoor Community Aquatic Facility
	Operational Issues	None Reported.
	Hours of Operation	6am - 8pm Mon to Fri, 9am – 6pm Sat & Sun
	Use of covers	Yes

**AERIAL - General Site Layout**



**SKETCH - General Site Layout**

CLIENT REVIEW

## INSPECTION NOTES

## Main 33.3m Pool &amp; Adjacent Toddlers Pool

Inspection carried out by Toby Mason on behalf of CREATE on 16 <sup>th</sup> May 2016			
<b>Pool Details</b>	Dimensions	<p><u>Lap Pool:</u> 33.45m x 13.45m 6 Lanes varying in depth from 0.87m to 1.4m.</p> <p>Flush over flow flows to each side full length.</p> <p>Raised overflow gutter relative to surrounds on 4 sides. No dive blocks in place although observed in storage area</p> <p>Pool construction appears to be insitu concrete - in-ground. Anecdotal report of construction from 1960, with enclosure constructed around 1994</p>	<p><u>Toddlers Pool:</u> Recessed area off main pool. 2.6m wide by 2.4m. Inset seat to 2 sides – 400mm wide at 250mm. pool depth 500mm</p>
	Surface type & condition	Insitu concrete with Resene Pool Paint finish. Tiled over flow edge gutter to horizontal and external face.	
	Integrity	Reasonable Condition given age of pool with light evidence of crack or significant subsidence.	Integral with main pools
	Delivery	UPVC pipes observed in plant 100mm Diameter to central delivery through central on pool floor. Multiple inlets at approx. 900cc	Integral with main pools
	Return	Raised overflow gutter relative to surrounds on 4 sides. Gutter internal dims 20mm wide with falls from 200 to the east through to 400mm deep at plant room corner to the southwest corner. Open Concrete Gravity return drainage channel with grill.	Integral with main pools
	Depth Indicators	Depth indicators on walls at either end of the pool hall. None Depth indicators pool side at entry points	Depth indicators on walls at either end of the pool hall. None Depth indicators pool side at entry points
	Pool floor slope/step	Appeared to be < 1:15 No steps in pool floor	Predominantly flat.
	Access: steps, ladder, etc	Two Stainless steel step ladder entry pint to the north side at either end. Hoist mounted on gutter to the southern side. No ramp or accessible stairs observed.	No
<b>Entrapment</b>	Handrail	None in pool	Stainless steel barrier to main pool
	Step	Two Stainless steel step ladder entry pint to the north side at either end. Clearance to wall 70mm on steps and 80mm to rail.	Approx 60mm gap to railing and edge.
	Ladder	N/A	N/A
	Skimmer	N/A	N/A
	Sparge	N/A	N/A
	Other	Equalizing piping from Lap Pool to Balance Tank.	N/A



<b>Buildings</b>	Description/ Material	Building comprised of two key elements: Main pool hall: Curved knee laminated timber portals at 6m cc provide free span across pool. 3m eaves and 6.5m apex. Light weight timber infill to roof to support XPS and metal roofing system above. Clear light Cladding to Vertical end walls and side walls at high level above 1.9m. Perimeter walls at lower level are uninsulated 20 series block work, painted. Amenities block: independent system to main pool. Steel roof strues supporting light weight roof. Perimeter walls on all side are uninsulated 20 series block work, painted. Timber infill frame to partitions around family change areas.
	Condition	Structure appears in reasonable order given age and aggressive internal environment. Fixings are galvanised and integrating appear reasonable. Block work recently panted and looks reasonable. Evidence on excessive condensation and areas of mould on clear light.
	Amenities (if any)	Structure appears in reasonable order given age. Block work recently panted and looks reasonable. Heat pumps in operation in both change room helping to alleviate internal condensation.
<b>Surrounds</b>	Type	Pool Hall surrounds are exposed aggregate concrete. Signs of some discontinuity
	Condition	Reasonable good condition – slip resistance appeared okay but requires monitoring. Mats were evident around Toddlers Pool presumable to help increase slip resistance. . Note roughness tends to erode with time and surface will become slippery so needs to be monitor to confirm is conforms to D1.
	Accessibility	Surrounds generally even and greater than 1200mm width around facility. Signs of some discontinuity. At ends of pool in the corners, which have been made good. Falls away from pool generally >1:50  Refer Accessibility Report: Generally a reasonable level of compliance. Refer Accessibility Report for areas of non-compliance:  Thresholds steps at fire exits >20mm and external grass area to the east non-compliant in terms of D1.  Pool Hoist present pool side although covered.  No Signage as such.  No Accessible car parks
<b>F&amp;T</b>	Filter size	Single Waterco Sand Filter 1800mm Diameter
	Filter Condition	Filter Appeared is reasonable condition given age. Unconfirmed when Filter Media Last changed
	Pump rating	4kW, Grundfos 112MC4-28FF215-D1 circulation pump
	Pump condition	Appeared good condition.
	Reticulation size	Delivery and Return Pipes to and from filters Diameter 100mm UPVC Pipes
	Reticulation integrity	Reasonable given the age of the pool with some signs of local remedial works to seals having been repaired.
	Plant room dimensions	3.3m by 4.6m with ceiling height around 2.7m
	Loading	Light during winter. Up to 100 per day during summer. Casual Use and Aquafit classes. Swimming club training although no swim meets as such do to 33m pool.
	Disinfection	13% Sodium Hypochlorite. Sodium Bisulphate for Ph Control and Sodium Bicarbonate for alkalinity
<b>Balance Tank</b>		Access to observe was restricted. Appear to covered foot print of F&T plant room. Water depth at time of observation was approx 500-600mm with water returning mainly through equalising/drainage line. Limited return form pool return drainage as water level below pool edge.

<b>Current Compliance</b>	Requirements	Best practice for current use is 70% of NZS4441
	Filtration	Approximately 21% Compliance With NZS4441
	Reticulation	Approximately 22% Compliance With NZS4441
	IBL	IBL Currently limited to 37.5 70% Compliance IBL = 125.1
<b>General Comments</b>		<p>Excessive condensation was observed with water dripping from the roof and walls. Evidence to wet walls. Water leaks through the roof and gutters was evident at the time of inspection during rainy period. Evidence of breaches in vapour barrier with staining of XPS.</p> <p>At time of inspection operator had no concerns with TDS and PH control.</p> <p>Water quality appeared reasonable given filtration system.</p> <p>Spa: Is Current a Domestic Type System</p> <p>Manual Dosing and Testing 2-3 times per day. Per NZS5826 testing for public spa pools should occur prior to daily use, then every 2-hours (7x daily, Mon-Fri).</p> <p>Temp Approx 38 degrees</p> <p>Operator informs us that it is dumped weekly</p> <p>Electric Heater used to provide direct heat source</p> <p>Wooden Steps provide provides Accessible Stepped entry to spa.</p>

APPENDIX 2: COMPLIANCE FOR ACCESSIBILITY – NZBC D1/NZS 4121:2001

CLIENT REVIEW



WESTLAND DISTRICT COUNCIL  
HOKITIKA SWIMMING POOL  
APPENDIX 2: COMPLIANCE ASSESSMENT - ACCESSIBILITY REPORT

**Project:** Hokitika Swimming Pool  
**Location:** 53 Weld St, Hokitika  
**Date:** 16 May 2016  
**Inspection by:** Toby Mason of CREATE Ltd

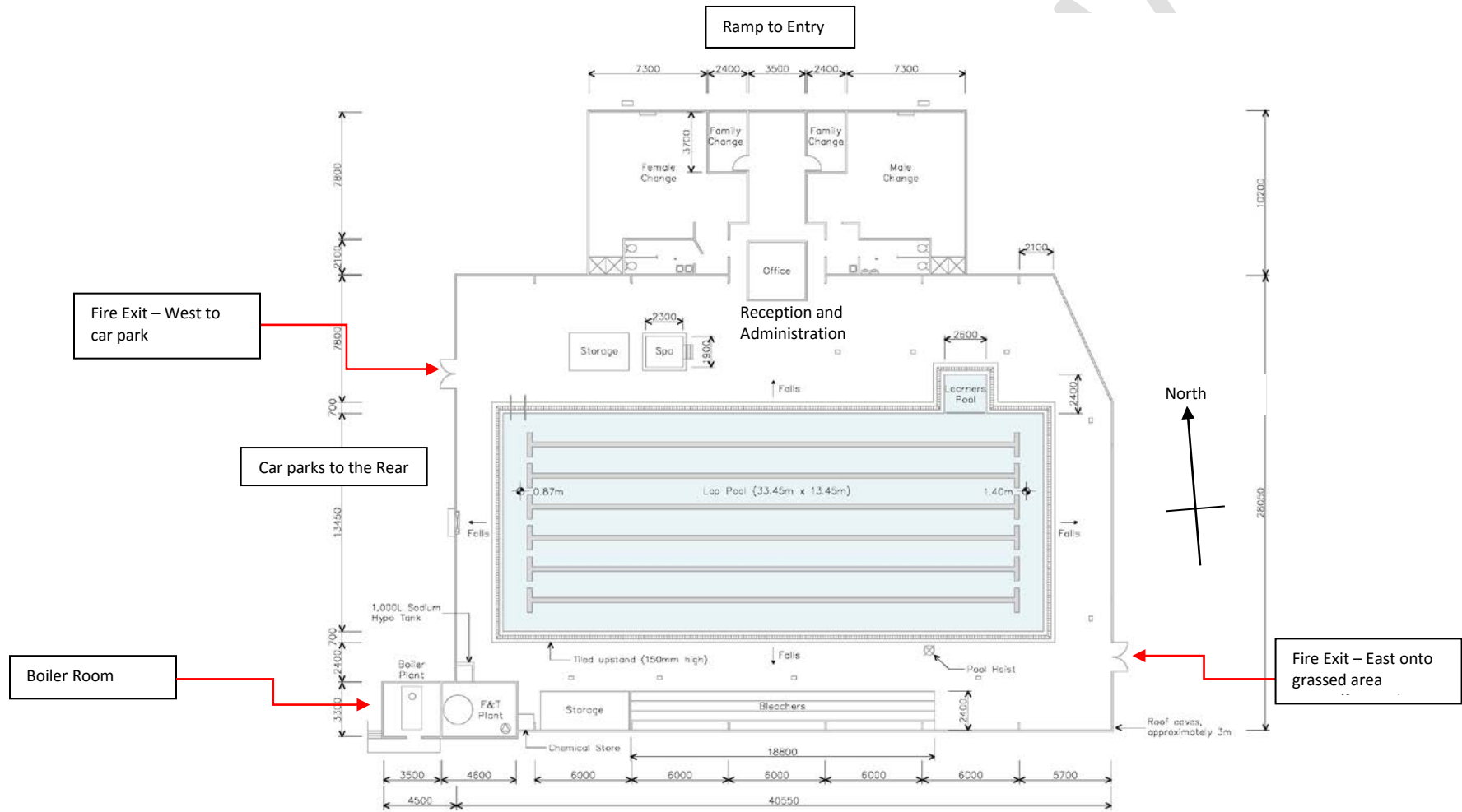
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**BRIEF**

Reviewed Compliance of the facility for Accessibility in accordance with D1/NZS4121.

Compliance requirements outlined in this assessment are strictly only triggered by new works requiring consent.

SKETCHED SITE PLAN



NZS4121:2001		Design for Access and Mobility – Buildings and Associated Facilities				
Clause	Requirement	Location	Complies Y/N	Comment	Priority	Work Required
1 - 3	<b>Compliance with Clauses 1 – 3 are determined by determining compliance with the following Clauses 4 -13</b>		n/a	1.0 Refer Clauses 1-13	n/a	n/a
4	<b>Accessible Routes</b>					
4.2.1	An accessible route shall be provided that connects from the point of arrival on site to those rooms and spaces required to be accessible to enable people with disabilities to visit and work and carry out normal activities in the building and facilities	To all public spaces on site including reception and pool	Predominantly	Access ramps, thresholds and handrails to be addressed as per report		In general provisions are provided. Refer to later sections
4.2.3	For non-ambulatory people the accessible route shall not incorporate steps, turnstiles, revolving doors, or other impediments	Wheelchair access to all public areas	Predominantly	Provisions made on site		Refer to Relevant clause for areas on non compliance
4.3	Accessible carparks provided with easy access to building No Isolated step and >1200mm width Kerb Ramps to be provided	Car parks and Main entry	N	No Accessible carparks provided. Drop Kerb at Entry to Path Approach gradient <1:50		Accessible Car Park Provisions are required for compliance.
4.5	<b>Hazards and Obstructions</b>					
4.5.3	An accessible route shall be designated as a clear route and maintain a minimum width of 1200mm at all times	All public areas	Partially	Accessible route generally > 1200mm although corridor width around entry kiosk is non-compliant  Entry doors 1900w x 2100h appear compliant		Address areas where width is non-compliant ie around Reception
4.6	<b>Surface Finishes</b>					

4.6.1	Ground, floor, ramp, stair tread surfaces shall be stable firm and slip resistant under all normal environmental conditions	To all public spaces on site including reception, change rooms and outdoor pools	Y Tested to confirm compliance	Externally: Generally exposed aggregate or roughen concrete surrounds – condition and slip resistance appeared ok.  Internally: In general provisions are provided. Note roughen surrounds and can tend to wear smooth hence needs to be inspected regularly. P  Painted floors in shower have mats  Slip resistance on wooden steps to spa can be adversely affected when wet.		Slip Resistance of should be maintained and checked for Compliance with D1.
<b>4.8</b>	<b>Signs</b>					
4.8.2.1	Signs shall identify:					
	(a) Accessible car parks;	Car parks	N	No Signage and ground markings are in place.		Signs to be installed
	(b) Accessible entrances;	Main Entry	N	No Signage not currently provided.		Signs to be installed
	(c) Services available in the building;	Accessible WC Pool entry devices	N	No Accessible Toilets or signage currently provided.		Signs to be installed
	(d) Accessible routes through buildings;	Routes from Admin to amenities and pools	N	Accessible signage not currently provided.		Signs to be installed
	(f) Location of accessible toilet facilities;	Main Admin Building	N	No Accessible Toilets or signage currently provided.		Signs to be installed
<b>4.10</b>	<b>Visibility Factors</b>					
4.10.1	The visual environment shall be designed so as to maximize the usefulness of whatever level of vision a user may have	All areas including amenities and pools	Y	Artificial Light Levels appear to be reasonable, although emergency lighting not checked		Check emergency light levels comply.
4.10.2	Where colour or texture changes are introduced they shall be at corners, where there is a break in plane, at the junction of a stair tread and riser or where a ramped surface meets a level surface	All areas including amenities and pools	Partially	Contrast trip at entry.  Corners of up stands to pools should be highlighted		Generally good visible features – corners of up stands and ramp should have contrast edges highlighted

4.10.3	Illumination Levels	Illumination around doors and entry	TBC	Artificial Light Levels appear to be reasonable. Emergency lighting not checked		Illumination levels need to be checked in accordance with NZS 6703.
<b>5</b>	<b>Car Parks</b>					
5.2.1	Parking spaces for people with disabilities shall be on the accessible route to a building and shall be provided close as practicable to the accessible entrance or to an accessible lift to the building or facility.	Car Park	N	No Accessible car parks provided. Only Limited general car parking is available		Accessible car parks required: Min 1 recommended as a minimum
5.3.1	A sign incorporating the international symbol of access in accordance with 4.8 shall identify car park spaces.	Car Park	N	No Signage and ground markings are in place.		Upgrade to ensure compliance.
5.3.2	Where an accessible main entrance to a building is not clearly visible from a street or parking area, directional signs of access shall be provided additional to any other necessary signs.	Car Park	Partially	Entrance is visible from front carparks		Nil
5.4	Where car parking is provided, spaces for people with a disability shall be provided not less than 2 accessible car park spaces per 21-50 car parks. Add accessible car park for every additional 50 car parks	Car Park total spaces available around +25	N	No Accessible spaces available in car park		Provide at least 1 Accessible Car park
<b>5.6</b>	<b>Surface</b>					
	The accessible car park shall provide a stable, firm, slip resistant flat surface with a slope not exceeding 1:50	Car Park	Y	Surface is firm sealed surface at road. Surface at rear carpark to the West unsuitable in current state for Accessible carpark		Assuming Accessible carpark provided road side
<b>5.7</b>	<b>Access from car park</b>					
5.7.1	There shall be an accessible route from car parking areas.	Main Entrance	Y	Main entry path is >1200mm wide and meets the requirements for an accessible entrance		Nil. Assuming Associable carpark provided road side



<b>6</b>	<b>FOOTPATHS, RAMPS AND LANDINGS</b>					
<b>6.2</b>	<b>Footpaths</b>					
	Generally: >1200mm width Footpaths should be < 1:20 Transverse gradient should be < 1:50 Landing areas on ramps Adequate slip resistant	To all public egress paths from reception to amenities and all pools.	Partially	Generally complies with requirements		Generally complies.
<b>6.4</b>	<b>Ramps</b>					
	Ramps on site required to meet provisions of Section 6.4 Ramps should be < 1:12 for 9m	To all public egress paths from reception to amenities and all pools.	Partially	In General Complies No Access to main pool other than via pool hoist		Nil No Ramps within facility.
<b>6.6</b>	<b>Fairing of Surfaces</b>					
6.6.1	Changes in gradient shall not be abrupt. Max Gradient 1:8 m for 1.5m Max overall h 190mm	To all public egress paths from reception to amenities and all pools.	Y	In General Complies Refer 7.1.4 for threshold steps		In General Complies Refer 7.1.4 for threshold steps.
<b>7</b>	<b>Entrances, Corridors, Doorways and Doors</b>					
<b>7.1.3</b>	Entrance Door Way	Main entry doors	Y	Level approach to main entry doors. 1200mm area either side  Entry doors 1900w x 2100h appear compliant		Lobby door complies.
<b>7.1.4</b>	Doorway Thresholds	Throughout	Partially	In General Complies Refer Threshold steps >20mm at fire exits to east and west		Threshold ramp required. Level zone required externally to Eastern Fire Exit 1200mm beyond door threshold
<b>7.2</b>	<b>Corridors</b>					
7.2.1	All corridors on accessible route within a building shall have a minimum width of 1200mm	To all public egress paths from reception to amenities and all pools	Partially	Corridors around reception <1200mm and not compliant as part of accessible route		Difficult to alter as main structural walls

<b>7.3</b>	<b>Doorways</b>					
7.3.1	The minimum clear width of a doorway shall be 760 mm when the door is open.	Doors on Accessible route	Y	Provided		Nil
<b>8</b>	<b>Stairs</b>					
8.1, 8.3-8.4	Stairs	To all public egress paths from reception to amenities and all pools.	Partially	Generally compiles. No Accessible steps to bleachers		Upgrade to achieve compliance
8.2	There shall be no single steps.	To all accessible routes	Y	No isolated steps		Nil
8.6	Handrails to accessible stairs and ramps	To all public egress paths from reception to amenities and all pools.	Y	Generally compiles		Generally compiles
<b>10</b>	<b>Toilet and Shower Facilities</b>					
10.1-10.5.13	Accessible Toilet and Shower Facilities	Non Within Facility	N	Minimum of 2 accessible toilet and showers to fully meet Accessibility requirements		2 accessible toilet and showers required for compliance
<b>10.4</b>	The number of accessible toilets and showers to be provided shall comply with NZBC G1/AS1					
<b>10.5</b>	<b>Design of all Accessible Toilets and Showers required to meet provisions of Accessibility NZS 4121</b>					
<b>11</b>	<b>Public Facilities</b>					
11.1.2-2	Reception counters for public use shall have at least one space for use by people in wheelchairs (both staff and customer. Such a space shall be 900mm wide min		N	Counter top at Entry point <900mm wide and >755mm high (current reception 520mm wide and 1.05m high)		Non-Compliant counter
<b>12</b>	<b>Places of Assembly, Entertainment and Recreation</b>					

12.3.1.2	The swimming pool shall be available from an accessible route and unaided access to the water shall be possible from the pool side. Preferably via fixed ramp.		Partially	Lap Pool: There is no unaided access to the main lap pool ie drop in stairs/ramp only a pool side hoist.  Drop in accessible stairs would enhance accessibility  (Reasonably Practical Solution)		Currently Non-Compliant with D1  Reasonably Practical Solutions: Upgrade to meet provisions of NZS 4121 by providing drop in accessible stairs to main pool
<b>13</b>	<b>Accessible Outdoor Public Areas</b>					
<b>13.1</b>	<b>General</b>					
13.1.1	All access ways shall be at least 1200mm wide and have a minimum cross fall of 1:50		Y	External areas around the entry and to the north generally compiles.		Refer to previous sections of the report for o other areas of non-compliant.
<b>13.3</b>	<b>Kerbs</b>					
13.3.1	Kerbs and channels to allow a wheelchair person to transit easily between two surfaces		N/A	No Kerb ramps required on site		Nil

APPENDIX 3: COMPLIANCE OF ALL THE COVERED SPACES IN TERMS OF NZBC VENTILATION REQUIREMENTS NZBC-G4

CLIENT REVIEW

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Date: 28/06/2016



WESTLAND DISTRICT COUNCIL  
HOKITIKA SWIMMING POOL  
APPENDIX 3: VENTILATION INSPECTION REPORT

**Project:** Hokitika Swimming Pool Compliance Assessment

**Location:** 53 Weld St, Hokitika

**Our Ref:** 1202

**Report by:** Stephen Van Domelen

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## BRIEF

Reviewed Compliance of the facility for Ventilation in accordance with New Zealand Building Code – Clause G4 & NZS4303:1990

## DATE OF INSPECTION

May 16<sup>th</sup> 2016 by Toby Mason

## VENTILATION REQUIREMENTS

### A. POOL HALL

The pool hall requires a minimum of 2.5-litres/second (L/s) per square meter of fresh air. Therefore the main pool hall will require 2,520-L/s of fresh air to meet compliance.

Currently the pool hall is being served by a 100% unconditioned fresh air. A wall mounted axial exhaust fan (approximately Ø1400mm) is mounted high wall on the west exterior wall. Fresh air is passively pulled through a 9.6m x 1m intake louvre.

We were unable to obtain product data on the exhaust fan, however given the general size of the fan and intake louvres it is our opinion that the system is providing greater than 3,000-L/s of ventilation air.

It is noted that during our inspection the intake louvres were permanently blocked off with plywood. Thus, no form of ventilation is being provided to the space.

The Pool Hall has been designed to be compliant with NZBC-G4, however current operation is not compliant.

### C. LOBBY & OFFICE SPACE

The entry lobby & office space currently do not have ventilation air supplied. The required ventilation flow rate required for these areas total 75-L/s.

The Lobby & Office are NOT compliant with NZBC-G4.

### D. RESTROOMS & CHANGE ROOMS

Restrooms require a minimum of 25-L/s exhaust air per Water Closet (WC) or Urinal. In addition, each shower requires 18-L/s exhaust air. Change rooms require a minimum of 2.5-L/s per square metre of ventilation air.

It is also noted in the G1 Calculations that the current facilities are not equipped with the compliant quantity of plumbing fixtures. Therefore, the table below references compliance based on existing conditions and G1 Compliant Conditions.

	Existing Conditions	Compliant Conditions
Male Restroom	136-L/s	179-L/s
Male Change	160-L/s	160-L/s
Female Restroom	86-L/s	154-L/s
Female Change	160-L/s	160-L/s
Family Change 01	22-L/s	43-L/s (assuming ACC Toilet)
Family Change 02	22-L/s	43-L/s (assuming ACC Toilet)
<b>TOTAL</b>	<b>586-L/s</b>	<b>739-L/s</b>

Table 1: Restroom & Change Room G4 Compliance

Both the Male Restroom & Female Restroom are equipped with a roof top exhaust fan capable of extracting 50-L/s each. The change rooms currently have no form of ventilation.

The Restrooms, Change Rooms and Family Change Rooms are NOT compliant with NZBC-G4.

### E. BOILER PLANT ROOM

The boiler plant room houses (x1) coal fired boiler.

NZBC-G4 requires two permanent openings, one high level & one low level with a free area of no less than 1,200-mm<sup>2</sup> per kW of gas input. Although, the equipment above is not gas fired we would expect to see a high & low level combustion louvre of no less than 2-sqft each.

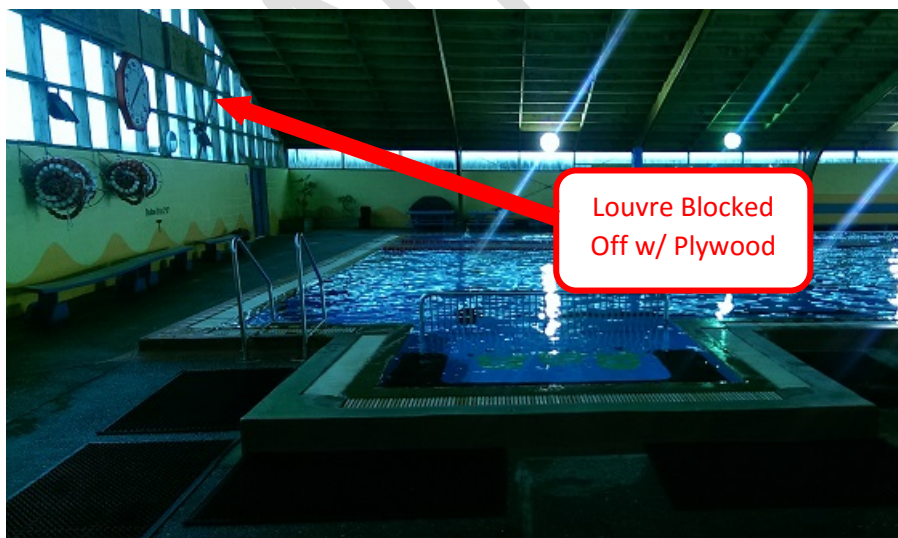
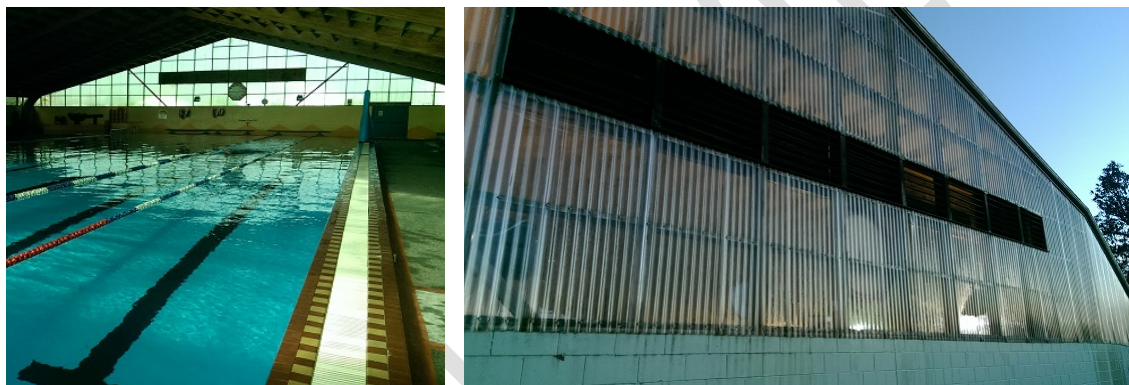
The boiler plant room is fitted with (x2) low level combustion air louvres.

The Boiler Plant is NOT compliant with NZBC-G4.

**PHOTOGRAPHS**



Picture 1: Pool Hall Exhaust Air Fan & Discharge Hood



Picture 2: Fresh Air Intake Louvre for Pool Hall (blocked off)



Picture 3: Boiler Plant Room



Picture 4: Restroom Exhaust & Change Room



APPENDIX 4: FIRE DESIGN ASSESSMENT: GAP ANALYSIS IN ACCORDANCE WITH NZBC C/AS4

CLIENT REVIEW

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Date: 28/06/2016



WESTLAND DISTRICT COUNCIL  
HOKITIKA SWIMMING POOL  
APPENDIX 4: FIRE COMPLIANCE REPORT

**Project:** Hokitika Swimming Pool

**Location:** 53 Weld St, Hokitika

**Date:** 16 May 2016

**Inspection by:** Toby Mason of CREATE Ltd

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## BRIEF

The Hokitika Swimming Pool building at 53 Weld Street, Hokitika has been assessed using the appropriate Acceptable Solution to highlight areas within the building that currently do not comply with the New Zealand Building Code (NZBC) with regards to “means of escape from fire”.

This Gap Assessment has been completed based on NZBC Acceptable Solution C/AS4; Acceptable Solution for Buildings with Public Access and Educational Facilities, (Risk Group CA). It identifies the following areas:

- Highlights where the existing building fully complies with the Acceptable Solution
- Highlights where there are gaps between the building’s fire systems and features and the requirements of the Acceptable Solution
- For each gap, assesses whether an “as near as reasonably practicable” (ANARP) solution can be achieved and provides options to improve the compliance to the required level.

This assessment is based on no Changes of Use or alterations to the existing building envelop, as such ‘External Spread of Fire’ has not been addressed in this report as per the requirements of Section 112 of the NZ Building Act. If proposed work is to alter the building envelop the requirement for fire rating to the new walls is required to be addressed. If a Change of Use is proposed means of escape from fire, protection of other property, structural performance, and fire-rating performance is required to be addressed.

Testing of hardware and fire safety systems is not covered in this report and should be completed as part of the buildings annual warrant of fitness.

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## RECOMMENDATIONS

As detailed in the compliance tables below several areas have been identified as non-compliance with the Acceptable Solution. There are several minor areas that can be addressed as part of either building maintenance or planned building work. The follow are the areas where a solution is inexpensive, readily available and will have a significant impact on occupant safety and increase the means of escape facilities of the swimming pool complex:

- The buildings occupant capacity is limited to 250 persons. It is recommended that management put procedures in place to identify occupant levels and prevent levels exceeding 250 persons.
- A Type 2 manual call point alarm system is installed. This system will require “break glass” type call point be installed on egress routes and sounders installed to warn occupants in all areas.
- Illuminated exit signs are installed on all escape paths in the locations shown on plans below.
- Panic hardware is fitted to the main pool hall fire exits on the east and west ends of the building.
- Management put in place procedures to ensure the main entry doors are unlocked (both doors) while the building is in use.

The items identified above will have a significant impact on the ability of the occupants to safely escape in the event of fire. Additional fire safety system such as emergency lighting to the entire main pool hall and increasing the alarm system to a Type 4 smoke detection system will be required as part of any future building project, especially if the propose occupancy is to be increased to 421 persons as per the calculated design occupancy below.

CREATE

Date: 28/06/2015

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C/AS4		Acceptable Solution for Buildings with Public Access and Educational Facilities (Risk Group CA)				
Clause	Requirement	Location	Complies Y/N	Comment	Priority	Work Required
<b>Part 1</b>	<b>General</b>					
<b>1.1.1</b>	<b>Scope</b>					
	The scope of this Acceptable Solution is restricted to risk group CA. This covers buildings, or parts of buildings, where people congregate, participate in group activities.	The pool meet the description within the Acceptable Solution as it is a recreation and event centres with tiered seating for less than 2000 people.	Y	-	-	Nil
<b>1.1.2</b>	Buildings or parts of buildings in Risk Groups other than CA are outside the scope of this Acceptable Solution.  Complex features are outside the scope of this Acceptable Solution.	The building has a primary Risk group of CA and the fire safety features are to be that required by this primary risk group. Other spaces such as working areas (Risk Group WB) within the building are to have the fire safety features of the primary risk group.  There are no complex features that require specific fire engineering design within the building including: a) Atriums b) Intermediate floors, other than limited area intermediate floors c) Stadiums where tiered seating is provided for more than 2000 people or where the primary access for more than 100 people is above the level of the playing surface, and d) Buildings more than 20 storeys high.	Y	-	-	Nil

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Date: 28/06/2015

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<b>1.3</b>	<b>Alterations and changes of use to buildings</b>					
	If the Acceptable Solution is to be used as the basis of compliance for building alteration work the building work shall comply ANARP with Parts 2, 3 and 4 below.	As per Section 112 of the Building Act the building is to comply, as nearly as is reasonably practicable and to the same extent as if it were a new building, with the provisions of the building code that relate to Means of Escape from Fire.	Y	-	-	Nil
	If the Acceptable Solution is to be used as the basis of compliance for building work that includes a Change of Use the building work shall comply fully with all sections below.	As per Section 115 of the Building Act the building is to comply, as nearly as is reasonably practicable and to the same extent as if it were a new building, with the provisions of the building code that relate to means of escape from fire, protection of other property, structural performance, and fire-rating performance.	-	The building work may trigger a Change of Use if the current design occupants load is <100 persons.  Refer occupant load, 1.4 below.	-	Nil
<b>1.4</b>	<b>Occupant Load</b>					
	The occupant load shall be determined from the risk group and number of people in each space of the building.	Main Pool, 450m2 Spa, 5m2 Pool Surround, 485m2 Bleachers, 75m Storage, 22m2 Office, 13m2 <b>TOTAL CALCULATED LOAD</b> Design occupancy based on amenity numbers. Possible occupancy with Justification for Exemption to cap occupant numbers to avoid duplication and allow for actual experienced occupant loads if 421 is too high. Main Pool, 450m2	90 1 162 167 0 1 <b>421 persons</b> 100 persons 50	TBC	The calculated occupancy of 421 persons has been used in this report as the design occupancy.  An alarm option for 250 occupants has been supplied in Part 2.	Y If the calculated occupancy of 421 persons is to be used the amenity numbers will need to be addressed.

CREATE

Date: 28/06/2015

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		Pool Surround viewing, 282m2 Bleachers, 75m <b>TOTAL CALCULATED LOAD</b>	50 150 <b>250 persons</b>				
<b>Part 2</b>	<b>Firecells, fire safety systems and fire resistance ratings</b>						
<b>2.1</b>	<b>Firecell floor area limits</b>						
	The floor area of an unsprinklered Fire cell shall not exceed 5000 m	The total floor area is 1400m2	Y	-	-	Nil	
<b>2.2</b>	<b>Fire safety Systems</b>						
	For 100 to 1000 people: Escape height <4m Single Fire Cell < 5000m2	A Type 4, Smoke detection and alarm system with manual call points is required to be installed to all spaces within the building.  Type 3 heat detection may be substituted where the environment is challenging for smoke detection, such as the amenities and plant room.  A direct connection to fire service required.  A Hydrant system is not required.	N	The building currently has no alarm system installed.	Y	An alarm system to suit the occupant numbers is to be installed to as part of any future building work.  The Fire Service is to approve the location of the Alarm panel for any future alarm system.	
	For <250 people and <4.0 m escape Height. Single Fire Cell < 5000m2	A Type 2 manual call point alarm system is required to be installed within the building.  A direct connection to the Fire Service is not required if a phone is available at all times for emergency calls.  A Hydrant system is not required.					

<b>2.3</b>	<b>Fire Resistance Ratings</b>					
	The fire resistance ratings (FRRs) that apply for risk group CA without a Sprinkler system are as follows:	Life rating = 60 minutes.  Property rating = 120 minutes	Y	The building is considered as one fire cell except for the plant room, refer section 4.10 below, a Life rating is not required.  The property rating is not required to be addressed for alterations that do not affect the building envelope.	-	Nil
<b>Part 3</b>	<b>Means of escape</b>					
<b>3.1</b>	<b>General principles</b>					
	All buildings shall have means of escape from fire to a safe Place from a fire within a building. The safe place shall be a people may safely disperse after escaping the effects of a fire.	The building has three final exit points as follows: 1) The main entry doors on the northern face provide egress to the safe place between the building and Weld Street. 2) The double fire exit doors on the eastern face provide egress to the safe place between the building and State Highway 6. 3) The double fire exit doors on the western face provide egress to the safe place adjacent the back of 24 Sewell Street.	TBC	The doors on the western side appear to open to an area that has no way to disperse other than across other property.	-	It should be confirmed that there is a suitable way for occupants to disperse without crossing 24 Sewell Street boundaries to prevent the egress being built out.
	Escape routes shall comply with NZBC D1. Ramps, ladders, landings, handrails, doors, vision panels and openings shall comply with Acceptable Solution D1/AS1.	The building is to be addressed separately to ensure it complies with the provisions of D1.	TBC	-		Access routes and facilities to be assessed to identify areas of non-compliance.
<b>3.2</b>	<b>Number of escape routes</b>					

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	The minimum number of escape routes from the building for up to 500 occupants shall be two.	There are two or more escape routes from all spaces except where the requirements of a single escape are met.  The escape routes terminate at final exits on the north, east and west faces.	Y	-	-	Nil
<b>3.3</b>	<b>Height and width of escape routes</b>					
	3.3.1 Height requirements within escape routes shall be as follows: a) The clear height shall be no less than 2100 mm across the full width, b) Any door opening on an escape route shall have a clear height of no less than 1955mm. required width of the opening.	All escape routes have a clear stud height >2100mm.  All doors on escape routes require a clear height >1955mm. The main escape doors are as follows: Main entry = 2.1m clear height Eastern fire egress = 1940mm clear height Western fire egress = 1940mm clear height	Y  N	The two fire egress doors are both 15mm lower than the minimum allowed height. This area of non-compliance is minor and therefore could be addressed as an “as near as reasonably practicable” solution in any future work.	-	New doors to fully comply existing doors to be addressed as ANARP in future consent documentation.
	The width of all available escape routes shall allow for the combined occupant load as well as accessible requirements.	Calculated widths (7mm/person): - Main egress = 270 occupants = 1.9m actual (64% occupant load). - East fire door = 260 occupants = 1.82m actual (62% occupant load). - West fire door = 260 occupants = 1.82m actual (62% occupant load).  Accessible routes shall be a minimum or 1200mm. Accessible routes are required from the main entry to the main pool including to the amenities.  Non accessible routes such as store and plant areas have a compliant width of >850mm.	Y  N	The building complies with the calculated width as the two paths either side of the office are combined when calculated.  As the egress paths either side of the office are <1200mm (1040mm actual) they do not comply for accessible width from the amenities. Suitable egress width from the Main pool hall is provided at each fire escape door.	-	The accessible width from the amenities needs to be addressed as part of any future building work.  Also the thresholds on at least one of the fire escape doors need to comply with the accessible requirements if accessible access back to the main entry is restricted by the office/amenities gap.

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	<p>Except where <i>dead ends</i> and single <i>escape routes</i> are permitted, the total required width shall still be available should the widest of the <i>escape routes</i> be unusable due to the location of the <i>fire</i> or any other reason.</p>	<p>Should one of the escape route, including the main entry doors, be unusable there is sufficient width for 124% of the total occupant load.</p>	<p>Y</p>	<p>-</p>	<p>-</p>	<p>Nil</p>
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CLIENT REVIEW

<p><b>3.4</b></p>	<p><b>Length of escape routes</b></p> <p>The lengths of dead ends and total open paths shall not exceed the following distances:</p> <p>Type 4 Alarm System: Deadend Path = 40m Total Open Path = 100m</p> <p>Type 2 Alarm System: Deadend Path = 20m Total Open Path = 50m</p>	<p>The actual maximum deadend and total open path lengths from all spaces are as follows:</p> <p>Main Pool Hall Open Path = 50m Amenities Deadend = 15m</p>	<p>Y</p>	<p>Alarm system based on occupancy to be confirmed as per Parts 1 and 2 above. Egress lengths are suitable for either system.</p>	<p>-</p>	<p>Nil</p>
<p><b>3.8</b></p>	<p><b>Dead ends</b></p> <p>A dead end shall not serve an occupant load greater than 50.</p>	<p>The Male and female Change areas are serviced by Deadend egress routes. These areas are to have a maximum of 50 occupants each.</p>	<p>Y</p>	<p>The maximum occupancy within each change area of 50 occupants is consistent with a total occupancy of 421.</p> <p>Note; the amenities do not have calculate occupancies as occupants are counted elsewhere within the building.</p>	<p>-</p>	<p>Nil</p>

3.15	Doors subdividing escape routes				
Doors on escape routes shall be hinged or pivoted on one vertical edge only.	All doors on escape routes as hinged.	Y	-	-	Nil
If the doors are locked while the building is occupied, locking devices shall be clearly visible, located where such a device would be normally expected and, in the event of fire, designed to be easily operated without a key or other security device, and allow the door to open in the normal manner.	<p>The doors on escape routes with locks are as follows:</p> <p>Main entry doors: These doors are to be unlocked while the building is in use. Both doors are to be free opening with the door locks and dead bolts released.</p> <p>East and West fire escape doors: These two sets of doors are to have new double door panic hardware installed to secure the doors and comply with panic hardware requirements below.</p>	N	<p>It is recommended that a sign stating “Doors to be unlocked while building is in use” be placed on the inside of the main entry doors to advise staff.</p> <p>If operations require the main entry doors to be locked while the building is in use they will require panic hardware to be fitted.</p>	-	<p>The existing main entry hardware should be checked to ensure compliance.</p> <p>New double door panic hardware is to be installed on the two fire exits from the main pool hall.</p>
Doors on escape routes shall be hung to open in the direction of escape. However, this is not required if the number of occupants of spaces with egress using the door is no greater than 50.	All doors on escape routes serving more than 50 occupants are hung to open in the direction of escape.	Y	-	-	Nil
In open paths doors shall provide an unobstructed opening width no less than 760mm and, when multi-leaf, have no single leaf less than 500 mm wide.	<p>All doors on escape routes provide a clear opening width of &gt;760mm. The available width at the doors leading to the final exits are as follows:</p> <p>Main entry = 2/960 doors = 1900mm clear</p> <p>East fire egress = 2/910 doors = 1820mm clear</p> <p>West fire egress = 2/910 doors = 1820mm clear</p>	Y	-	-	Nil
Doors on escape routes shall open no less than 90°.	All doors on escape routes open to 90° or greater.	Y	-	-	Nil

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	Panic fastenings shall be fitted on doors on the means of escape from fire for crowd occupancies of more than 100 people.	All escape routes from the main pool hall are to have panic hardware fitted, except the main entry doors which are to remain unlocked while the building is in use.	N	Existing panic hardware is non-compliant and does not release both doors on the double sets or is not installed.	-	New double door panic hardware is to be installed on the two fire exits from the main pool hall.
3.16	<b>Signs</b>					
	All escape routes shall have signs complying with NZBC F8, as below	Exit signs are required to clearly identify escape routes. Exit signs are required to be illuminated.	N	The building currently has no exit installed.	-	New exit signs are to be installed as per Part 8 below.
<b>Part 4</b>	<b>Control of internal fire and smoke spread</b>					
4.8	<b>Tiered seating</b>					
	If any enclosed, useable space beneath permanent, tiered seating is not sprinklered, it shall be a fire cell with an FRR of 60 minutes.	The space below the bleachers is not a separate fire cell with suitable linings to provide the 60 minutes FRR.	N	Although the space could be lined it may be more practical to close it in and create an unusable space that does not require an FRR.	-	The space beneath the bleachers is to be closed in to make it unusable.
4.10	<b>Plant, boiler and incinerator rooms</b>					
	Any space within a building containing plant or boiler which uses gas as the energy source shall be a separate firecell with an FRR of no less than 90 minutes, and shall have at least one external wall, and is at ground level.	The boiler room is to be separated from the main building with a 90 minute fire separation. The fire separation is provided by the block masonry wall.  All penetrations through the fire rated separations (created by wires, cables, pipes, flush boxes, etc.) are required to be fire stopped with systems (collars, wraps, sleeves, mastics, etc.) that are approved for the proposed use (e.g. rating, orientation, penetration type, construction type).	Y	The door in the wall between the Boiler plant and the F and T room is required to be 90 minute fire rated door. Refer 4.16 below.  Individual penetrations have not been address as part of this report.	-	The penetrations though the fire rated wall should be addressed as part of future building work.

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<b>4.16</b>	<b>Fire Doors</b>					
	Openings in fire rated elements shall have the fire resistance and smoke control performance as follows:  Plant rooms require an FRR of -/90/30 with smoke control capabilities (SM)	The door between the Boiler room and the F and T room is not a compliant fire rated door.  A new door in this location will require an FRR of -/90/30 and smoke control capabilities (SM). The FRR door shall be clearly marked to show its FRR and smoke-stopping capability.	N	-	-	A new 90 minute FRR door is to be installed as part of future building works.
<b>4.17</b>	<b>Interior surface finishes</b>					
	Surface finish requirements shall be as required by the NZBC.	Existing surface finishes and their group numbers are not identified as part of this report.  For most areas an “as near as reasonably practicable” solution is achievable for the existing surfaces.	Y	New materials use as part of future building work must comply with the following Group numbers:  Crowd space walls = 2S Crowd space ceiling = 2S All other spaces wall = 3 All other spaces ceiling = 3	-	Nil
	Flooring shall be either non-combustible or shall have a critical radiant flux of not less than 2.2 kW/m <sup>2</sup>	Existing flooring finish is generally concrete (non-combustible).  Any new finishes including vinyl, carpet and floor coating systems shall comply with the critical radiant flux levels.	y	-	-	Nil
	Suspended flexible fabrics shall when used as underlay to roofing or exterior cladding that is exposed to view, have a flammability index of no greater than 5	Existing underlay materials have not been identified as part of this report.  For most areas an “as near as reasonably practicable” solution is achievable for the existing surfaces.	Y	-	-	Nil

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	When any smoke detection system is activated, it shall automatically turn off all air-conditioning and mechanical ventilation plant which is not required or designed for fire safety.	The building does not currently have a smoke detection system. If one is to be installed it shall be required to automatically turn off ventilation systems.	Y	-	-	Nil
<b>Part 6</b>	<b>Firefighting</b>					
<b>6.2</b>	<b>Information for firefighters</b>					
	If fire detection and alarm systems or sprinkler systems are installed, the control panel for these shall be located in a position close to the Fire Service attendance point and in accordance with the appropriate NZ Standard.	Any new alarm panel is to be located so that it is visible from the NZFS attendance point at the main entry off Weld Street.	Y	The building currently has no alarm system, however one may be required as part of future building works.	-	Any new panel location will require NZFS approval as part of the consent.
	If hazardous substances are present in the building, warning signage in accordance with NZBC F8 shall be displayed.	Warning signs are required to the plant room and stores containing hazardous substances.	Y	Warning signs may already be in place, locations will need to be identified and confirmed as part of future compliance documentation.	-	Confirm correct signage is in place. Refer Part 8 below for F8 requirements.
<b>Part 7</b>	<b>Visibility In Escape Routes (Acceptable Solution F6/AS1)</b>					
<b>7.2</b>	<b>Location</b>					
	Emergency lighting must be provided in all of the following:					
	In an escape route from the point where the initial open path travel distance exceeds 20m	All escape routes require emergency lighting from the point where they exceed 20, however this area is covered in the items below.	N	The pool currently has no emergency lighting system.	-	An emergency lighting system is required to be installed in the building as part of any future building work.
	In any occupied space designed for an occupant load of more than 250 people including all escape routes serving that space,	The Main pool hall is to have an occupant load of >250 persons. This area as well as escape routes from it require emergency lighting.	N			

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	In any part of an escape route designed to serve more than 250 people.	The escape route from the Main pool hall to the Main entry is designed for >250 persons. Emergency lighting is required to this area.	N			
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<b>Part 8 Signs (Acceptable Solution F8/AS1)</b>						
4.0	Escape routes shall be identified by exit signs which are clearly visible.	The escape route from the main pool hall requires illuminated exit signs at the following locations: Above main entry doors. Above east and west fire escape doors Either side of the office leading from the main pool hall to the main entry.	N	The building doesn't have existing illuminated exit signs.	-	Exit signs are to be installed in locations shown on plans below as part of future building work.
5.1	Signs shall be provided on, or adjacent to, each call point stating the method of operation and the appropriate emergency telephone number, including any outside line access number. The sign colours must be white and safety red.	The building will require call point signs as part of any alarm system.	Y	The building currently does not have an alarm system installed.	-	The building will require call point signs to be installed at the time of alarm installation.
7.1	Signs for hazardous substances and processes shall comply with HSNO CoP 2-1 09-04.	Hazardous substances are to be labeled to correctly identify the hazard and process as per the Hazardous Substances and New Organisms Act 1996.	N	-	-	The signage is to be checked and installed as required as part of future compliance works.
7.4	Danger signs shall be provided adjacent to the door of every machine room.	The boiler plant room is to have "Danger" signs installed to identify it as a Gas Boiler room.	N	-	-	The signage is to be checked and installed as required as part of future compliance works.
<b>Part 9 Compliance Schedules</b>						
9.1	As part of new building work the building will be required to maintain a schedule of specified systems and regular recorded inspections.	The following Compliance Schedule items will be required: SS2: Auto or Manual Warning Systems SS4: Emergency Lighting SS9: Mechanical Ventilation/Air-Con Systems SS14/2: Signs Relating to Alarm System SS15/2: Final Exits SS15/4: Signs to Facilitate Evacuation	N	The building currently does not have a schedule of specified systems.	-	As part of any future consent the Compliance Schedule documentation including required standards, maintenance items and inspection records is required to be submitted.

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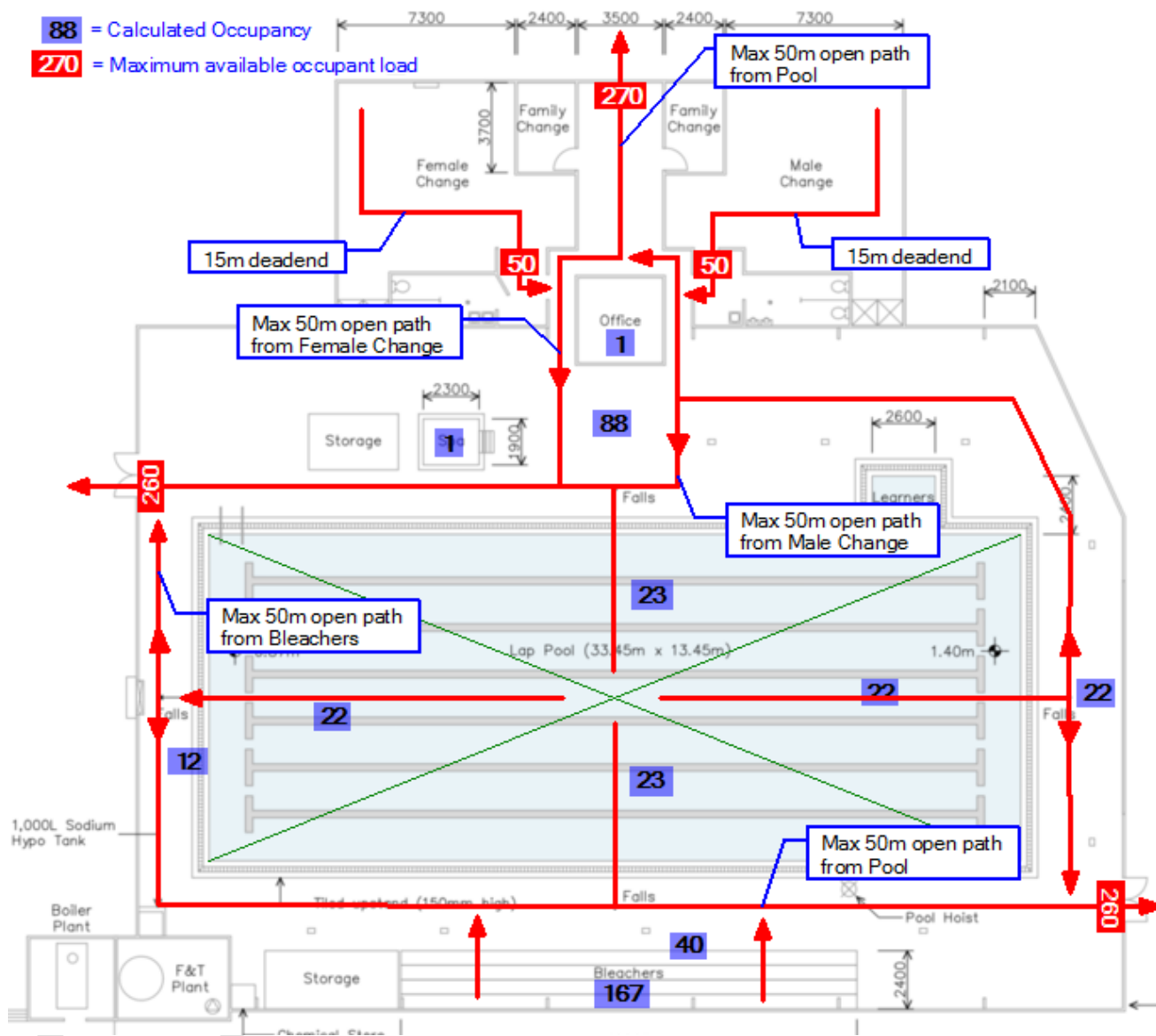


		Note; only systems related to fire safety have been identified above.				
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Part 10		Documentation					
10.1	As part of any future building work the MBIE recommends the following fire design information be supplied in support of Building Consents	<p>Minor work including structural strengthening and repair of existing = Gap assessment using Acceptable Solution C/AS4.</p> <p>Moderate work up to 20% of the floor area including additions (limited area) or internal alterations = Full assessment using Acceptable Solution C/AS4.</p> <p>Significant work = Full assessment using Acceptable Solution C/AS4.</p>	-	-	This documentation requirement is based on the occupant load of 421 persons and an importance Level 3 building.	-	-
10.2	The New Zealand Building Act requires consent documentation be forwarded to the NZ Fire Service for review (as part of the consent process) if the proposed work contains any of the items specified in the Gazette notice.	<p>The building has the following items specified in the Gazette notice:</p> <p>a) the gathering together, for any purpose, of 100 or more persons:</p>	-	-	-	-	A NZFS DRU review will be required as part of any future consent.

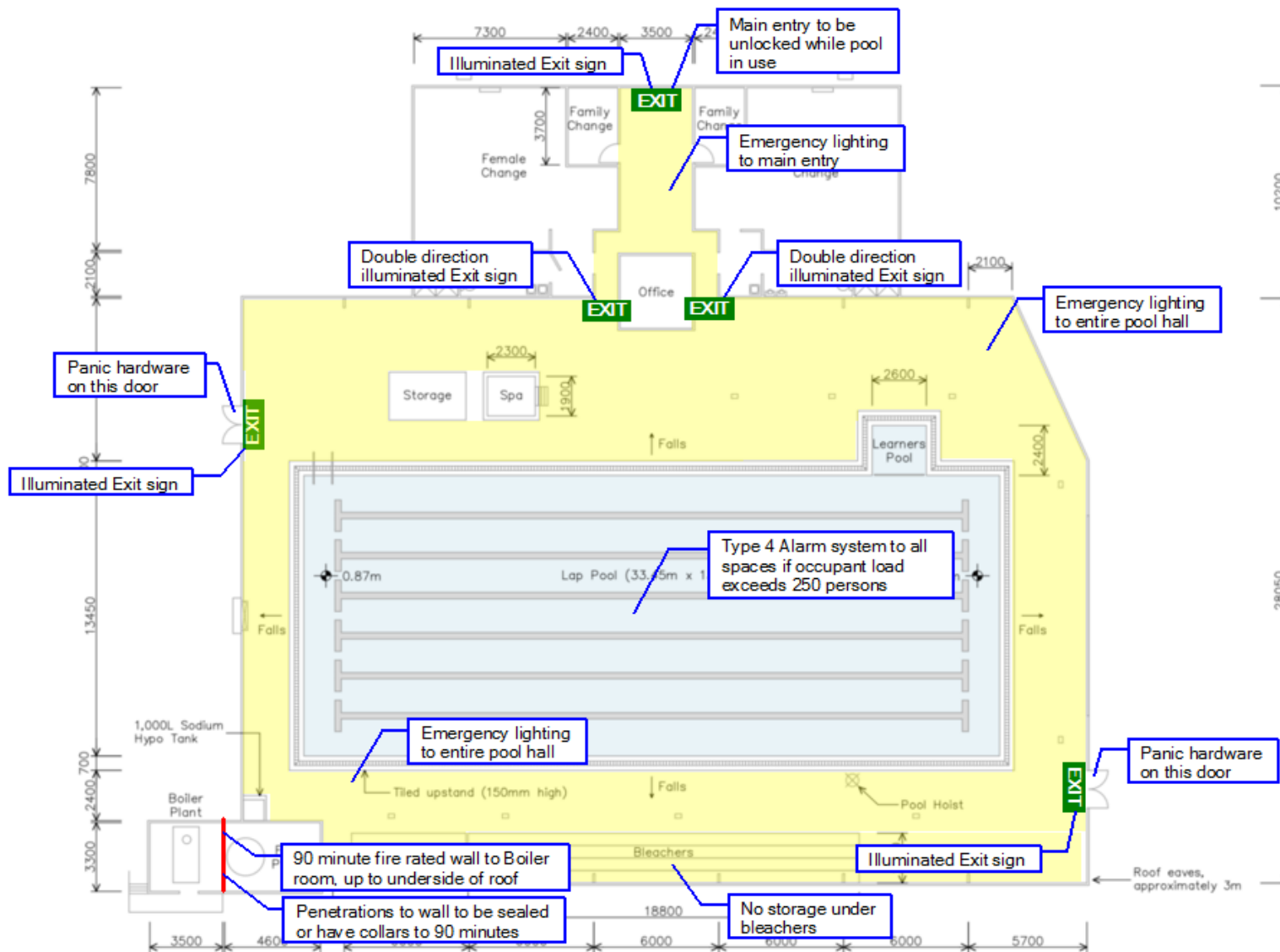


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### OCCUPANCY LOAD AND EGRESS LENGTHS

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**FIRE SAFETY FEATURES**

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APPENDIX 5: ASSESSMENT OF SANITARY REQUIREMENTS NZBC-G1

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Date: 28/06/2016

	Project No.	1202	Date	16.05.16
	Project Title	Hokitika	By	SV
	Item Description	Occupancy Numbers	Sheet No.	1
		G1/AS1 Compliance		
		APPENDIX 5		

#### OCCUPANCY NUMBERS G1/AS1


##### Ground Floor

Spaces	Area m <sup>2</sup>	Occupancy Factor	No.
Main Pool	450	0.2	90
Toddlers Pool	6.2	0.2	1
Spa Pool	4.4	0.2	1
Surrounds (*1)	546	0.35	191
Pool Store	13.2	0.02	0
Pool Store	8.5	0.02	0
Office 01	12.2	0.1	1
Foyer	27.8	1	28
Change Rooms/Restrooms	188.4	0	0
	<b>1257</b>	Total	<b>313</b>

#### Notes:

(\*1) Pool surrounds accounts for return channel & a 500mm splash zone around pool



	Project No.	1202	Date	16.05.16
	Project Title	Hokitika Swimming Pool	By	SV
	Item Description	Personal Hygiene	Sheet No.	2
		G1 Compliance		
		APPENDIX 5		

SANITARY FITTINGS SCHEDULE TO G1/AS1

Sanitary fittings for Occupants to G1/AS1

313 input

**NUMBER OF SANITARY FIXTURES: WC PANS, URINALS AND BASINS (TABLE 1)**

Building Use: Communal Non-Residential places of active recreation

Unisex Toilet Facilities

Room Name	Proposed Unisex Toilet Facilities				ACC
	WC	Urinal	Basins	Showers	
Family Change 01	1		1		
Family Change 02	1		1		
<b>TOTAL</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>0</b>	

Unisex WCs account for: 40 Occ

Balance of Occupants: 273 Occ

Sanitary Fixtures Required for each Gender

Male Patrons (*)	163.8
Urinals	2
WC	3
WC Only	4
WHB	2

Female Patrons (*)	163.8
WC Only	4
WHB	2

(\*) Table 3 - multiplication factor = 0.6 females, 0.6 males.

COMPLIANCE SUMMARY FOR WC PANS, URINALS AND BASINS							
TYPE	WC		Urinal		Basin		Compliant
	Required	Actual	Required	Actual	Required	Actual	
Male	3	2	2	2	2	2	NO
Female	4	2	N/A	N/A	2	2	NO
<b>TOTAL</b>	<b>7</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>4</b>	<b>NO</b>

**NUMBER OF SANITARY FIXTURES: BATHS AND SHOWERS (TABLE 2)**

Building Use: Communal Non-Residential places of active recreation

COMPLIANCE SUMMARY FOR SHOWERS			
TYPE	SHOWERS		Compliant
	Required	Actual	
Shower	7	4	NO

**ACCESSIBILITY (TABLES 1 & TABLE 2)**

Building Use: Communal Non-Residential places of active recreation

ACCESSIBILITY COMPLIANCE			
TYPE	Required	Actual	Compliant
WC	2	0	NO
Showers	1	0	NO

APPENDIX 6: STORAGE OF HAZARDOUS GOODS (HASNO) TO NZBC-FC

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Date: 28/06/2016

WESTLAND DISTRICT COUNCIL  
HOKITIKA SWIMMING POOL FACILITY  
APPENDIX 6:HSNO CHECK SHEET



**Project:** Hokitika Swimming Pool  
**Location:** 53 Weld St, Hokitika  
**Our Ref:** 1202  
**Report By:** Stephen Van Domelen

**HSNO Check Sheet HSNO Requirements For Compliance with NZBC F3: Hazardous Substances & Processes - F3 / VM1**

Material on site	Use	Volumes & Quantities			HSNO Requirements For Compliance				
		Vessel Size	Qty	MSDS Sheet Attached	Approved Handler Required	Location Test Certificate	Emergency Response Plan Required	Signage	Secondary Containment Required
Sodium Hypochlorite (13% concentration)	Primary Disinfection	1,000 L	1	No	No	No	1,000L	1,000L	1,000L
Sodium Hypochlorite (13% concentration)	Fecal Contamination - Shock Dosing	20 L	1	No	No	No	1,000L	1,000L	1,000L
Sodium Bisulphate	pH Control	20 L	1	Yes	No	No	10,000kg/L	No	10,000L
Sodium Bicarbonate (Baking Soda)	Alkalinity Control	20 L	1	Yes	No	No	No	No	No
					<b>Additional General HASNO Requirements for all Hazardous Goods:</b>				
					Site Plan Required showing location of all Hazardous Goods				
					Saftey Data Sheets need to be NZ Compliant and available within 10 minutes of Request				
					Hazardous Atmosphere Zone to be established around LPG Storage				

APPENDIX 7: VAPOUR CONTROL

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Date: 28/06/2016



WESTLAND DISTRICT COUNCIL  
HOKITIKA SWIMMING POOL  
APPENDIX 7: VAPOUR INSPECTION REPORT

**Project:** Hokitika Swimming Pool Compliance Assessment

**Location:** 53 Weld St, Hokitika

**Our Ref:** 1202

**Report by:** Toby Mason

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## BRIEF

Reviewed Compliance of the facility for Vapour Control

## DATE OF INSPECTION

May 16<sup>th</sup> 2016 by Toby Mason

## General Heating & Ventilation

The vast majority of heat lost from heated swimming pools is through evaporation. The rate of evaporation is dependent on temperature difference between the pool and the air above it and the relative humidity of the air. The latent energy required to change water from liquid to vapour is taken from the body of water and therefore cools the pool water. This energy needs to be replaced for the pool temperature to be maintained.

It is essential to provide a high degree of ventilation to an indoor pool hall to remove chemicals such as trihalomethanes, to control humidity, and to provide an adequate supply of fresh air for respiration (NZBC code requirement).

To achieve these goals it is desirable to continually exhaust large volumes of air from the pool hall.

Typically modern swimming pools are therefore constructed well insulated and well ventilated using pre-heated fresh air. This controls heat loss through the building fabric and allows warm air to enter the space to control humidity and reduce condensation.

## Site Observations:

Hokitika Aquatic Centre building is predominantly uninsulated and poorly ventilated using cold natural air direct from outside. This leads to high degrees of energy loss and condensation within the spaces. This has an adverse effect on energy use and this internal environment. Excessive condensation enhancing the corrosiveness of the internal environment and causes accelerated deterioration of the building fabric over, it is also unpleasant for most patrons.

**Roof:** The currently facility is comprised of an insulated metal roof. The insulated roof is constructed using XPS rigid insulated board which provides both vapour control and insulation with profiles metal sheeting aboard for weather protection. This in turn is supported exposed timber purlins. There is an internal gutter along the north eaves of the pool hall.

It was evident on site that there are breaches in the vapour control to the XPS and signs of condensation leaking through what should be seals joints, this is leading to staining on the XPS and timber.

**Walls:** The Walls are uninsulated, constructed from both clear light cladding at high level and 20 series block work at low level. It was clearly evident on site that there was excessive condensation on the walls.

**Internal Gutters:** The gutters along the pool hall eaves appear to show signs of degradation and were leaking at the time of the inspection, leading to water pooling on the surrounds. In addition the gutters appear un-insulated and

**Fresh Air:** The ventilation in the pool hall space is provided by unheated fresh air. At the time of the inspection the atmosphere in the pool hall as relatively unpleasant with excessive condensation and mist within the pool hall, as the warm air from the pools condensed in the space above and on the cold uninsulated surfaces.

**Changes rooms:** Again the building enclosure to the change room is essentially largely uninsulated. The presences of the new heat pumps in both spaces helps elevate the temperature and reduce the condensation in these two changes areas. It was noted that limited natural ventilation is provided in these changes area and non-compliant

**Remedial Works & Recommendations:**

With the roof now being in excess of 22 years old it will be approaching the end of it's intend life and likely due for reinstatement shortly. As part of any future upgrade and remediation, the recladding of the building should seriously considered as part of the part of any works. This should look at the roof and walls to provide a full insulated and vapour control environment that will help save guard the life of the asset and help reduce running cost.

## PHOTOGRAPHS



Picture 1: Pool Hall – Insulated Roof & Uninsulated walls



Picture 2: Pool Hall Early Morning Mist and Condensation



Picture 3: Pool Hall Internal Mould and Condensation



Picture 4: Pool Hall Mould and Condensation





Picture 6: Pool Hall Breach through Joints in XPS



Picture 7: Pool Hall Breach through Joints in XPS and staining of timber



Picture 8: Pool Hall Internal Gutter

CLIENT REVIEW

APPENDIX 8: SITE PHOTOGRAPHS

CREATE

s:\10\_projects\1202 hokitika swimming pool condition assessment\10 general\10.6 reports-working docs\hokitika swimming pool - assessment report v1.docx

Date: 28/06/2016



WESTLAND DISTRICT COUNCIL

HOKITIKA SWIMMING POOL

APPENDIX 8: SITE PHOTOGRAPHS

**Project:** Hokitika Swimming Pool

**Location:** 53 Weld St, Hokitika

**Date:** 16 May 2016

**Inspection by:** Toby Mason of CREATE Ltd

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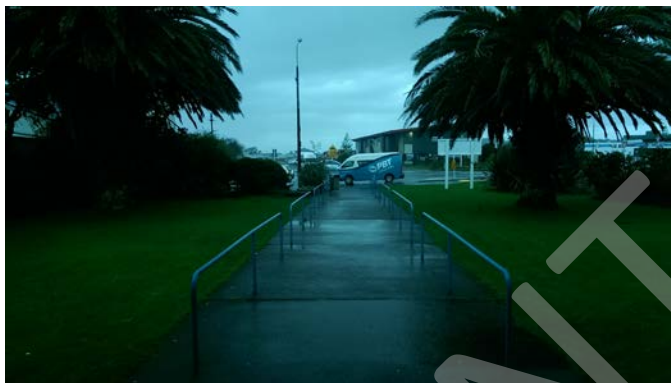
CLIENT REVIEW



Main Entry



Main Road and Parking



Main Entry Pathway to North



Main Entry Pools



Main Reception



View Through Main Entry



View Across Pool to East



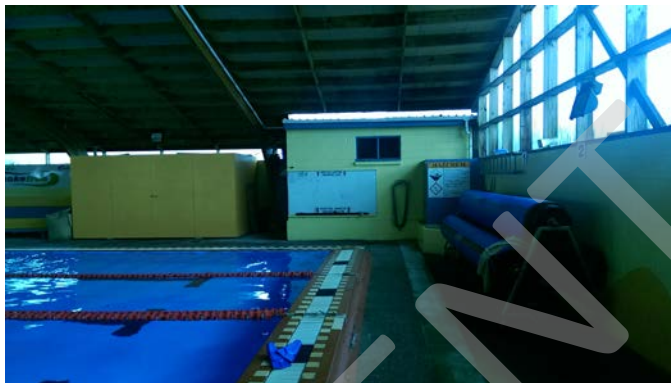
View Looking North East



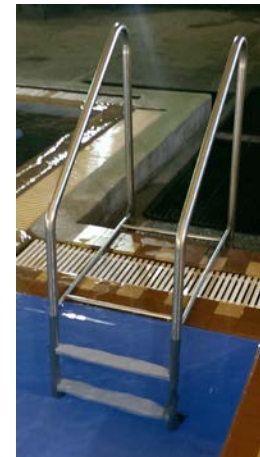
Early Morning – Mist and Condensation



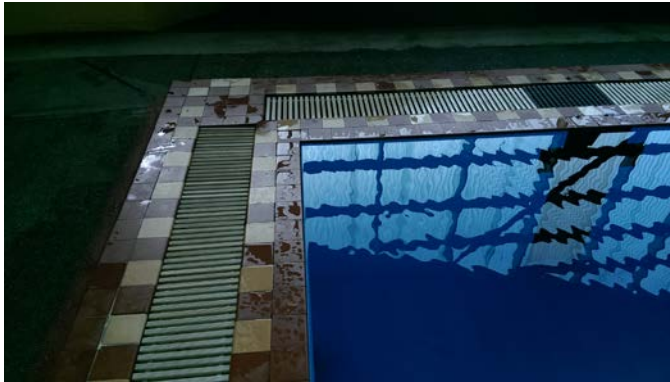
Steps to Main Pool Deep End



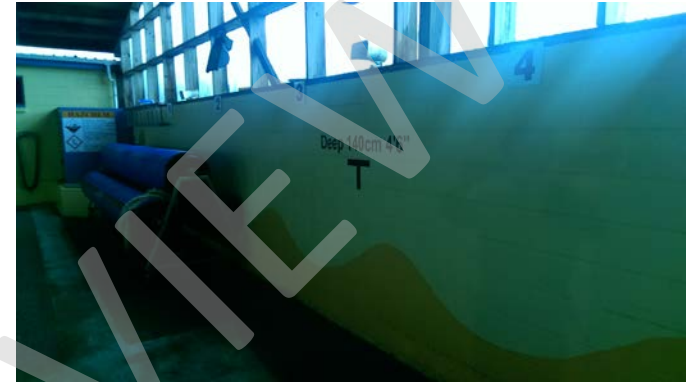
View South to Plant Room and Hypo Storage Tank



Steps – Shallow End



Pool Upstand



Depth Indicators for Deep End



Depth Indicators for Shallow End



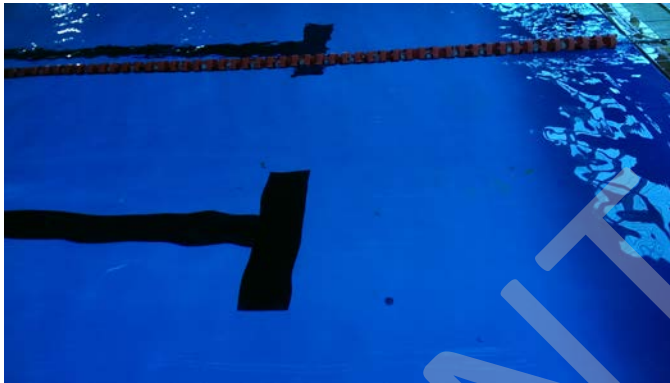
Pool Surrounds at Western End



View Looking West Across Bleachers and Pool



Eastern Fire Exit



Pool Floor - Condition

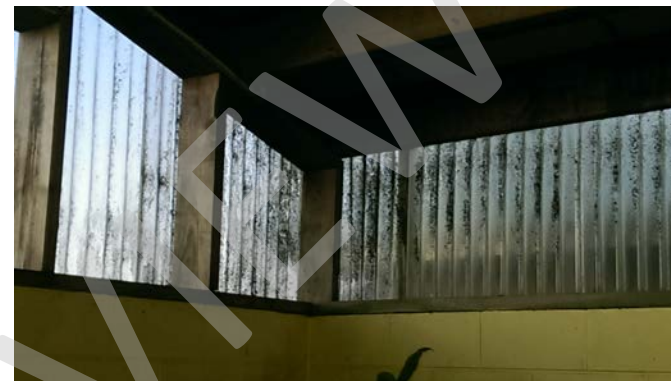


Pool Surrounds - Condition





Fire Exit to West



Condensation/Mould



Stepped Entry to Spa



Poolside Hoist



Entry Male Change



Male Hand basin



Male Toilets



Male Urinals



Ceiling Ventilation Male Change



Male Showers



Male Change



Female Change



Female Change



Storage of Start Blocks



Fire Exit East Elevation



External East Façade and Railway Line



West Facade



Boiler Room



Boiler Room



Eastern Façade and Railway Line



Step to F&T Room



Filter



Pumps and Dosing



Dosing



Pump



Recirculation Repairs



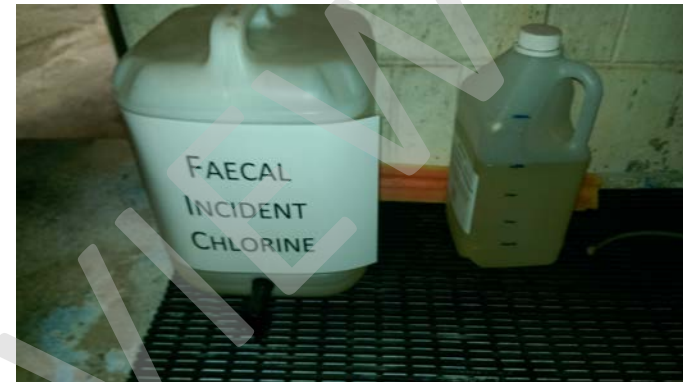
Main Switch Board



Protective Gear - HASNO



Commercial Hypo Tank



Shock Dosing

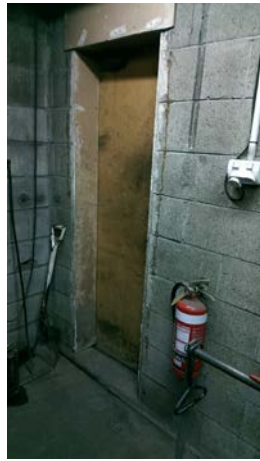


Heat Exchanger



Door and ?? to Boiler





Fire Separation to F&T

CLIENT REVIEW

teamarchitects

## Hokitika Pool Redevelopment

Hokitika

Issued For:

**Concept**

**6555**

### CONTACT

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#### TEAM ARCHITECTS LTD

**A /** 131 Courtenay Street, New Plymouth, 4310

**P /** 06 757 3200 **E /** office@boon.co.nz

**W /** www.teamarchitects.co.nz



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### Aerial Site Plan

Scale 1 : 2000 (A3)

**Hokitika Pool Redevelopment**  
**Hokitika**  
**Concept**

**teamarchitects**



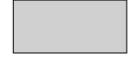


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\* Site Area indicative only.  
TBC by registered surveyor

**Site Finishes Key**

-  Site Area\*
-  Proposed Building
-  Existing Building

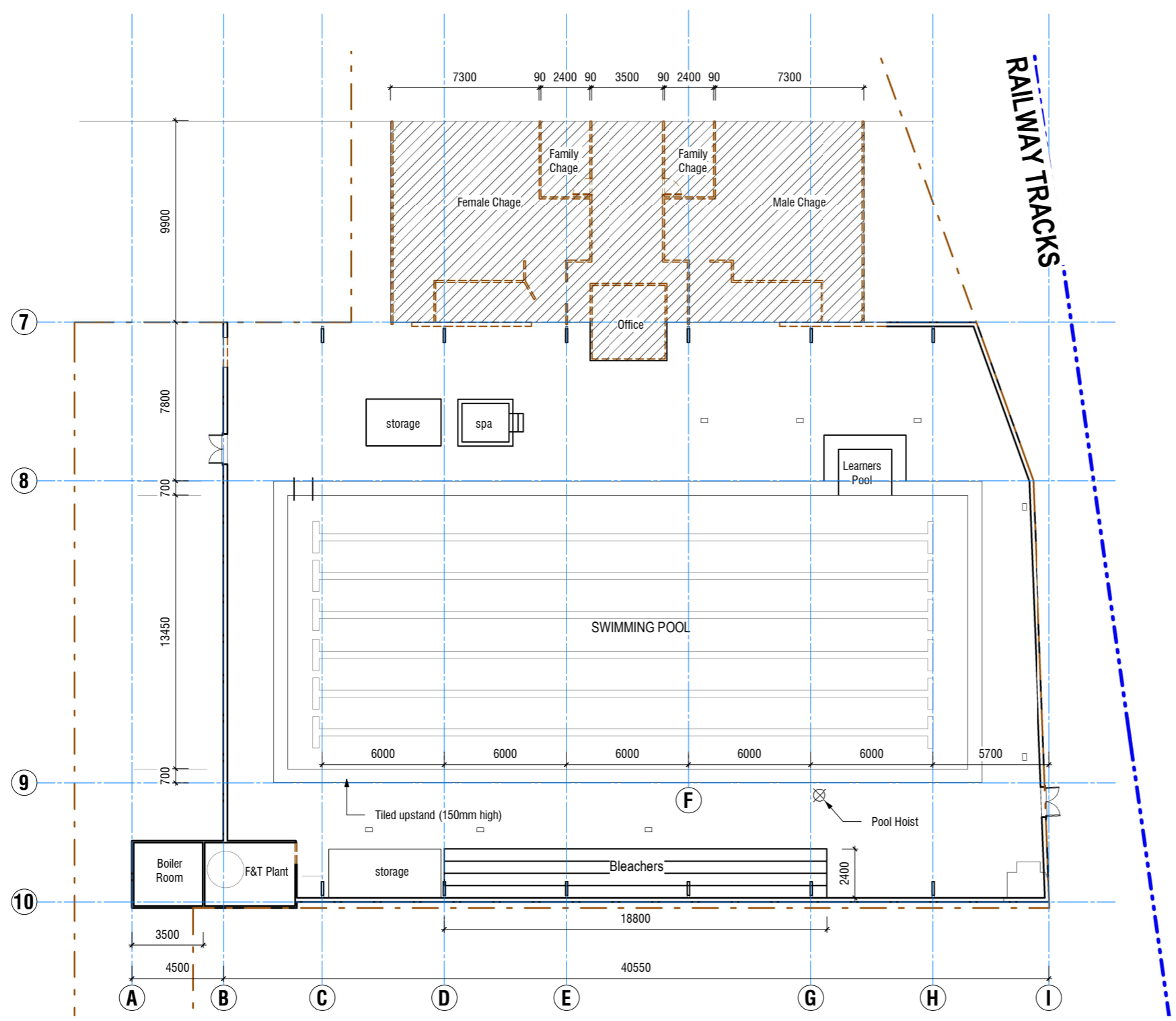
\* Site Area indicative only.  
TBC by registered surveyor

**Site Plan**  
Scale 1 : 1000 (A3)

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**Hokitika**  
**Concept**

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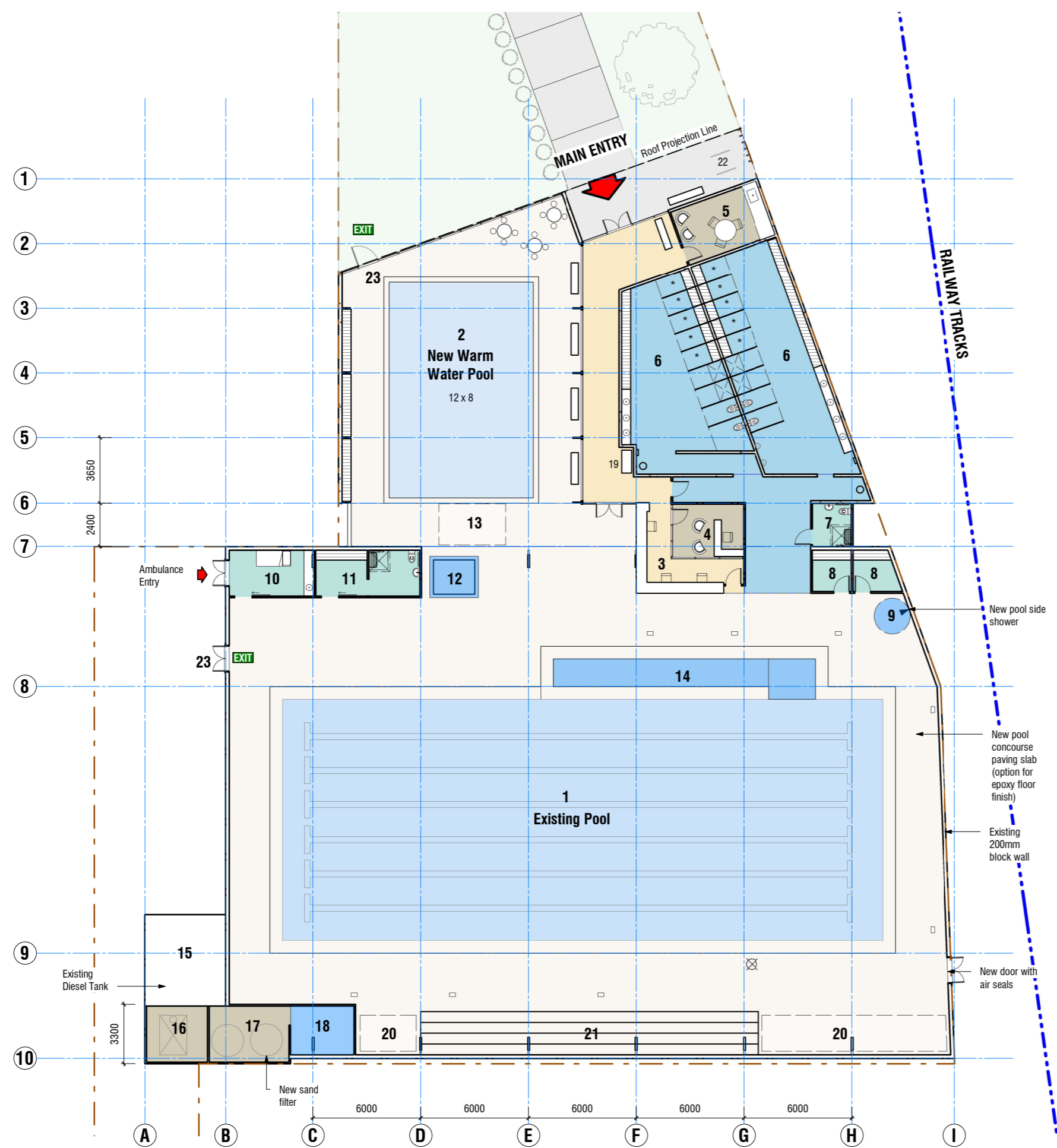


**L0 Existing Ground Floor Plan**  
Scale1 : 250 (A3)

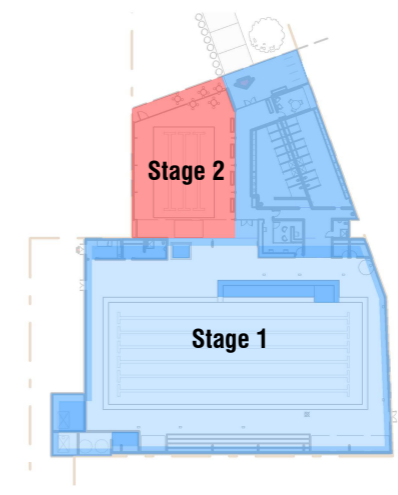
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**Master Plan - Future Proofing**  
Scale 1 : 250 (A3)



**Staging Diagram**  
Scale 1 : 1000 (A3)

**Master Plan Key**

1. Existing Pool Hall
2. New Warm Water Pool
3. Reception & Pool Control
4. Office
5. Staff + Meeting Room + kitchenette
6. Changing Room + Changing cubicles \*
7. Accessible shower + WC
8. Family Changing Room
9. New Pool side shower
10. Accessible Shower/WC + Staff change
11. First Aid Room
12. Spa pool
13. Balance tank
14. New Ramp to existing Pool
15. Future Plant Room Addition - for second pool plant (if needed)
16. Existing Boiler Room
17. Existing F&T Plant
18. New Pumping & treatment Room
19. Vending machine
20. Storage area
21. Existing bleachers
22. Bike racks
23. Fire Egress

**Areas Schedule - Master Plan**

**Total Areas:**  
 Site Area = 2311m<sup>2</sup>  
 GFA = 1700m<sup>2</sup>  
 Floor = 1655m<sup>2</sup>  
 Roof = 1700m<sup>2</sup>

**Existing Pool Area**  
 GFA = 1150m<sup>2</sup>  
 Floor = 1140m<sup>2</sup>  
 Roof = 1150m<sup>2</sup>

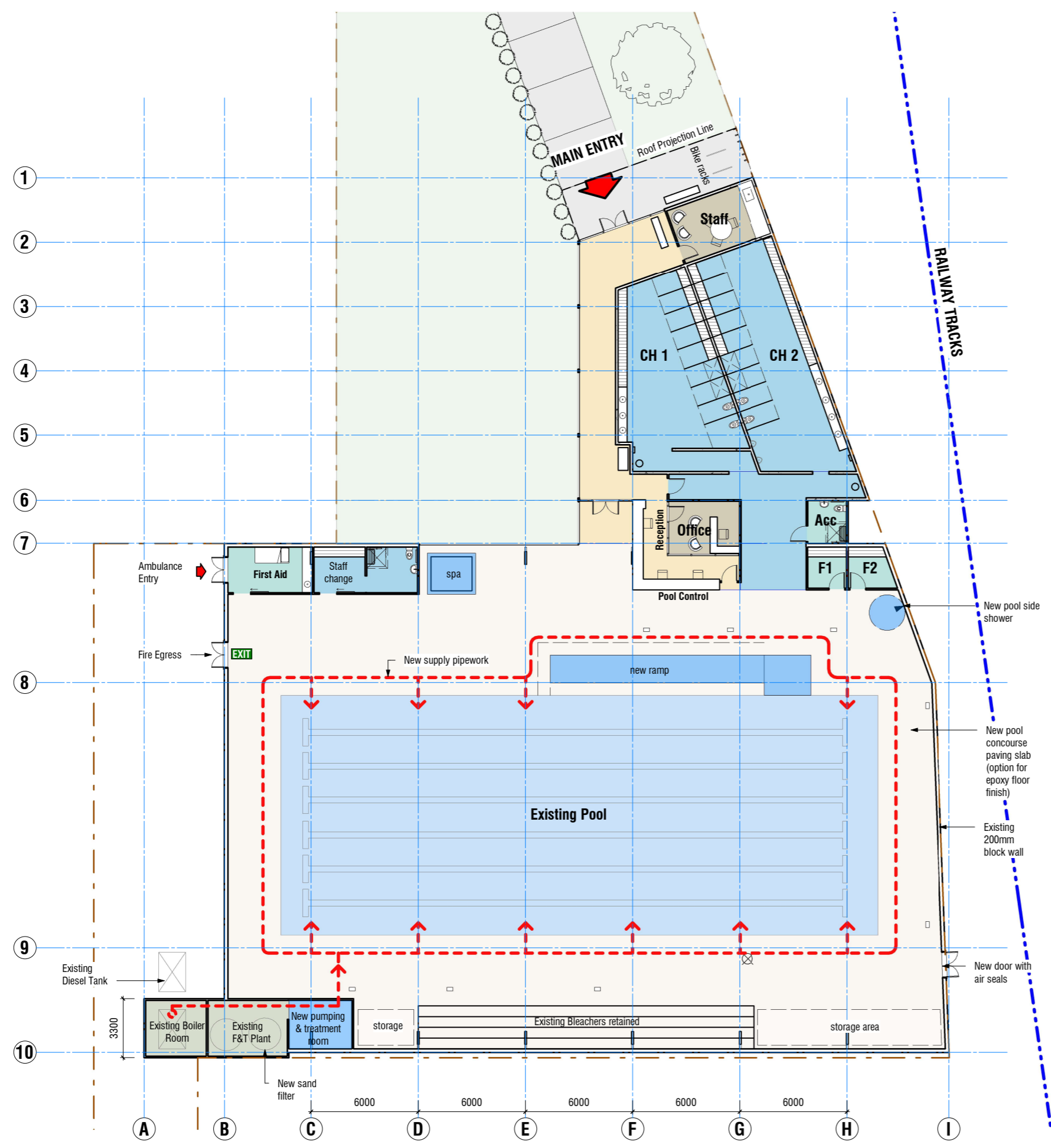
**New Areas Only:**  
 Entry & Changing Rooms block = 255 m<sup>2</sup>  
 New Warm Water Pool = 240m<sup>2</sup>  
 Future Plant Room = 20m<sup>2</sup>  
 New Roofs = 550 m<sup>2</sup>

**Hokitika Pool Redevelopment**  
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 Concept

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**Areas Schedule - Stage 1**

**Total Areas:**  
 Site Area = 2311m<sup>2</sup>  
 GFA = 1395m<sup>2</sup>  
 Floor = 1395m<sup>2</sup>  
 Roof = 1435m<sup>2</sup>

**Existing Pool Area**  
 GFA = 1150m<sup>2</sup>  
 Floor = 1140m<sup>2</sup>  
 Roof = 1150m<sup>2</sup>

**New Areas Only:**  
 Entry & Changing Rooms block = 255m<sup>2</sup>  
 New Roofs = 285m<sup>2</sup>

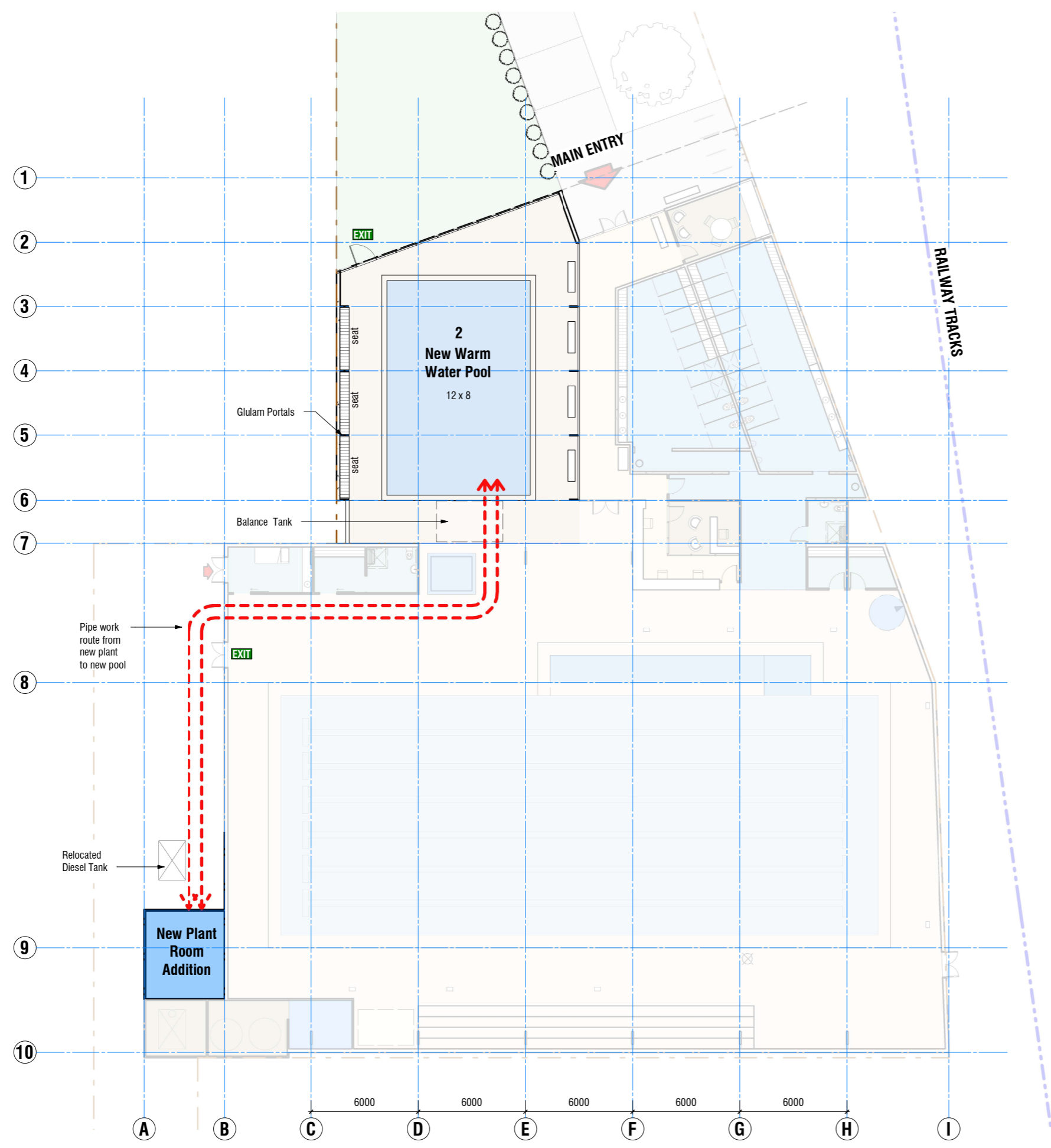
**Stage 1 - Floor Plan**  
Scale 1 : 250 (A3)

**Hokitika Pool Redevelopment**  
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**Areas Schedule - Stage 2**

**Total Areas:**  
 Site Area = 2311m<sup>2</sup>  
 GFA = 1700m<sup>2</sup>  
 Floor = 1655m<sup>2</sup>  
 Roof = 1700m<sup>2</sup>

**New Areas Only:**  
 New Warm Water Pool Hall = 240m<sup>2</sup>  
 Future Plant Room = 20m<sup>2</sup>  
 New Roofs = 265m<sup>2</sup>

**Stage 2 - Floor Plan**

Scale 1 : 250 (A3)