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1.0 INTRODUCTION

**Overview**

This Post-Occupancy Evaluation (POE) aims to gather and examine key insights about the facilities’ technical performance, functionality and operational processes. This information can be then compared against the project’s original design intentions in order to determine how effectively these goals were met. POE can therefore help the Ministry of Education (MoE) to collect relevant, and well-disseminated evaluation information to impact the design and functionality of future facilities.

There are various levels of POE, ranging from a very high level review to a detailed diagnostic study. There is a widely accepted POE process model that sets three levels of POE that can be undertaken, ie indicative, investigate, and diagnostic:

**Indicative**

Indicative post-occupancy evaluations provide information on significant successes and problems and can be as simple as a walk-through evaluation. Selected interviews can also be included as part of the walk-through, or separately. Generally, indicative post-occupancy evaluations involve simple surveys of occupants to establish their views on the physical project outcome, and in some cases, the project process.

**Investigative**

Investigative post-occupancy evaluations are more detailed and require formal data collection techniques. These interviews need to be structured and unambiguous. More time and resources are required for this type of review than for an indicative review. Questionnaires (standard or customised) can be used to survey the occupants. Structured interviews and recording of responses can also be included for analysis, together with responses to questionnaires. Investigative post-occupancy evaluations can be used for detailed evaluation of both the physical project outcome and the project process.

**Diagnostic**

A diagnostic POE is more detailed than both of the previous types. These reviews are comprehensive and generally initiated for large-scale project reviews, or when serious problems have developed, or when the review is part of a rigorous research project. A diagnostic POE requires expert advice and management. The scope of these types of post-occupancy evaluations can be designed to encompass all aspects of projects according to needs.

The following POE report is based on indicative and some investigative processes and techniques. Further diagnostic evaluations may be required to understand the findings in greater detail and context.

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**POE Team**

The assessment for this evaluation was carried out by a team composed of professional architects, education designers, project managers, and construction experts.
2.0 POE METHODOLOGY

The POE was comprised of indicative and investigative techniques carried out by the POE team. The process of the design/delivery of the project along with the overall facility was evaluated, with more indicative focus given on the learning environments. Multiple methods of data collection were used such as:

- Architectural documentation
- Full project walk-through evaluation
- Benchmark data compilation
- Staff and individuals surveyed
- Interviews with key stakeholders ie principal and leadership team members involved in the design phases of the project
- Students, parents and families were not interviewed

The POE process started with an introduction meeting held with the school to discuss the process and the requirements from the school during the POE. There were four key stages in the evaluation:

- STAGE 1: Distribute Surveys
- STAGE 2: Site Analysis / Interviews
- STAGE 3: Prepare and Issue Draft Report
- STAGE 4: Final Report Issued

The project was evaluated under 10 categories to gain a holistic view of the project:

- Identity/Context
- Site Plan
- School Grounds
- Organisation
- Buildings
- Interiors
- Energy and Services Strategies
- Feeling Safe
- Long Life, Loose Fit
- Successful Whole

The evaluation team asked standardised questions about the facility during the on-site investigations along with specific surveys for the users. The data from these strategies form the basis of the evaluation. We have standardised the questions, metrics and on-site analysis with the view to form better comparable cross-project data, and to be able to draw more accurate conclusions overall.
The following is a summary of the findings presented in this report. The evaluation team considered the responses to the leadership survey, occupant survey and on-site interviews to be very positive and it was evident that the school is very pleased with their new facilities.

### 3.1 Conclusions and Recommendations for Halswell School Facilities

Our recommendations below aim to highlight valuable lessons and insight in order to benefit and improve not only this school but future school developments:

1. The school’s established EBoT and principal were actively involved in the design process which allowed strategic input from the outset. This process proved very successful as it enabled the school to voice and align their clear educational vision with the newly built environment. It was stated during the interviews that the school engaged an education consultant to assist with the development of their existing pedagogy. In the school’s view, this was a very successful approach.

2. School representatives who were involved with; assisting consultants with briefing, design team meetings, or at a Project Control Group level, were asked to complete a Leadership Survey to provide their feedback on their experience of the design, construction and post-occupancy performance. Commentary was very supportive of the design, in particular the arrangement of spaces within the learning environment, the flexibility of the spaces, the acoustics, and the multi purpose/hall space.

3. The school carried out considerable consultation with the teachers, students and parents prior to the new project to capture thoughts/learnings to assist with defining a brief. The school undertook further research by visiting existing learning environments in Auckland, Sydney and Melbourne. In particular, lessons were taken from Hingaia School’s learning environment in Auckland. This assisted the school with aligning the ILE design requirements with the Halswell School pedagogy. During the interviews it was stated that this process was highly beneficial. They also stated that they were well assisted by their independent educational consultant.

4. It was stated during the interviews that the external and internal sliding door hardware did not lock correctly, requiring considerable time spent locking the school manually. It is recommended that the problematic hardware, and doors, are reviewed by a specialist.

5. It was stated during the interviews that the small stones used within the raised garden beds were not appropriate as a ground cover as they are easily scattered (by students), requiring them to be frequently picked up and placed back in the gardens. It was stated that the stones were also difficult to remove from the storm water channel drains and door threshold grates. It is recommended that these stones are removed from these areas and a more suitable ground cover is installed.

6. At the time of the evaluation, some grassed areas and the main sports field had yet to be completed and had been fenced off by the school. The school stated during the interviews that “the incomplete works were a frustration”. The school also stated that they found it difficult to find available tradesmen to complete the works due to the post-earthquake rebuild.
7. Of those surveyed, it was stated that some of the carpet tiles within the learning centres were lifting, and were at times a trip hazard. It was also stated that, in the respondents’ view, that ‘the vinyl in the wet area learning space is too slippery when it is wet and can be dangerous at times’. It was also stated that the pin-board, which is glued to the walls, needed to be re-attached in some areas.

8. The heating system is controlled by a central BMS. Responses from those occupants surveyed stated that the internal temperature in the warmer months is uncomfortable. It was also stated that ‘they were frustrated that they had no localised control over the heating system’ and that ‘they had no way to effectively cool the buildings’ other than with natural ventilation. It is recommended that a technical investigation is carried out to understand the actual comfort levels of the learning environment so recommendations can be made.

9. Overall the evaluation team concluded that the school facilities were pleasant, well maintained and working well as a whole. The design of the learning environments reflected sound design principles based on the BoT visions and the ILE guidelines. It provides an excellent example of an adaptable ILE which has been tailored to the Halswell School learning vision. The new facilities were light, spacious, safe and secure and were stated as being enjoyed by both staff and students alike.

3.2 Compliance with Building Standards and Specifications

In order for The Ministry of Education to determine the technical performance, functionality and operational processes of Halswell School, it was assessed against Ministry of Education standards, specifications and design guidelines. Various methods were used to assess Halswell School, including; professional observation, discussions and interviews with occupants, consultant statements, documentation (when available), Code of Compliance Certification and compliance schedules issued by the local authority. The full Compliance Register can be found in section 6.0 of this report.
Halswell School is a new primary school designed and built in Halswell, Christchurch. It is located within a new modern residential subdivision which is generally flat. Halswell school was re-built on the existing school site following the Christchurch earthquakes. The majority of the existing school was demolished, and the new school facilities were designed and constructed in one stage. The school has capacity for up to 650 students, with a current role of 615.

**Benchmark Data**

- **School profile number:** 3366
- **Decile:** 10
- **Type:** Full Co-ed Primary
- **Location:** 437 Halswell Road, Halswell, Christchurch 8025
- **Site Area:** 2.6 ha
- **Total GFA:** 3654m²
- **Project Cost:** $14,958,300.00 Total Building Cost. $8,057,000.00 Siteworks and Infrastructure
- **Staff Numbers:** 54 (including 19 part-time staff)
- **Student Numbers:** 615
- **Environmental Rating Credentials:** Greenstar 5 (Pending)
- **In-use Performance:** 47/kWh/m²/annum
- **Facility Opened:** 2014

**Project Team**

- **Master Planning:** Brewer Davidson Architects
- **Architect:** Brewer Davidson Architects
- **Structural Engineer:** Opus International Ltd
- **Services Engineer:** Opus International Ltd
- **Project Manager:** Aurecon
- **Contractor:** Naylor Love
4.0 PROJECT OVERVIEW

**Project Timeline**

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design Commenced</td>
<td>January 2013*</td>
</tr>
<tr>
<td>Contractor Appointed (Design and Build)</td>
<td>April 2013*</td>
</tr>
<tr>
<td>First New School Facilities Completed (staged opening)</td>
<td>February 2014</td>
</tr>
</tbody>
</table>

* No project programme available

**Master Plan**

![Site Plan of Halswell School](image_url)
4.0 PROJECT OVERVIEW

Learning Environment Floor Plans

Learning Environment (Typical)

Multi-purpose Hall
4.0 PROJECT OVERVIEW

Library and Music Space Floor Plan

Learning Environment Diagram
5.0 ANALYSIS AND FINDINGS

Introduction to Findings

Staff participation for this report was 54% with 29 out of 54 staff completing the survey. Surveys were issued on February 26, 2016. The staff interviews and on-site evaluation were carried out on February 24, 2016. The site visit was performed on a clear, sunny day with light winds and the school was operating under normal conditions. The school’s new facilities were evaluated during one site visit over a five hour period.

Demographic Profile

Of the 29 personnel surveyed, 62% were teaching staff, 14% were either team leaders or in management roles, 3% administration staff and 17% support staff (see graph Q1 below). 65% of the respondents were full-time staff, and 34% part-time staff. 76% stated that they spent 8 hours or more in the facilities each working day, while 7% spent 6-7 hours in the facility each working day. Respondents stated that their time was spread across a wide range of spaces during the working week.

Q.1 Which of the following best describes your current position within the school?

![Graph showing distribution of current positions]

- Administration Staff
- Teaching Staff
- Team Leader or Management Staff
- Support Staff
- Community Support Personnel
- Other (Please specify)
5.1 Identity / Context

Halswell School was an established school operating on the current redeveloped site prior to the Christchurch earthquakes. Following the earthquakes the existing school was demolished and completely re-built with a new master plan. Only two small buildings were retained as storage facilities.

Being an existing school, the vision for the school had already been developed and was strongly supported by the senior leaders and staff. The pedagogical vision was developed further to align with the new ILE requirements and is defined as Halswell’s ACTIVE (acronym) learning vision. This was clearly articulated by the leadership team during the project briefing stage.

The school stands on a relatively flat site, situated on School Road, Halswell, Christchurch. The new master plan positioned the new school on the old sports field. The architect responsible for designing the new learning environment also developed the master plan in conjunction with the leadership team. It was described in the interviews ‘as a challenging time for the school’, but in the school’s view, they were well supported by the Ministry of Education and their consultant team.

The new school consists of a new car park, arrival area, administration, multi-purpose hall, library building and five stand alone learning centres.

The entrance to the administration building is well defined and is inviting to the community. It provides transparency from the reception and administration offices to the front arrival area of the school, allowing for passive surveillance of people entering and exiting the school grounds. The car park is clear and well defined. The pick-up and drop-off area is well designed with a speed hump crossing to allow students to safely access the car park. A clear and well-defined hard and soft landscaping design supports the overall entrance.

The gym, administration building and two of the learning centres are visible to the street and are, in general, of an appropriate scale to their residential context. All of the learning environments are single storey. The learning centres are positioned around a central landscaped space which is well-considered and functional. The cladding and the exterior colour scheme are both welcoming and sympathetic to their surrounds.

The bike stands are positioned next to the gym at the front of the school, in accordance with Greenstar requirements.
5.0 ANALYSIS AND FINDINGS

5.2 Site Plan

The school was established prior to the rebuild commencing. Even though the school had a well defined learning vision, they engaged an educational expert to assist them in evolving their existing pedagogy to suit the new ILE. During the interviews it was stated that the school was supported extremely well by the BoT members. Their skills and their investment of their time to the project was invaluable. In the school’s view, the construction management expertise held within their BoT was a significant advantage.

The project was developed in accordance with the NZGBC Greenstar rating scheme and is 5-star rated (certification pending).

The Master Plan was designed to foster a sense of place within the school. The learning centres are positioned near the outer edges of the site to frame and create a clear outdoor social and learning area in the centre of the learning environment. The communal space provides effective passive surveillance over the hard court and play ground areas. Each of the learning centres have their own defined outdoor learning spaces. On the other side of the learning centres, between the site boundary and the centres, play areas and outdoor learning spaces have been created. These spaces provide a variety of smaller play areas and are shaded well by mature trees and the roofs of the learning centres. The variety of outdoor spaces were well-considered and viewed by the school as a positive attribute.

At the time of the evaluation, some grassed areas and the main sports field had yet to be completed. These areas had been fenced off by the school. The school stated during the interviews that the incomplete works were a frustration and it was difficult to contact and engage tradesmen. It was also stated that this issue was not uncommon in post-earthquake Christchurch.

The master plan created legible circulation patterns, with all-weather cover provided to the learning centres (in most instances). These covered ways are multi-functional and are well utilised for outdoor learning, assembly and performance gatherings.

The multi-purpose hall is well positioned at the front of the school, next to the main entrance and car park for ease of community access. The hard-court is positioned well within the school and it is visible from the arrival/entrance area.

The master plan has created a separate service entry for the removal of refuse and storage of maintenance equipment. The caretaker’s shed is positioned away from the learning environment.
5.0 ANALYSIS AND FINDINGS

5.3 School Grounds

The spatial relationship between the school grounds and its buildings is positive. The school presents a well-designed landscaping scheme which works with the topography of the site. The hard and soft landscaping utilises a variety of colours and shapes to good effect.

Outdoor play and learning areas have been designed in conjunction with the buildings and were well defined on the whole. The static play structures have been distributed around the learning hubs, as opposed to a more centralised approach. This strategy provides a unique collection of smaller spaces for children to play and actively engage in their learning. The evaluation team considered this to be a positive approach for this sized school.

However, it was stated during the interviews that there were parts of the school grounds which could be improved. These included; the incomplete soft-landscaping (discussed previously), the drainage channels which surround the entrances are difficult to access, clean and maintain, and the small pebbles which are used within the gardens are difficult to retain inside the garden beds.

Of those surveyed, 76% stated that the school’s entrance from the street was ‘very accessible’. 46% stated that the hard-landscaping and pathways around the school were also ‘very accessible’. 58% stated that the vertical circulation around the school was also ‘very accessible’. These are above average scores which reflect the well-resolved landscaping design (see graph Q5 below).

Of those surveyed, 62% stated that the internal and external finishes were either ‘generally safe’ or ‘very safe’ for its occupants (see graph Q6 below).

Survey commentary included: ‘the small stones used for ground cover in the gardens and some play areas can be slippery, cause grazes’, and ‘are a nightmare for throwing and getting into drains’.

Q.5 In your opinion, how accessible are the following areas of the school grounds/buildings?

Q.6 In your opinion, are the internal and external finishes safe for all the occupants?

(ie slip resistant surfaces, thresholds, handrails, ramps etc?)
5.0 ANALYSIS AND FINDINGS

5.4 Organisation

The spatial organisation of the learning environment is generally repeated throughout the learning centres. During the interviews it was stated that the layout and organisation of spaces was extensively investigated by the leadership team, in conjunction with the architect. The overall learning environment was comprised of five learning centres, each being utilised by students of different ages. Young students, in most instances, start in the smallest learning centre (named Ahuriri), and overtime moved through into the larger learning centres (named Hurtini, Orangomai, Otowhito, and Otumatua). It was stated during the interviews that this approach worked well.

Each learning centre, in most instances, consists of one staff resource and one meeting room, six breakout spaces, two project space’s (wet area) and two central multi-purpose spaces which connects to a variety of different sized breakout and project spaces. Each learning centre is divided in half by glass sliding doors with one half rotated 45 degrees to improve visual privacy and acoustics. It was stated during the interviews that this was a ‘clever approach’ and was working very well for the school.

The large central spaces are able to accommodate whole-class type learning activities while the medium and small breakout spaces offer flexibility with a sliding door between them to allow them to be used as one larger space if required. It was stated during the interviews that this flexibility is a positive and functional aspect of the learning centre.

The project space is well positioned within the learning centre for all students to access and for teachers to easily monitor. Ample storage has been provided to support the multi-functionality of this space. There is a teacher resource room and a smaller meeting room in the middle of each learning centre. This allows teachers to collaborate and store teaching resources as required. In the schools view, this is working well and is a positive attribute of the learning centres.

The school carried out considerable consultation with the teachers, students and parents prior to the new project to capture thoughts/learnings to assist with defining a brief. The school undertook further research by visiting existing learning environments in Auckland, Sydney and Melbourne. In particular, lessons were taken from Hingaia School’s learning environment in Auckland. This assisted the school with aligning the ILE design requirements with the Halswell School pedagogy. During the interviews it was stated that this process was highly beneficial. They also stated that they were well assisted by their independent educational consultant.
5.0 ANALYSIS AND FINDINGS

5.4 Organisation (continued)

The gym (block G) building encompasses the music and performance spaces, technology spaces, food technology and the school cafe. The building is positioned away from the other buildings on site which allows the facility to be used as a shared community resource. The gym has a large retractable door to one side which allows the gym and the smaller learning spaces to be utilised for a variety of school performances and community functions. The gym is well equipped with AV technology which support school and community requirements. The dance, music and radio spaces were well positioned and designed within the school.

Of those surveyed, 45% stated that they had ‘excellent access’ to a variety of quality internal and external learning spaces to facilitate their pedagogy. 31% stated that they had ‘good access’ and 17% stated they had ‘quite good access’ (see graph Q7 below).

The library’s central location is accessible for both students and staff. The gym, food technology, cafe and performance spaces all have an internal connection from the library which supports the school ethos and requirement for the library to be part of the community facilities.

Q.7 In your opinion, what level of access do you have to a variety of quality internal and external learning spaces to facilitate your pedagogy?
5.0 ANALYSIS AND FINDINGS

5.5 Buildings

Main Learning Environments

The learning centres have been built using steel and timber frame construction. The external walls are, generally, supported by a structural steel system with an infill of timber framing. The buildings are generally clad with bevel back weather board’s with a painted exterior finish, and the remaining exterior walls are metal clad (gym). The roofs are constructed with lightweight metal cladding. The roofs are generally described as having a gable-pitch form, with good eave protection and external gutters throughout. The detailing of the cladding systems is robust, effective and is considered to be low-risk.

The buildings have responded well to the ongoing seismic activity in Christchurch through the implementation of unique seismic detailing and were in good condition. Technical drawings where unavailable for the review of these details but they were visible during the on-site evaluation. A variety of paint colours were used to individualise the spaces.

Toilet Blocks

The unisex toilets were generally connected to the learning centres but externally accessed. The shared toilet wash area was open and visible from communal outdoor areas. During the interviews, it was stated that this design worked well for the school. The toilets were well distributed throughout the school for both student and teacher access.

Of those surveyed, 48% stated that the toilets were ‘conveniently located’ for students in all weather conditions. 41% stated that the toilets were ‘quite conveniently located’ and 10% stated they were ‘inconveniently located’ (see graph Q8 below). Survey respondents stated that the junior learning environment would benefit from having the toilets accessible from the inside of the learning centre. This would allow the teacher to keep a ‘closer eye on them’, along with assisting some of the younger students who may be ‘scared when walking out of the building’ in order to access the toilets.
5.0 ANALYSIS AND FINDINGS

5.5 Buildings (continued)

Storage

A portion of the physical teaching resources are stored within a Lundia system positioned within the technology spaces which adjoins the gym. The immediate teaching resources are housed within the teachers resource rooms within each learning centre. These rooms also provide cupboards and lockers. The Principal and Deputy Principal stated that they recognise that storage is a difficult problem to solve, however, the school’s leadership team had a clear resource management strategy which currently works well for the school.

Of those surveyed, 28% stated that they had ‘sufficient’ storage for their resources and teaching equipment. 34% stated they had ‘quite sufficient’ storage, and 31% stated they had ‘insufficient’ storage (see graph Q10 below). Of those surveyed, commentary included: ‘there is not enough storage space in the teachers resource room’, and that it would be useful if there was more storage for larger outdoor equipment.

Internal and External Doors

During the interviews it was stated that the bottom guides of some of the sliding doors continually required realignment and on-going management by the school. The school has, on occasion, manually locked down the school due to the locks not working correctly.

It was evident during the evaluation that the school had made attempts to improve the performance of the sliding doors, however, this will be an ongoing maintenance and cost issue for the school.

Finishes

Of those surveyed, it was stated that some of the carpet tiles in the learning centres are lifting, and are at times a trip hazard. It was also stated that, in the respondents view, the vinyl in the wet area learning space is too slippery when it is wet and can be dangerous at times. It was also stated that the pin-board which is glued to the walls had to be re-attached in some areas. It is recommended that these items are investigated so that lessons can be learned.

Q.10 In your opinion, how sufficient is the storage for your resources and teaching equipment?
5.0 **ANALYSIS AND FINDINGS**

**5.6 Interiors**

**Learning Environment**

Of those surveyed, 89% stated that they were either ‘very satisfied’ or ‘quite satisfied’ with the overall quality of their learning environment (see graph Q11 below). 75% stated that they were either ‘satisfied’ or ‘very satisfied’ with the internal layout of their learning environment (see graph Q12 below).

85% were either ‘quite satisfied’ or ‘very satisfied’ with the overall quality of the library space. 85% were either ‘quite satisfied’ or ‘very satisfied’ with the sports facilities (see graph Q11 below).

**Sports Facilities**

During the on-site evaluation, it was evident that the multi-purpose gym/hall was very well utilised by the school for a variety of functions. It was also noted that the kitchen and cafe facilities were well positioned within the gym. The gym connects well to the music, performance, dance, technology and library spaces. This creates a standalone and functional community facility.

The hard court is positioned in the centre of the school, with the learning centres surrounding it. There are no fences around the space and this appears to provide the school with a more ‘flexible’ and visually ‘accessible’ hard-court space. The surrounding landscaping is well implemented and integrates the hard-court into the learning environment.

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![Central shared space in the learning centre](image)

![Multi-purpose hall](image)

![Hard-court area](image)

![Graph Q11](image)

![Graph Q12](image)
5.6 Interiors (continued)

Ventilation

The buildings employ a natural ventilation strategy, which utilises electric window openers to open high-level windows. Mechanical heating via a high wall commercial split-unit heat-pump system is utilised and there is no mechanical cooling which is in-line with the project’s Greenstar principles.

The footprint of the learning centres is relatively narrow which allows for effective cross-ventilation. The learning centres appear to be effective, in most instances, at mitigating solar heat-gain in the warmer months through appropriate eave overhangs, louvres, blinds, etc. However, some of those surveyed stated that at times during the warmer months the natural ventilation does not provide sufficient cooling and it can become ‘too hot’.

45% of those surveyed stated that the air quality in the learning environment was ‘sufficient (comfortable)’. 34% stated that it was ‘quite sufficient’ and 17% stated that it was ‘insufficient’ (see graph Q14).

The windows are manually controlled by occupants, assisted by an electric window winder system. Of those surveyed, 31% stated that they had either ‘good control’ or ‘excellent control’ of the ventilation in their spaces throughout the seasons. 58% stated they had ‘limited control’ (see graph Q15 below). Survey commentary included that ‘they had no control over the air-conditioning’. This will be discussed further under the heating and cooling section of this report.

61% of those surveyed stated that the air in their learning environment during winter was either ‘quite fresh’ or ‘very fresh.’ With 32% stating that the learning environment was ‘quite stale’ (see graph Q16). It is recommended that the effectiveness of the natural ventilation system is reviewed to understand the effectiveness of the system and the occupants understanding of how to manage it.
Internal Temperature / Heating

The internal heating is provided, in most instances, by a commercial heat-pump system (with the cooling aspect disconnected). Radiant ceiling panels had been installed in some areas of the school.

From those surveyed, only 14% stated that the internal temperature of their learning area was ‘sufficient’ (see graph Q17), and only 3% stated that they had ‘sufficient control’ of the heating and cooling of their space, with 97% stating they had ‘little’ or ‘no control’ (see graph Q18 below) due to the heating system being controlled from a centralised BMS.

37% of those surveyed stated that the internal temperature of the learning areas during winter was ‘comfortable’. 30% stated they were ‘quite cold’ (see graph Q19 below). Mechanical information was unavailable during our evaluation, therefore professional observations have been used to determine the system’s specification.

Internal Temperature / Cooling

The school uses a natural ventilation strategy for cooling which is in alignment with Greenstar requirements.

24% of those surveyed stated that the internal temperature of the learning areas during summer was ‘comfortable’. With 69% stating it was either ‘quite warm’ or ‘too warm’ (see graph Q20 below). Survey commentary included: ‘the building gets too hot in summer’ and ‘at times it is too windy’ to open the doors and windows for cooling. It was also stated that the occupants were frustrated that they were unable to use the heat-pumps for cooling on hot and/or windy days.
Acoustic Environment

The learning centres were evaluated on a typical day, with the learning environments performing at approximately 70-90% capacity. The acoustics were controlled with a mixture of suspended ceiling tiles, pin-board panels on internal walls (Autex or similar), and carpet tiles. Transparent internal glass sliding doors in each learning centre enable teachers to separate and divide the central space from the breakout and project room spaces when required.

Of those surveyed, 70% described the acoustic environment in their learning environments as ‘comfortable’ (see graph Q22 below). The evaluation team considered the acoustics within the learning environments to be well implemented. Additional technical lessons could be learnt from this learning environment with further acoustic analysis.

Surveyed respondents were asked if they experienced any sources of intrusive and/or distracting noises from within their space. 65% stated that they could not think of any, with only 8% stating noise from ‘equipment’ (see graph Q23).

Survey respondents were asked if they, or the students, were interrupted by any noises coming from outside of the building, 43% stated that lawn mowing noise was an issue. 47% stated that they were interrupted by noise coming from other learning spaces (see graph Q24 below).

In most instances, the learning environments were well distributed with pin-board wall panels for acoustic purposes.
5.6 Interiors (continued)

Artificial Lighting

Recessed ceiling lights provide artificial lighting within the learning environments, which appeared to be well distributed and effective at the time of our evaluation.

Of those surveyed, 53% stated that the lighting levels in their area of the building were ‘sufficient’ and 36% stated they were ‘quite sufficient’ (see graph Q26 below). Of those surveyed, it was stated that the lights can ‘dim intermittently’ or ‘turn off at times which is inconvenient’. It is recommended that further investigation is carried out to understand this in more detail before recommendations can be made.

Natural Daylighting

The learning environment buildings, in most instances, have sufficient and well considered eave overhangs. As the Master Plan positioned the learning environments around a central social space, each learning centre faces a different way in relation to north, therefore, users experience different natural light levels.

The most intense daylighting is well controlled by wide 2-3m eaves on the north and west facing facades. The learning centres feature areas of well protected, full-height glazing which provide, what appeared to be, good quality natural light.

45% of those surveyed stated that the buildings were either ‘effective’ or ‘very effective’ at controlling the natural light throughout the day. 42% stated that the buildings were only ‘quite effective’ at controlling the natural light, with 12% stating that they were ‘ineffective’. Survey commentary stated that some spaces within the learning centres were too dark at times due to the wide eaves (see graph Q27 below).
5.6 Interiors (continued)

ICT

The learning centres provide sufficient power, data, and AV outlets, and are in-line with the MoE design compliance framework.

43% of those surveyed stated that the placement of the power and data outlets, technology and AV devices were either ‘very effectively’ or ‘effectively’ positioned for teaching and learning. 50% stated they were ‘quite effectively’ positioned. The school has SNUP technology and appears to be utilising its investment in devices and digital resources well. The learning centres appear to have a well developed ICT strategy, and are well equipped with AV and TV technology (see graph Q28 below).

Of those surveyed, it was stated that ‘the ability to plug in devices in the middle of the learning centres would be beneficial’. There does not appear to be a quick solution to adapt the spaces for this. It was also stated that ‘the teachers tended to congest the power outlets on the exterior walls or run power cables over the floor’.

The school had installed a school-wide audio system which links the five learning centres and other separate zones of the school. In the school’s view, this is a very positive approach as it allows them to communicate effectively with students and teachers throughout the day, and in a wide variety of ways. It was also stated during the interviews that the Wi-Fi system was, at times, temperamental and challenging to connect to. This is an ongoing issue for the school and it is recommended that this is investigated so that lessons can be learned.
5.0 ANALYSIS AND FINDINGS

5.7 Energy and Services Strategies

The school has adopted the 5 Greenstar rating, although at the time of this evaluation, the school was still awaiting its official accreditation.

The project adopts a number of environmental strategies, such as natural ventilation for cooling, potable water storage, a grey water system, and well-designed buildings which capture and control solar heat-gain (in most instances). These strategies, along with the school’s continual development of efficiencies regarding how its occupants utilise each space, combine to create an above average level of energy consumption for a school of this size (overall).

The evaluation team reviewed 12 months of the school’s power usage and concluded that the school used 47/kWh/m²/annum. During the interviews it was stated that the school’s energy costs are higher than what was budgeted for and they are working with the Ministry on this item.

Due to the parameters of the POE process, the evaluation team have not reviewed the Greenstar rating scheme.

5.8 Feeling Safe

The school offers well designed circulation pathways which are open, wide and enable passive-surveillance. The school’s boundaries consist of medium-density residential dwellings and a busy road (Halswell Road). The road boundaries are defined with well designed metal fences and planting. During the interviews it was stated that the school had a great relationship with the community and no vandalism of note had occurred. Of those surveyed, it was stated that they felt safe, even when they ‘arrived in the dark as they could lock down their individual learning centres as required’. 93% of those surveyed stated that they felt ‘quite safe’ or ‘very safe’ within the school grounds. 7% stated they felt ‘neutral’ and none of those surveyed stated that they felt ‘unsafe’ (see graph Q29).

It was stated during the interviews that once the landscaping is completed, it will ‘improve the use of the whole school and allow the students to spread-out more on the school grounds’. The removal of the temporary fencing will reduce the risk of student injury while playing around these fences (ie warratah posts). The evaluation team recommend that further investigation is undertaken to understand the safety aspects of these temporary fences on the site.

The internal environments are open, transparent, and well organised for teachers to easily oversee most spaces. During our on-site evaluation it was noted that all spaces, equipment and building elements appeared safe and would unlikely cause any health and safety concerns for their occupants.
5.0 ANALYSIS AND FINDINGS

5.9 Long Life, Loose Fit

At the time of the evaluation, the school had been operating within the learning centres for approximately two years. Since the new learning centres have opened they have remained unchanged in their internal configuration (ie walls, ceilings). During the interviews, it was stated the spaces have been relatively easy to re-configure or re-purpose as required and that the school had developed a greater understanding of their ILE from the past two years.

The learning environments are contained within relatively simple building forms. The spaces are open and airy. The structural design spans the width of the building, which effectively limits the amount of bracing or load bearing on internal walls. This allows the internal spaces of the building to be adapted (should the need occur). The ceilings are of an acceptable height, with the higher ceilings in the central learning space seen as a positive attribute. The learning centres appear to be flexible in their use, and cost-effective to adapt should it be required.

The learning studios utilise adaptable furniture and are easily modified by their occupants to suit their pedagogical requirements.

Although the sliding doors have caused some maintenance issues for the school, they do allow staff and students to adapt the spaces to suit. During the interviews this was stated as being a positive attribute of the learning centres.

It is not known if the Master Plan has allocated space for future stages of development. The school currently has some remaining capacity at the time of preparing this report.

Limited construction documents were available to verify our team’s observations therefore, in some instances, professional assumptions have been made.
5.0 ANALYSIS AND FINDINGS

5.10 Successful Whole

Overall the school facilities were pleasant, well maintained and working well as a whole. The design of learning environments provide an excellent example of an adaptable ILE which has been tailored to the Halswell School learning vision. During the interviews it was stated that "the students enjoyed the open learning spaces in the learning centres and the choice of break-out spaces available."

The evaluation team asked those surveyed if they had any final comments. The most common responses were:

1. The fittings and handles on the internal and external doors, and cabinets ‘are of a poor quality’.
2. ‘Staying on site while the school was being rebuilt was hard. It might have been easier if we had been moved off and shifted back to a completed school’.
3. ‘Thank you for our school. We love it!’
4. The ‘ability to teach alongside others in a team environment which is supportive and fun’.

The school has experienced issues with the sliding door hardware

Some of the external works are yet to be completed

The project room in each learning centre (art/wet area)

Large eaves of the learning centres

The evaluation team asked those surveyed which parts of the school they were most pleased with and what was most useful to them or the students. The top five responses were:

1. The ‘different sized withdrawal rooms give us plenty of options’.
2. The learning environments buildings have ‘large eaves which give us shelter and are well used’.
3. The ‘acoustics are working well’.
4. The ‘shape and layout of the learning centres’.
5. ‘It is wonderful having different spaces for different purposes - ie our creative room/wet room is fantastic for art/craft/technology challenges/cooking etc. It is very accessible and easy to see what is going on in there’.
Summary of Building Compliance Standards for Halswell School

The Ministry wishes to understand how the building standards and specifications are being met. This will help the Ministry gauge the property solution at the school in terms of technical performance, functionality, operational processes and examine buildings as they are actually used by various stakeholders.

The below register is an assessment of where the project has met both the stated Ministry and New Zealand design standards and specifications in place at the time of the project.

<table>
<thead>
<tr>
<th>Summary of Standards</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Act 2004, Building Regulations (NZBC), Resource Management Act 1991, Local District Plan</td>
<td>✓</td>
<td></td>
<td></td>
<td>The Code of Compliance Certificate has been issued by the local authority, therefore the POE team have deemed the facilities to be compliant with the sections A, B, C, D, E, F, G, H of the New Zealand Building Code (NZBC).</td>
</tr>
<tr>
<td>Accessibility design for people with special needs</td>
<td>✓</td>
<td></td>
<td></td>
<td>Method used to determine compliance with NZS4121:2001, NZBC D1, section 118 Building Act 2004 was; professional observation, discussions and interviews with occupants, consultant Producer statements and documentation (when available), and the final Code of Compliance Certificate issued by the Local Authority.</td>
</tr>
<tr>
<td>Acoustics</td>
<td>✓</td>
<td></td>
<td></td>
<td>Method used to determine compliance with MoE Acoustics guidelines was; professional observation, discussions and interviews with occupants, consultant Producer statements and documentation (when available), and the final Code of Compliance Certificate issued by the Local Authority.</td>
</tr>
<tr>
<td>Air Quality</td>
<td>✓</td>
<td></td>
<td></td>
<td>Method used to determine compliance with MoE Air-quality guidelines, NZS43043:1990 was; professional observation, discussions and interviews with occupants, consultant Producer statements and documentation (when available), and the final Code of Compliance Certificate issued by the Local Authority. Note the MoE engaged a commissioning consultant (Hvac Assist Ltd) to provide monthly reports and fine tuning of the air-conditioning system. It is expected that these reports confirmed compliance, however these reports were not available for the POE process.</td>
</tr>
<tr>
<td>Education Infrastructure Design Guidance Documents</td>
<td>✓</td>
<td></td>
<td></td>
<td>DCF was completed using professional judgement on site during the POE evaluation process. There was limited technical project documentation available to the POE team.</td>
</tr>
<tr>
<td>Energy design</td>
<td>✓</td>
<td></td>
<td></td>
<td>The project is rated a 5 Greenstar project (certification pending). A copy of the MoE whole life cycle summary (financial).</td>
</tr>
<tr>
<td>Flexible Learning Spaces</td>
<td>✓</td>
<td></td>
<td></td>
<td>Method used to determine compliance with MoE ILE assessment tool was; professional observation, discussions and interviews with occupants.</td>
</tr>
<tr>
<td>Fencing</td>
<td>✓</td>
<td></td>
<td></td>
<td>Method used to determine compliance with MoE fencing guidelines was; professional observation, discussions and interviews with occupants.</td>
</tr>
</tbody>
</table>
### 5.10 Summary of Building Compliance Standards for Halswell School (Continued...)

<table>
<thead>
<tr>
<th>Summary of Standards</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire safety design</td>
<td>✔</td>
<td></td>
<td></td>
<td>The project is deemed compliant by the approved compliance schedules issued by the Local Authority.</td>
</tr>
<tr>
<td>Glass replacement</td>
<td>✔</td>
<td></td>
<td></td>
<td>Method used to determine compliance with NZS4223.3:1999 was; professional observation, and the final Code of Compliance Certificate issued by the Local Authority.</td>
</tr>
<tr>
<td>Heating, Temperature, Ventilation</td>
<td>✔</td>
<td></td>
<td></td>
<td>The project is deemed compliant by the approved Mechanical, Electrical, air-conditioning and hydraulic compliance schedules, and the Producer statements and documentation (when available), and the final Code of Compliance Certificate issued by the Local Authority.</td>
</tr>
<tr>
<td>Lifts in School Buildings</td>
<td>✔</td>
<td></td>
<td></td>
<td>Method used to determine compliance with MoE DOLS lighting design guidelines and AS/NZS1680.1 was; professional observation, discussions and interviews with occupants, consultant documentation (when available), the final Code of Compliance Certificate issued by the Local Authority.</td>
</tr>
<tr>
<td>Lighting</td>
<td>✔</td>
<td></td>
<td></td>
<td>Method used to determine compliance with MoE Acoustics guidelines was; professional observation, discussions and interviews with occupants, consultant Producer statements and documentation (when available), and the final Code of Compliance Certificate issued by the Local Authority.</td>
</tr>
<tr>
<td>Security design</td>
<td>✔</td>
<td></td>
<td></td>
<td>Method used to determine compliance with MoE Acoustics guidelines was; professional observation, discussions and interviews with occupants, consultant Producer statements and documentation (when available), and the final Code of Compliance Certificate issued by the Local Authority.</td>
</tr>
<tr>
<td>Socket outlets and lighting circuits</td>
<td>✔</td>
<td></td>
<td></td>
<td>Method used to determine compliance was; professional observation, discussions and interviews with occupants, consultant Producer statements and documentation (when available).</td>
</tr>
<tr>
<td>Sprinkler systems in schools</td>
<td>✔</td>
<td></td>
<td></td>
<td>Method used to determine compliance was professional observation, discussions and interviews with occupants, consultant Producer statements and documentation (PS2).</td>
</tr>
<tr>
<td>Structural and Geotechnical Guidelines for school design</td>
<td>✔</td>
<td></td>
<td></td>
<td>Method used to determine compliance was; professional observation, discussions and interviews with occupants, consultant Producer statements and documentation (when available).</td>
</tr>
<tr>
<td>Toilets</td>
<td>✔</td>
<td></td>
<td></td>
<td>Method used to determine compliance was; professional observation, discussions and interviews with occupants, consultant Producer statements and documentation (when available), and the final Code of Compliance Certificate issued by the Local Authority.</td>
</tr>
<tr>
<td>Translucent plastic sheets</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weathertightness design</td>
<td>✔</td>
<td></td>
<td></td>
<td>The project is deemed compliant by the approved weathertightness review certificate.</td>
</tr>
</tbody>
</table>