Architecture: A Catalyst For Youth Development

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Adrian Leat
1301947
Abstract

“The will to win, the desire to succeed, the urge to reach your full potential... these are the keys that will unlock the door to personal excellence.”

- Confucius

This design project attempts to explore the relationship between the power of architecture and the successful development of youth originating from low socio-economic backgrounds. The project integrates sport as the driving factor behind their development, thus involves the design of a sports facility in New Zealand. The design of this facility seeks to investigate how architecture can be used as a cohesive and motivating element towards the social and physical development of these youth in order for them to become successful adults. Through the provision of this functional facility and the implementation of currently successful and viable social and physical development strategies, the project aims to empower youth to become responsible citizens who are strong and self-confident with sound social awareness. In the long term, this project seeks to develop these youth into the role models of the future.
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1.0 INTRODUCTION

1.1 Research Question

Using the power of architecture to develop a holistic, integrated youth-focused project; implementing sustainable strategies in order to provide an experimental physical and social environment to improve the current development of youth from low socio-economic conditions in New Zealand.

1.2 Aims and Objectives

“Poverty often deprives a man of all spirit and virtue; it is hard for an empty bag to stand upright.”

- Benjamin Franklin

While the people of New Zealand do not suffer from the kinds of abject poverty seen in the slums of big cities in Brazil, Kenya or India, we do have communities where families suffer from a low standard of living. Consequently, this often leads to a lack of guidance and opportunities for youth in those families, eventually having profoundly negative effects on their abilities as young adults.

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The primary architectural focus of this project is on the provision of a sporting facility. The secondary effect is the development of youth from low socio-economic conditions into more successful young adults. Sport is utilised as the driving element and foundation of this development. The social environment that aims to influence youth also explores the effect of more mature successful athletes as role models upon the aspirations of youth. So the environment that supports such successful elite athletes is used as a cohesive and motivating element for the youth, while also providing for the physical and mental development of elite athletes in New Zealand. The aim of this function is to provide the athletes with better opportunities for success on the Olympic and World stage, subsequently making them more powerful role models for the youth. The two functions of the project are integrated into a cohesive functional facility. The elite athletes assist by having a focus beyond their narrow personal success goals by providing guidance and acting as role models to the underprivileged youth, bridging the gap between both generations through sport, and creating strong and self confident youth with social awareness.

In the long term, this project aims to develop disadvantaged youth into future elite athletes and possibly the role models of the future; but in the short term to empower them to become responsible citizens. The project explores architecture as a catalyst for such development.
1.3 Scope and Limitations

The scope of this project will include the design of a sports centre for the social and physical development of youth and elite athletes. First and foremost, the functional requirements of a sports centre will need to be fulfilled in order for this project to work successfully. However, the social environment which aims to influence the youth will also be a prominent factor in the outcome of the design. This environment, together with the relationships between the centre’s amenities, the spaces created through these relationships, the architecture, and the power of the site will determine the overall success of the design project.
2.0 CURRENT STATE OF KNOWLEDGE

2.1 Current State of New Zealand’s Economic Vitality and the Consequences for Youth

The people of New Zealand enjoy a prosperous society where extreme poverty, such as that seen in the big cities of Brazil, India or Africa does not exist. New Zealanders have access to a sufficient income and decent, affordable housing which meets their needs of an adequate standard of living. With an adequate standard of living, people are well-placed to participate fully in society and to exercise choice about how to live their lives. However, in the year to June 2009, 15 percent of New Zealand’s population were still living below the threshold which classified them as having a low-income. For these people, the lack of economic resources means that their ability to participate in and belong to their wider community and wider society may be hindered, and may otherwise restrict their quality of life. Additionally, a continued lack of adequate economic resources in childhood can lead to negative outcomes. A report prepared for the New Zealand Ministry of Education into ‘the complexity of community and family influences on children’s achievement in New Zealand’ has identified that family and community, coupled with economic vitality, are key levers for high quality outcomes for diverse children. Outcomes include both social and academic achievement. The report clearly shows that children with a low socio-economic status have significantly lower achievement than middle and high socio-economic status children.

2 Ibid.
3 Ibid.
4 Ibid.
5 Ibid.
7 Ibid.
8 Ibid.
Ethnicity and culture are stated to be linked to children’s achievement with results showing that overall, Pakeha and Asian children have consistently higher achievement than Maori and Pasifika children.\(^9\) In addition, the families of most Maori and Pasifika children occupy the lower levels of the socio-economic status, including the poverty level.\(^10\) This is an alarming concern due to the fact that Pacific and Maori ethnic groups are growing faster and will increase their share of the New Zealand population. The Maori population will increase from 15 percent of the total New Zealand population in 2006 to 16 percent in 2026. The share of Pacific peoples is projected to increase from 7 percent of the population in 2006 to 10 percent in 2026.\(^11\)

Low socio-economic status children are much more likely to experience chronic health problems and lower levels of well-being.\(^12\) A good state of health is critical to how long people live and the quality of their lives.\(^13\) People with injuries or illness (both mental and physical) may experience barriers to participating in education, training and employment, thus reducing their economic standard of living. These barriers can also reduce people’s ability to participate in other areas of life, such as family life, socialising with friends, joining community activities and taking part in recreation and leisure pursuits, which can lead to feelings of frustration and isolation.\(^14\)

Family hardship is another major factor. The effects of this include emotional and psychological distress, behaviour disorders, cognitive disadvantage and delinquency.\(^15\) Children’s performance and behaviour can also be affected by dysfunctional family processes (e.g. conflict, substance abuse, child abuse, negative modelling, disturbed parent-child relationships, deprivation of stimulation and affection). Children in such family circumstances are at increased risk of hyperactivity, truancy, mental health disorders (and suicide), delinquency, and low levels of literacy and self-esteem.\(^16\)

\(^9\) Ibid.
\(^10\) Ibid.
\(^14\) Ibid.
\(^16\) Ibid.
Peer groups, especially at secondary school level, can profoundly influence children’s achievement. They can have a positive effect, or a negative effect, and their influence can override parental expectations.\(^\text{17}\) The negative effects can be seen in the gang culture, where misguided youth find a sense of belonging that they may not necessarily find at home due to dysfunctional family processes. Once individuals find themselves within this culture, it is very difficult to break free due to the sense of belonging, as well as peer pressure and intimidation.

So although extreme poverty is not seen in New Zealand, there exists a range of problems created as a result of a lack of adequate economic resources, and a lack of positive family, peer, and role model influences. These problems not only impact the youth of New Zealand, but also youth around the world. This issue is in need of an increased level of recognition so that early intervention programs can be devised or improved in order to help reduce the risks of the subsequent outcomes of low socio-economic conditions. Many communities around the world have done exactly this (refer to sections 2.2.1-3), and as a result, provided programs and facilities aimed at improving the outcomes of youth stemming from an unprivileged background.

\(^{17}\) Ibid.
2.2 Current State of Typology

It is fair to conclude from the previous discussion that persistent poverty possesses subsequent detrimental effects for children. These same disadvantaged children are also placed in low-resource schools, magnifying the inequality between them and their more advantaged peers. Lower teacher expectancies and less home-based cognitive stimulation only hinder the cognitive functioning in poor children. It is clear that these children need help and encouragement outside of their schools and homes. In many disadvantaged communities, this help comes in the form of youth centres. Youth centres provide an invaluable service to the wider community and play an important preventative role. They offer youth a location to gather in order to participate in recreational activities, receive help with their academics, enjoy positive influence, learn specific skills, and develop a sense of identity. Additionally, the centre is a place where young people in difficult personal or domestic circumstances can meet safely and obtain the support they need to provide a place to feel safe and secure. Youth centres help to keep kids off the streets and encourages them to participate in activities and programs that will not only benefit them, but also their community.

Critical to the success of youth centres is the architecture. Architectural strategies may be implemented to positively interact with the children and in doing so, allow them to interact with the architecture. Several of these strategies may be seen in the coming examples, including material choice, use of colour, careful consideration of the sizes of spaces and circulation, and integration within the site. It is vital that spaces be explored and utilised to suit the purpose of the centre and the needs of its users if the community is to fully engage with it. Unfortunately, purpose built youth centres are uncommon. Often a youth centre resorts to adapting an existing space to serve its own purposes and may have to share this space and its resources with other organisations. Consequently, a lot of the youth centres give no account to the architecture and the design of its spaces.

The following projects are examples of youth centres that distinguish themselves within their communities. They have risen above the mediocre designs of the typical youth centres and shown qualities that demonstrate an understanding of youth needs. Given that this project

19 Ibid.
intends to implement tested and successful architectural and youth development strategies, this section predominantly aims to analyse these projects in terms of how the architects design decisions aim to facilitate child development and interaction.

2.2.1 Gary Comer Youth Centre, Chicago, United States of America

Located in Chicago Illinois, in a South Side neighbourhood full of empty lots, industrial buildings, and humble wood-frame and brick single-family homes is the award-winning Gary Comer Youth Centre. The $30 million youth centre, designed by John Ronan Architects, provides a constructive environment for area youths to spend their after-school hours. It supports the activities of a 28-year-old parade performance group – the South Shore Drill Team, whose mission is to combat teen drug use and violence by instilling kids with self-discipline and confidence. Additionally, the centre supports a wide range of youth educational and recreational programs.

The building’s main space is an adaptable gymnasium that serves as a practice space for the drill team and also supports everything from basketball to circus arts classes. The gymnasium has the ability to convert into a 600-seat performance venue through a clever deployable theatre seating system, deployable curtains and stage doors. These features are able to open to reveal a large performance stage. This dominating space, coupled with the adjacent cafeteria, comprises the centre of energy for the complex. Wrapping around this core are ‘bars’ of flexible program space for educational and recreational programs, ending in important spaces on the building exterior (dance rooms, art rooms), displaying the activity inside to the community.

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24 Ibid.
The exterior facade of the centre is clad with coloured cement panels, with windows dotted throughout. This colourful cladding animates the façade and represents the building’s youthful orientation. The colourful panels are arranged purposefully in a seemingly random pattern, so that they can be easily replaced if they are damaged or vandalised without drawing attention to their replacement.25

Figure 2.2.1.1: Gary Comer Youth Centre, Chicago

Figure 2.2.1.2: A Beacon of light within the community

25 Ibid.
The third level comprises of a roof garden which is planted with two feet of soil. This allows for a wide range of plants, from vegetables to flowers and grasses. This space is classified as an outdoor classroom where students harvest crops that are used in the culinary arts programs in the ground floor kitchen. Skylights dot this landscape to bring natural light into the gym and cafeteria below.26

26 Ibid.
2.2.2 Youth Centre and Sports Complex, Saint-Cloud, France

It could be said that the Youth Centre and Sports Complex in Saint Cloud, France, resembles a colourful playhouse. The design of the colourfully clad, 17,000 square foot, $5.75 million, three storey centre was commissioned to Paris-based KOZ Architects by way of public competition. Situated behind a new block of private apartments, next to neo-Haussmannian offices, and a day-nursery in a similar style; the building contrasts strongly with the urban development zone in which it’s located with its cheerfulness and non-conformism. The architects choose to use prefab concrete, meaning all aspects of the project had to be flawlessly planned and drawn in advance. This means there was little chance for making adjustments later.

The intention of the architects was to provide large, wide-open spaces, as well as providing for two independent programs (a children’s play area and an adolescent sports area) on a narrow plot of land. KOZ solved this problem by overlaying the spaces without separating them, and carefully configuring these spaces to maximize usable area.

30 Ibid.
The activity spaces have been piled vertically (gymnasium, climbing walls, leisure centre, outdoor area) and wrapped in a ribbon of concrete to provide cohesion and unity to the building as a whole. The design “communicate(s) via visual glimpses: you see each other on all sides, you ‘feel’ each other, you can easily find your bearings in a building with a spatially fluid but unfamiliar layout. Nevertheless, the functional and administrative autonomy of the two activities (separate entrances and different operational timetables) is respected.” The design of the centre is highly rational, which contrasts with its open and assertive use of colour.

A concrete panel system served as an alternative to a steel-framed structure. The 200 millimetre thick panels, which were prefabricated in Normandy, possess a deep brown hue and textural grain which evokes wood – a material that the architects originally sought to use as cladding; but abandoned in order to improve fireproofing and acoustical performance. The majority of the panels are more than 3.6 metre high; however, those along the prominent gymnasium elevation are a huge 8 metre high, creating a more monolithic surface. Although the exterior-facing panels surrounding the street elevation do not carry any structural load; they serve to visually accentuate the frame as a continuous ribbon. “This clear articulation allows the glazed inner volumes, by contrast, to dematerialize into voids of pure colour.” The detailing of the curtain wall is straightforward, which may contrast with the complicated use of colour. Glass panels are simply fixed to an aluminium frame, which in turn is bolted to the concrete structure. On the interior, the same colours are mirrored in order to create colour coding. This enables you to locate from the outside the areas created on the inside - a means of spatial orientation for young children.
Moving further beyond the purely functional requirements of the brief, the architects experimented with the occupants, placing great hope in their imagination and inventiveness, a move that is applauded. All circulation space – corridors, access ramps and passageways are wide and spacious, up to three times the regulation size. This feature of the building invites spontaneous social and physical activity between occupants. Another feature designed along the same lines is the ramp leading to an open roof deck where outdoor games, training and other activities can take place. The ramp itself can be utilised for a variety of activities ranging from just running up and down to becoming a small sized outdoor theatre. The ramp is exceptionally wide, providing an additional space that safely contributes to the strong physical and visual continuity between the centre’s internal and external areas. Secured with a surrounding 1.80m railing, it is a safe and private area where children can go alone in complete safety. These features show the architect has clearly designed with the occupants benefit in mind.

44 Ibid.
45 Ibid.
48 Ibid.
49 Ibid.
50 Ibid.
Figure 2.2.2.1: Youth Centre and Sports Complex in Saint Cloud

Figure 2.2.2.2: Open roof deck

Figure 2.2.2.3: Gymnasium and climbing wall
2.2.3 The Pharrell Williams Resource Centre

The Pharrell Williams Resource Centre is a joint venture between recording artist and producer Pharrell Williams, and Miami based architect Chad Oppenhiem of Oppenheim Architecture + Design. Located in Williams’ hometown of Virginia Beach, Virginia, and within close proximity to three elementary schools; it is an excellent example of a youth centre – not only because of its goals and visions, but also because it has taken advantage of a site on an open prairie. Instead of just observing the forest on the site, Oppenheim has decided to “engage and enhance it, fully celebrating the wonders of the natural world with the design”. Resembling a ‘treehouse’, the centre is set within the forest to create a close connection to nature. Expansive views of the open prairie will be visible from the building to help create this connection. Composed of several rectilinear volumes of varying proportions, the environmentally conscious Oppenheim will utilise sustainable, reclaimed materials, wind turbines, and integrate the design with the forest on site.

After meeting at Art Basel in 2008, Oppenheim and Williams began to devise a plan to collaborate and create a safe and nurturing centre where children could escape to and dream big. The 9,000 square-metre facility is aimed at inspiring youth to aspire to great things and help them reach their full potential. Furthermore, the centre’s goal is to provide kids with inspiring experiences that will in turn have a positive influence on the surrounding community, “through individual lives and how they apply that to their businesses, families and neigbourhoods.”

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54 Ibid.
55 Ibid.
56 Ibid.
57 Ibid.
58 Ibid.
The centre will serve school-age children through to second year university students in the greater Virginia Beach region through collaboration with school districts. Children will utilise the centre during after school hours and in weekends in order to receive help with homework, participate in mentoring programs, personal finance programs and engage in community service projects. The design of the centre hopes to represent the future for youth centres and set a new standard for the way the world builds for its future. It will modernise the community centre concept by empowering kids to learn through new technologies, arts and media.

Williams believes “the architecture of a building says a lot about its soul”. He “wanted a building for the center that makes a statement to the world and the kids – something that will stand as a monument of optimism.” “We want the building to look like something out of the future, so it will inspire the kids in it to aspire to greater things” says Williams.

At present, Williams’ charity From One Hand to Another (FOHTA) is seeking to independently fund the construction of the centre. Through the project’s environmentally conscious nature and intentions to aid underprivileged youth in the area, Williams also hopes to attract investors. The project is due for completion in 2013.
Figure 2.2.3.1: The Pharrell Williams Resource Centre
2.3 Integration of Sport and Architecture for Positive Social Change

In some circumstances, the bare provision of youth centres is not enough to attract youth of the community to voluntarily partake in activities that will lead to their positive development. In these cases, a common interest has to be identified as the driving force if they are to have any hope of attracting youth to their centres, and delivering their strategies and messages. In this case, the element used is sport.

In many areas around the world, particularly Africa and South America, many examples of the integration of sport and architectural projects into a disadvantaged community can be seen to have a positive influence. There are several examples where organisations or companies have collaborated with architecture firms in order to provide facilities for basic services in disadvantaged areas. These facilities often combine sports such as football or basketball with other purposes such as education, public health services, and leadership centres. Architecture for Humanity and Nike Inc. are an example of this initiative. They have partnered together to create the Nike GAMECHANGERS Fund. This program encourages community organisations to empower youth through sports by proposing programs that promote social and economic development in a community. The program addresses key areas including:

- Improved access to opportunities to participate in sport
- Removal of physical, economic, social and gender barriers to participation in sport
- Improved social cohesion
- Improved physical activity
- Provides innovative alternatives to generate spaces for communities that lack resources
- Positively affects the environment or reduces negative environmental impact of sport-related initiatives
- Opportunities for social and economic empowerment generated by the project

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71 Ibid.
Supporting the design and construction of innovative facilities is the main goal of the program. This is done through a grant fund. Many of the key objectives set out above by Architecture for Humanity and Nike possess major similarities and intentions to what this project intends to achieve.

Another excellent example of a program utilising sport as the driving factor in the development of disadvantaged areas is FIFA’s Football for Hope Movement. FIFA have partnered with Architecture for Humanity and Streetfootballworld to develop 20 Football for Hope Centres throughout Africa. The objective of the program is to promote sustainable social and human development programmes; and football is used as the fundamental device in the areas of health promotion, peace building, anti-discrimination and social integration, children’s rights and education, and the environment. So far, as part of “20 Centres for 2010” – the official campaign of the 2010 FIFA World Cup in South Africa - four centres have been completed in Mali, Namibia, Kenya and South Africa (Capetown). One is currently under construction in Lesotho, with five others in South Africa, Rwanda, and Ghana currently in various stages of development. The completed projects are already having success and impact on the local community. In Nairobi, the centre contains over 1500 teams in their football league. The project in Khayelitsha, on the outskirts of Capetown, shares the space with Grassroots Soccer and the township residents are now producing professional quality films. The educational impact of the centre in Khayelitsha has been broadened from sports, leadership, and health to include filmmaking - a real success for the program.

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73 Ibid.
74 Ibid.
75 Ibid.
76 Ibid.
77 Ibid.
2.3.1 Khayelitsha Football for Hope Centre, South Africa

In December 2009, the first Football for Hope Centre opened in the Harare neighbourhood of Khayelitsha. An urban upgrading programme has been planned for the Khayelitsha development zone and the centre acts as an anchor site. Khayelitsha is the second largest township in South Africa behind Soweto and it is also the fastest growing. A lack of economic opportunities and a rapid growth in population has meant that Khayelitsha faces numerous challenges. 40% of the 1.2 million population are below the age of 19 and in 2007 the HIV prevalence rate was 30.2%. Leading the fight against HIV is Grassroots Soccer, a South African based, non-profit organisation founded by former professional football players that aims to provide young people with the knowledge, skills and support to live HIV-free. Predominantly, children aged 12-18 are targeted but all community members are welcomed, regardless of age. Three times a week, two-hour sessions are provided for 80-100 children on the pitch at the Khayelitsha Football for Hope Centre. In order to help young people understand and deal with HIV, football games and drills are combined with specially-designed exercises in each session. Children are encouraged to find out their HIV status in a safe, supportive environment through testing clinics that are set up regularly within the centre. In addition, Grassroots Soccer is training local role models to deliver their interactive, football-themed behaviour development curriculum to young people, who in turn become peer educators within their own community. This is an excellent example of one of this research project’s objectives and strategies. It is a great initiative being undertaken by organisations around the world and it is impressive to witness it functioning effectively in the real world environment.

80 Ibid.
81 Ibid.
82 Ibid.
83 Ibid.
84 Ibid.
85 Ibid.
Furthermore, additional educational opportunities are available on a regular basis. For example, computer literacy and classes in writing CVs and cover letters are offered, as well as media training which enables young people to use cameras, video and editing software and teach them journalistic skills. 86

Simple but effective strategies are used at the centre to promote social change. This was illustrated when the centre opened. A mini tournament took place between 8 teams. There was one twist - no referees. This simple strategy forced individuals to negotiate their own rules for each game in order to promote communication, understanding and respect. In addition, the teams were comprised of mixed-genders to combat gender discrimination. 87

86 Ibid.
2.4 Outward Bound

Through the design of a purpose built facility, this project intends to implement viable social and physical development strategies that have been proven to be successful. Therefore it is vital to explore programs that have achieved such goals. This includes an investigation into the history of the programs to explore how the goals and philosophies of the program were formed, and their development since then. Ideally, this will give an insight into why such programs are successful and how they may be useful in the development of strategies and guiding principles for the research project. One such program that has had tremendous success and recognition, especially in New Zealand, is Outward Bound. The program has a dense and rich history and its success is evidenced by its international expansion and sustained commitment. Therefore it seems advantageous to focus in on this program as a source of inspiration.

The Outward Bound program is an international program originating in Scotland and Wales. It is aimed at helping “people discover and develop their potential to care for themselves, others and the world around them through challenging experiences in unfamiliar settings”.88 Kurt Hahn, a German born Englishman, possessed the original idea for the course and is known for being the “moving spirit” of the program.89 Hahn, the son of a wealthy Jewish industrialist, spent much of his life in England. During a summer vacation in 1902, with his friends from Abbotsholme, an English public school, Hahn’s first interests in education were sparked.90 Hahn later became obsessed with education with strong influence from studies by Plato, Baden Powell, Cecil Reddie, Dr Arnold of Rugby, and Herman Lietz amongst others.91

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Hahn’s own philosophies and determination can be seen to be exemplified within himself, when in 1904, he suffered severe sunstroke that left him with a permanent disability. At this time Hahn was still a young man, yet he triumphed over this disability with the greatest courage. During the long recovery periods linked with the sunstroke, Hahn was able to go into greater depth with his study of educational philosophies. From this study, Hahn was able to formulate the system of education that he promoted throughout his life. Through this incident, he demonstrated one of his favourite aphorisms, “your disability is your opportunity”, by turning ill fortune to good purpose.

Hahn was very proud that his educational philosophy contained nothing original about it, similarly with his schools and their operations. In fact, his philosophy was a collage of what he considered to be the best ideas drawn from as many sources as possible. This is where Hahn’s success lies – in his selection and unique combination of the philosophies that he decided to borrow. He utilised methods and principles that were already proven to work instead of experimenting with new ideas and methods. Hahn’s way of thinking was justified in this quote by his colleague, Prince Max von Baden:

“In education, as in medicine, you must harvest the wisdom of a thousand years. If you ever come across a surgeon and he wants to extract your appendix in the most original manner possible, I would strongly advise you to go to another surgeon.”

Hahn’s belief was that “every child is born with innate spiritual powers and ability to make correct judgments about moral issues. In the progression through adolescence, the child loses these spiritual powers and the ability to make moral judgments”. Hahn blames this on the
‘diseased society’ and the ‘impulses of adolescence’. He observed these social diseases in society and as a result, became obsessed with them. They have been described by Hahn as:

1. The decline in fitness due to the modern methods of locomotion.
2. The decline of initiative and enterprise due to the widespread disease of spectatoritis.
3. The decline of memory and imagination due to the confused restlessness of modern life.
4. The decline of skill and care due to the weakened tradition of craftsmanship.
5. The decline of self-discipline due to the ever-present availability of stimulants and tranquilizers.
6. The decline of compassion due to the unseemly haste with which modern life is conducted.

Consequently, Hahn became concerned for the physical well-being and believed that every child possesses both a natural physical aptitude and a natural physical inaptitude. Both, he believes, are positive aspects. Where one develops strength, the other helps to overcome weakness. In order to develop these innate powers and allow them to manifest themselves, Hahn aimed to provide an “ideal pasture.” One of the pastures he created was Outward Bound.

Following his exile to Britain due to Hitler’s rise to power in the early 1930’s, Hahn became strongly attracted to the northeast of Scotland, where he recuperated from his sunstroke related episodes. It was during this period that Hahn became friendly with the Cumming family who later made the Gordonstoun Estate available for Hahn to open a school. In April 1934, Gordonstoun School opened with two pupils. A third pupil, Prince Philip of Greece (who later became His Royal Highness the Duke of Edinburgh) joined them in September, and by 1937, the

101 Ibid.
102 Ibid.
103 Ibid.
104 Ibid.
105 Ibid.
107 Ibid.
school had already accumulated 150 pupils. At this stage, Hahn was seeking ways in which he could make his system more accessible for youth of the village. As a result he developed a program for developing young people that consisted of three parts. The three parts of development were: working at developing physical skills such as running, jumping and throwing; learning to live in the outdoors through an expedition; and embarking on a hobby or project. The Moray Badge (named after the school’s home county of Morayshire) is awarded to the participant when they have completed the activities to a prescribed standard. Hahn’s principles of education came alive through the Moray Badge Program.

It was not long before the program expanded along with Hahn’s dreams. He hoped that the Moray badge scheme would expand to the extent of reaching one million young people. Soon enough the Moray Badge program was adapted and developed into the County Badge to cater to the needs and culture of each county in England. A fourth component of ‘service’ was added to the program due to the insistence of one of the counties. At first Hahn was against the idea of service because he believed compassion was an expectation of everyone. However, the concept of service has since become entrenched in Hahn’s work and has in fact become a resounding hallmark of his. The County Badge was successfully introduced to many counties in 1938. The four key elements of achieving the County badge have been embraced by Outward Bound and are now known as the “Four Pillars”. These pillars remain similar to the original elements of the Moray and County Badges. They include: physical fitness; an expedition that provides challenge and adventure; a project that develops self-reliance and self-discipline; and finally a sense of compassion through service. In the days of the County Badge, several short courses were offered. One of these included a 28-day introduction to the program that was followed by a twelve month period where students followed up with the required activities to the various expected standards, after which they would be tested for the badge. Hahn claimed that it was during these short summer courses

108 Ibid.
109 Ibid.
110 Ibid.
111 Ibid.
112 Ibid.
113 Ibid.
114 Ibid.
115 Ibid.
116 Ibid.
that he was able to plant unforgettable memories, “cleanse and heal the tastes of life”, and self motivate the boys in regards to training.\textsuperscript{117} This 28-day experience developed during these times was the inspiration for the future Outward Bound courses.\textsuperscript{118}

The Gordonstoun School was forced to evacuate its Scottish premises in 1940, moving to Plas Dinam, Wales, before relocating to the coast at Aberdovey in order for the students to be able to undergo some sea training.\textsuperscript{119} The Outward Bound School was established in 1941 at Aberdovey on the coast, where it could be conducted on and around the sea in order to give young sailors the ability to survive harsh conditions at sea by building up their experience of harsh conditions.\textsuperscript{120} Unlike the older sailors, they seemed to lack the tenacity and fortitude it took to survive the rigors of war and shipwreck.\textsuperscript{121} From here, the Outward Bound School and program expanded. In order to do so, the Outward Bound Trust was established in 1946, bringing together a group of inspirational people onto the Board. At this point, the concept of Outward Bound served only young men in Britain. However, the Trust believed that a greater number of people could benefit from the Outward Bound experience and the concept could be “interpreted and adapted to other countries around the world”.\textsuperscript{122}

From here international expansion flourished with new schools opening in Africa, Germany, Australia, and Devon, England. Each environment was different at each school, as were the needs of their areas.\textsuperscript{123} So each school adapted its training in regards to this. However, this was an unstable time for the program and the establishment of its fundamentals. One of the arising issues debated was whether or not performance should be rewarded through badges. Some believed that there should be no testing of performance and that participation should suffice. However, Hahn believed that motivation could stem from encouraging participants to achieve goals they thought were out of their reach – “to defeat their own defeatism”.\textsuperscript{124} In the end, several iterations of awards and badges were created, and a single badge for participation was created.

\textsuperscript{117} Ibid.  
\textsuperscript{118} Ibid.  
\textsuperscript{119} Ibid.  
\textsuperscript{120} Ibid.  
\textsuperscript{121} Ibid.  
\textsuperscript{122} Ibid.  
\textsuperscript{123} Ibid.  
\textsuperscript{124} Ibid.  
International expansion carried on into the 1960's with five new schools opening in the U.S.A. alone. In addition to this, more schools opened in Zimbabwe, New Zealand, Singapore, Canada, Zambia, Lesotho, and the first school for girls in Rhownair, Wales.\textsuperscript{125} The schools also introduced new programs including co-educational programs, work with youth at risk, inner city programs, and connections with university programs.\textsuperscript{126} The intensity in growth continued throughout the 1970's and 1980's. This growth included both the opening of new schools and the design and offering of special courses. These were offered to diverse groups and individuals including corporate clients, special populations such as recovering alcoholics, victims of abuse, adjudicated youth, and women in mid life crisis.\textsuperscript{127} However, it was argued that the new diversity in offerings brought into question the integrity of the original Outward Bound program. Unfortunately Kurt Hahn died in 1974, though it is maintained that he would support this diversity due to the fact that he always believed in adapting to do what is necessary to address the social issues of the day.\textsuperscript{128}

The 1990's heralded the 50\textsuperscript{th} anniversary of Outward Bound. Delegates from 18 countries and five continents gathered at Aberdovey, the birth place of Outward Bound, for the celebrations. In addition, the decade saw more schools opened across Europe, Asia and Africa.\textsuperscript{129} Today, Outward Bound is a worldwide organisation that still aims at dealing with the social issues of the day. The program is based around five core values. These are courage, trust, integrity, compassion, and cooperation.\textsuperscript{130} The program still follows several operating principles in order for the participants to discover and develop their potential. These principles include character development, adventure and challenge, learning through experience, compassion and service, and social and environmental responsibility.\textsuperscript{131}

Kurt Hahn has introduced some fundamental philosophies that possess an astounding insight into youth development. Furthermore, these philosophies have been critical to the success of the Outward Bound program. Investigation into the program's development and strategies

\textsuperscript{125} Ibid.
\textsuperscript{126} Ibid.
\textsuperscript{127} Ibid.
\textsuperscript{128} Ibid.
\textsuperscript{129} Ibid.
\textsuperscript{131} Ibid.
has proved most valuable and many of the principles follow very closely to those wanting to be achieved by this project. Many aspects may be adapted to meet the needs and uses of the project, incorporating Outward Bound’s ideology as tools to further this project in providing an “ideal pasture” for the development of youth.

For the current state of knowledge on ‘High Performance Sport in New Zealand’ please refer to section 10.1 of the appendix.
3.0 METHODOLOGY

3.1 Methodological Approach of the Project

It is a mandatory requirement that any building must respond soundly to its environment, with the least possible impact on its surrounding. A visit to the site is mandatory. It is essential that a thorough analysis is completed and correct data is collected from the site if the design is to respond soundly and efficiently to the local environment. This would provide the project with a strong base of data from which to guide the design and may possibly provide a starting point.

3.2 Content

Research and survey of pre-existing youth development and sports facilities must be undertaken before any design can start. Any precedents of facilities where sport has been used as the driving force for youth development and has been integrated with architecture will prove to be exceptionally valuable. From the precedent study a framework of the various amenities needed for a functional facility can be set. The sizes of these spaces can also be determined through this study. Existing successful and viable social and physical development strategies will need to be investigated. From this investigation, a thriving social environment may begin to materialise.
3.3 Concept

Evidence of strong qualities from analysed precedents can be used to set guiding principles for the design project. A visit to the site may also offer some inspiring ideas for the design project.

3.4 Exploration

Research by design is the key principle of this project. Therefore a significant design-based approach to solving the problems of the project will be undertaken. Sketching, hand drawings, quick modelling, and use of computer modelling programs will be a vital part of my design process. This will help to explore the planning and spatial organisations of the various components of the project. These explorations must be analysed as possible successful or unsuccessful solutions and further developed, refined or discarded. A successful outcome may only come through design, testing and critique against the guiding principles of the project. Critique must come from, architectural peers, tutors, and professionals.
4.0 SITE

4.1 Site Selection Strategy

“For much of human evolution, the natural world constituted one of the most important contexts children encountered during their critical years of maturation. It would not be too bold to assert that direct and indirect experience of nature has been and may possibly remain a critical component in human physical, emotional, intellectual, and even moral development.”

A crucial transition point takes place at early adolescence which is characterised by multiple biological, developmental, and social changes. Antisocial behaviour is seen to emerge during this development period. Unfortunately, the socioeconomic status of a family often determines the child’s opportunities for education, occupation and social interaction. This can often leave children of a low socio economic background with fewer opportunities for a high quality outcome. Additionally, reduced levels of economic income can lead to increased parental stress. This often results in less affection toward children and less effective disciplinary interactions. More advantaged families are more likely to use reasoning and non-physical forms of discipline whereas lower-class families are most likely to use physical punishment as the form of discipline. Teachers reported that children in such families were more likely to have behaviour problems and negative social relations with peers. There are many negative effects which can arise from dysfunctional family processes as I have discussed in my literature review above.

3 Ibid.
5 Ibid., p. 111.
6 Ibid.
7 Ibid., p. 101.
8 Ibid., p. 111.
In the worst cases, a street subculture can emerge in children who lack social control from families, schools, and law enforcement. Many of these individuals who have tarnished, traumatic family and personal backgrounds spend most of their lives on the streets. It is during the crucial adolescence period that the group-orientated preteen activities on the street combine and merge into the street gang. These street gangs are made up primarily of the male adolescents and youths that have been discussed who typically grow up together as children in low-income neighbourhoods. Furthermore, peer influences become increasingly prominent in the development of aggression as youth approach middle childhood and early adolescence. Consequently, most aggressive gang behaviour is committed by male youths between the ages of 14 and 18. By this point, most of these youth are the kind of individuals that society say don’t have a chance.

As a consequence, a development intervention is proposed. This intervention is designed to promote the positive development of these youth who are facing challenging environments that place them at risk for adjustment problems. The majority of projects concerned with aiding disadvantaged youth situate themselves within the low-socio economic suburbs from which these youth originate. The strategy is to remove the targeted youth from their current environment which is detrimental to their successful development and high quality outcome. It may be argued that these individuals, especially at such a crucial point in their development towards adulthood, would feel more comfortable within familiar surroundings. However, family, peers and community are potently influential and if these factors are combining to result in the negative issues that have been discussed above, then an intervention must be undertaken.

10 Ibid.
11 Ibid.
4.2 Site Criteria

It is proposed that the youth development and sports centre will ideally be located out of any major city or town to avoid the types of environment where distractions and negative influences will be detriment to the objectives of the project. To select a site appropriate for the project, specific criteria must be established. The key criteria for site selection are:

- A somewhat remote location but still connected to cities or towns for ease of access
- Towns must contain public transport to and from
- In close proximity to greenery and water – an undisturbed natural setting
- Possess qualities such as solidity, strength and power; but also of peace, mystery and purity in order to rejuvenate individuals

“It appears that during adolescence, challenge in relatively unusual and undisturbed natural settings can exert major development impacts.”

4.3 Site Location

“What seems evident is that…direct experience of nature plays a significant, vital, and perhaps irreplaceable role in affective, cognitive, and evaluative development”\(^{16}\)… “The child’s experience of nature is, thus, portrayed as an essential, critical, and irreplaceable dimension of healthy maturation and development.”\(^{17}\)

From the requirements and criteria it seemed favourable to take advantage of the beauty and power of New Zealand’s natural environment. I have selected a site which is located in the South Island of New Zealand where the ‘strong and ancient’ Southern Alps exist. It is situated on a piece of land approximately one kilometre wide between Lake Wanaka and Lake Hawea commonly referred to as ‘The Neck’. The site overlooks two of the largest lakes in New Zealand and some of the most stunning natural landscapes and scenery in the world. The geology of the Wanaka/Hawea area is marked by glaciations: broad U-shaped valleys; terraces and escarpments and the hummocky mounds of roche moutonnes. In New Zealand’s last ice-age, 15,000 to 20,000 years ago, huge glaciers filled the valleys and the areas where the lakes now stand, reaching south to the current Wanaka township. ‘The Neck’ was where a branch of the Hawea Glacier joined the Wanaka Glacier. It was also where the main settlement for Maori was located when the lakes were used as a seasonal food source.

Most of the rocks of the Southern Alps started as sediment and rock deposited on top of volcanic rocks on the seafloor about 220-270 million years ago. Under intense heat and pressure these rocks were consolidated and then uplifted to form the mountains of the Main Divide. The Southern Alps offer many positive physical and emotional qualities to the project - the ancientness, the purity, the untouched beauty and peace. The site offers direct physical and emotional contact with the natural environment and visual contact with the water.

Lake Wanaka and Lake Hawea townships are in close proximity so supplies and other services are easily attainable. The Hawea Township is only 10kms from Wanaka. From Hawea Township ‘The Neck’ is another 15 kilometres away. This offers the site some isolation from the urban world.

yet it is still easily accessible. Queenstown is a 50 minute drive from Wanaka using the route over the Crown Range. From Queenstown you are able to catch national and international flights to and from. Being a popular tourist and back-packers destination, buses are frequent between Queenstown and Wanaka. This means transport and access to the site is not difficult for occupants and visitors.

4.4 Site Analysis

The climate of the Lake Wanaka region is stable and almost continental. Temperatures in summer average a comfortable 24°C. During summer, days are hot and evenings are cool. Winter tends to have calm clear days with highs around 10°C. Days are cold with frost and snow in surrounding mountain ranges. The average rainfall for the area is 682mm per year which is approximately half of the national average. Most rainfall occurs during the spring months. It also receives around 2,000 sunshine hours annually, approximately 23% of the year. The region is dominated by peaks and ranges originating from a history of glacial activity. The altitude at lake water level on the western Wanaka side is 277 meters above sea level, with the altitude at lake water level on the eastern Hawea side at 342 meters above sea level. Average water temperature of the lakes sits between 8.9 – 10.0 degrees Celsius. The Isthmus peak rises to an altitude of 1386 metres above sea level with the chosen site approximately one third the way up at an altitude of 680 metres above sea level. The site can currently be reached by a private farmers track.
The site possesses stunning views to the southwest, west and northwest towards Lake Wanaka. Similarly, stunning views are afforded to the site towards the east and northeast to Lake Hawea; and north to the opposing mountain range. However, the predominant wind at the Neck is a north westerly which tends to bring stormy rain and days of unsettled weather. There is also a wild northeast wind that strikes Hawea from the Dingle Burn Valley. It has the ability to stir up quickly and is unrelenting, usually in the form of a stiff brisk wind. However, the site is completely protected from the southerly wind by the looming mountain range at its back. There can be a stretch of still days but it is rare for the wind to not rise by the afternoon from one direction. As the sun sets very late in the summer it can get extremely hot from about two o’clock in the afternoon. It is essential to be able to open up the building and provide the ability for it to breathe. If the design has not taken the wind into account then it may be become somewhat uncomfortable during summer.
Site Analysis

Hawea
The 'Neck'
Wanaka

Queenstown

0 5km 10km 20km
Site Analysis

- Winter Sunrise: 0805
- Winter Sunset: 1709
- Summer Sunrise: 0554
- Summer Sunset: 2112
- Prevailing Wind: NW
- Wind: NE

Legend:
- Lake Hāwea
- Waraka
- Prevailing Wind NW
- Winter Sun Set 1709
- Summer Sun Set 2112
Site Analysis

- Isthmus Peak: 1386m
- Sentinel Peak: 1814m
- Site: 680m ASL
- Lake Hawea: 342m ASL
- Lake Wanaka: 277m ASL
- Mean Sea Level: 0.0m

0 100m 500m
5.0 PROGRAM AND FUNCTIONAL ORGANISATION

5.1 Physicality

An integral element to this project is the use of physical activity, namely organised sport, as a social context of youth development. While the benefits of the integration of sport and architecture into disadvantaged communities have been discussed previously, it is vital to outline the direct social, physical and psychological variables physical activity can have on youth in their developmental period, and the current issues surrounding this.

Although this project does not discriminate either gender from participation in the program, there is no denying that the methods employed favour the positive development of boys. It is stated that New Zealand girls are outperforming boys at school, and that from year 11 a “substantial and comprehensive gender gap emerges”. Furthermore, a New Zealand headmaster states that boys are ‘bubble-wrapped’, and are “missing out on crucial rough and tumble in a ‘feminised’ school system that doesn’t allow them to let off steam”. This has led to the belief that boys are falling behind in their achievement because teachers are not catering for boys’ needs and do not nurture male traits such as competitiveness and leadership. This suggests a need to counteract these trends and adopt better strategies and methods to positively influence young male’s development and achievement. These statements were backed by former New Zealand Education Minister Steve Maharey in 2006. He stated that “the “average” boy needed short, closed tasks, regular physical breaks and boy-friendly curriculum material”. The introduction of more ‘excitement’ into lessons is being encouraged in an initiative to better engage male pupils. Dr Paul Baker, Rector

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6 Ibid.
of Waitaki Boys’ High School and member of the Ministerial Reference Group who guide the Government on boys’ education, suggests that teenage boys learn and develop best in a male environment.\(^7\) Research has shown that boys are more likely to be motivated by male teachers. Additionally, male teachers are more prone to cater for boys’ interests, provide stable male figures for students who lacked them at home, and role model masculinity.\(^8\) Unfortunately, there is a decline in male teachers. 42 percent of primary school teachers were male in 1956, compared with 18 percent today. 59 percent of secondary school teachers were male in 1971, compared with 42 percent at present. The secondary school figure is dropping faster than at primary schools.\(^9\) Dr Baker says that for many boys, “only mum and a female teacher are involved in their education. The danger was of a subliminal equation of education with femininity”\(^10\).

The participation of sport and physical activity primarily include positive progress in social and psychological, motor development and health-related outcomes.\(^11\) However, in today’s society people are often afraid of the traditional idea of the male, where they think it’s wrong to be overtly competitive, and boys often lack an outlet for their emotions. Consequently, gang violence is being used as an outlet for boys and their frustrated masculinity.\(^12\) It has been argued that boy’s are in need of an outlet in order to express these emotions and energy. An outlet does not refer to fights, brawls, or violence of any type; but an expression of physicality – a natural part of male behaviour.\(^13\) Often kids have been discouraged from taking part in such physical activity which requires contact, in case they get hurt. However boys need to learn how to react to such things. It teaches them how to deal with life’s knocks.\(^14\) “Even the meekest and mildest, when put in a group of their own ability, will get something out of that”.\(^15\) Academic improvement can also be seen through a more physical orientated philosophy of education with brain scan research showing that boys actually need physical movement for their brains to work properly.\(^16\) Also, adrenaline and testosterone

\(^8\) Ibid.
\(^9\) Ibid.
\(^10\) Ibid.
\(^15\) Ibid.
\(^16\) Ibid.
levels are raised to natural levels through risk-taking.\textsuperscript{17}

This project aims to deliver an outlet for youth to express their emotions and physicality in a controlled environment in order to provide positive development physically, psychologically, and socially. It aims to do this by selecting Judo as the main sport and physical activity. Judo is a full contact modern martial art, combat sport and Olympic sport. Originating in Japan in 1882, judo is derived from ju jujitsu, the art of “either attacking others or defending oneself with nothing but one’s own body”.\textsuperscript{18} Judo’s founder, Jigoro Kano, placed early emphasis on its original philosophies of maximum efficiency with minimum effort. Judo can be simply broken down into ‘ju’ (gentle) and ‘do’ (way or path), or ‘the gentle way’. Since the early philosophies of Kano, judo has evolved as a sport. It involves throwing or flipping an opponent on their back in order to score points and win the fight. Alternatively, fighting can take place on the ground with points and wins awarded through submission via arm locks, strangles, and by pinning your opponent on his back for 25 seconds.

Unlike in team sports, you are unable to rely on anyone but yourself. This develops self-reliance, self-discipline and mental toughness. Judo is an extremely physical sport where strength can be overcome by skill and speed; and one’s power and momentum can be used against them. It is more than simply running the fastest, jumping the highest, or lifting the most. In judo, a player must physically and mentally better their opponent without making a mistake. Their opponent is an adapting creature who may change their movement in a heartbeat, alter their grips, or adapt their tactics. All the while the player has to do the same, and read their opponent in an attempt to stay one step ahead. They have to create or wait for the perfect opportunity to enter, with perfect speed and timing, in an attempt to throw their opponent on their back. They have to predict, or at least react without thought, in order to block an attack. They have to grasp an opportunity to pounce on an expose neck or arm and secure a submission. And when they are tired, their heart is pounding, their legs have turned to jelly, and their arms feel like lead, they have to maintain concentration, keep alert, stay strong, and believe in themselves that they can beat their opponent. For as soon as they drop their hands, slacken their posture, or take an extra second longer to get up off the mat, their opponent knows he has the upper edge. From here the pressure mounts and one lapse in concentration, one mistake, can cost them the win.

\textsuperscript{17} Ibid.
There exists a huge physical factor in judo. In a fight, one is attempting to pull, push, lift and bend your opponent to his or her will. Their opponent is trying to resist and counteract everything they do and turn it to their advantage. The physicality is unlike anything else. The physical contact insists on a focus which produces a heightened sense of movement, regardless of the speed of the activity; and a need to preserve yourself by staying on your feet and off your back. This physical contact and activity produces heat, sweat, tensed muscles, heavy breathing; and an expression and an outlet of emotions, physicality, and masculinity. This almost gives a sense of freedom, where individuals can really express themselves through their own human physical nature. There is really something different about trying to attack or defend yourself with nothing but your own body. It has the potential to bring out abilities and traits previously unbeknownst to the individual. Through this, a sense of confidence and self-belief can be gained.

Naturally, to attain these abilities requires perseverance - a quality that adolescents would benefit from learning. However, frequent training in this manner can lead to all sorts of positive developmental impacts. Judo can develop your physical and mental abilities while teaching you controlled aggression, discipline and self-reliance. Using aggression with a state of control can provide a participant with benefits such as increased energy, determination and strength. On the other hand, uncontrolled aggression may lead to mistakes, loss of skill and concentration, penalties, unsportsman-like behaviour and ultimately violence. The trick is to find a tool in order to learn how to harness and channel this aggressive energy to their advantage, especially as the participants are in a developmental period where aggressive behaviour is increasingly prominent. Here, a tool has been found in the form of judo and the harnessing of aggression will serve them both on and off the judo mat. It allows for a productive way to let aggression out in a socially organised and controlled environment, while also teaching them how to use it to your benefit. When it comes down to it, self-reliance must be emphasised. It is likely that they may become frustrated by constantly being thrown on their backs, but it is about bouncing back and learning from their mistakes - another process of development and a life lesson.
5.2 Program

The centre will not operate like a conventional youth centre which offers a universal service, with an open access nature. Instead, the centre will offer specific programmes that enrol a finite number of youth. It will target children originating from a low socio-economic background. This will be the only prerequisite for entering the program. Youth aged 12-18, the adolescent period, will predominantly be targeted. As stated earlier, a crucial transition point takes place at early adolescence which is marked by several major life transitions, and is additionally characterised by multiple biological, developmental, and social changes. This project sees adolescence as a period where it can offer the most benefit and impact. Therefore youth within this age gap will be the primary target of the project.

In addition, the program will welcome individuals aged 18-25. This age period, known as 'emerging adulthood', is marked by the transition from youth to adulthood – a “distinct period of the life course, characterised by change and exploration of possible life directions”. Dependency is often a typical characteristic of childhood and adolescence. In contrast, emerging adulthood tends to give a level of independence whilst lacking the enduring responsibilities that are normative in adulthood. It is a time when little about the future is certain, where a variety of possible life directions in love, work, and world views are explored. During emerging adulthood, the extent of independent exploration of life’s possibilities is greater for most people than it will be at any other period of the life course. By the end of this period, the late twenties, most people will have made life choices that have enduring ramifications. Therefore, it is important for the centre and the program to be available to individuals at this similarly crucial period in their lives. Allowing this age group access to the program will provide opportunities for self-growth, discovery, and development of emerging adults who have also come from underprivileged beginnings, and who may not have had such opportunities during adolescence. This is a point in their lives when great experiences may have lasting, positive influences on their impending adulthood.

21  Ibid.
22  Ibid.
23  Ibid.
24  Ibid.
The program will offer three types of courses. The first will be a 28 day course run during the summer holidays for high school (ages 12-18) and university (ages 18-25) students. Shorter courses of 14 days and seven days will also be available to students still at high school or university. These will be run during inter-term, mid-semester, and inter semester breaks. They may also run in conjunction with the school curriculum during in-class term time. For those who have graduated from high school and are not pursuing tertiary level education (ages 18-25), all courses will be available for selection throughout the year depending on the participant’s wants and needs. Travel to the site should be easily accomplished within one day’s departure from any major city or town within New Zealand.

The 28 day course will offer the most benefit to participants and will run in a very similar style to the Outward Bound course. Like Kurt Hahn and his educational philosophies, this project will utilise methods and principles that have already been proven to work, instead of experimenting with new ideas and methods. The course will focus on several key principles in order for participants to discover and develop their potential. These principles will include character development, learning through experience, adventure and challenge, compassion and service, and social and environmental responsibility. Character development will aim to develop the capacities of mind, body and spirit in order to better understand one’s responsibilities to self, others and community. The key areas of development include self-knowledge; tenacity; physical fitness; teamwork; leadership; self-reliance; acceptance of responsibility; and the ability to surpass self-imposed limits.
Learning through experience will be a major part of the course. It will involve a process based on action and reflection and on simple and specific goals. Experiences will be intentionally designed, presented and reflected upon so as to instill value and promote skill mastery. Sport will play a major part in this principle, and the guiding athletes will act as mentors that will aid throughout.

Adventure and challenge is an action that requires special effort. This will include exciting and remarkable experiences that involve uncertain outcomes and acceptable risks. In addition to sport, the centre is perfectly placed to offer a number of challenging activities. These include sailing, kayaking, solo experiences for reflection and goal-setting, mountain hiking and bush expeditions in beautiful native forest, rock climbing/abseiling, general fitness activities, including running, biking, swimming and aerobics.

Compassion and service involves compassionate behaviour and a service ethic that encompass both giving and receiving. This service can be completed within a community of their choosing at the completion of the course. Like the Grassroots Soccer organisation at the Khayelitsha Football for Hope Centre, the program hopes to turn our participants into peer educators within their own community.

Finally, social and environmental responsibility involves instilling in participants a sense of integrity that results in choices and actions that have a positive impact on society and the environment.

The shorter 14 and 7 day course are provided for high school students who are unable to undertake the longer course. It is to be undertaken during their term breaks or within school time. Because they are offered within school time the learning objectives of these shorter courses will be aligned to the New Zealand curriculum. They are more compact in time, and will run in a quick fire style – aiming to deliver high
volumes of content and experience whilst delivering intense impact and benefit. These courses will be very similar to the courses run at the Sir Edmund Hillary Outdoor Pursuits Centre, which are offered to high school students as part of their Health and Physical Education classes in years 12 and 13. The feedback received from teachers and parents of those who have completed the OPC course have been positive. It is stated that participants of the course return more confident, more likely to take on responsibilities, more inclusive; they have seen and accepted their own and others’ strengths; have more positive relationships with their classmates, teachers and others, participate and contribute more in the school and local community, and are more self-reliant.25

Upon arrival, groups of students will be paired with an athlete/mentor for the duration of the course. This mentor will be their main ‘go to’ person. However, they will experience constant interaction with other athletes/mentors for the duration of the course. Through sport and other physical activities, the course aims to contribute to the life journey of young people through rich learning experiences in a stunning environment that will foster understanding of self, others and place.

5.3 Functional Organisation

In order to meet the requirements of the occupants, the centre will contain a number of facilities serving a range of purposes. The functional requirements have been derived from an investigation of pre-existing youth centres and high performance sports centres. The centre will accommodate 20 – 30 elite judo athletes, 20 – 30 youth, and required support staff. Below is a list of important functions organised into five categories that will need to be included within the centre.

- Lobby
- Administration area and offices
- Classrooms
- Cafeteria
- Library
- Commons

- Dojo
- Weights/cardio fitness facility
- Fitness studio
- Accommodation - 20-30 children/youth
- Accommodation - 20-30 Athletes
- Accommodation - 16 Support Staff

- Medical rooms
- Physiotherapy rooms
- Hydrotherapy facilities
6.0 DEVELOPMENT OF PROJECT

6.1 Initial Exploration

Having selected a site possessing immense power and natural beauty, it seemed appropriate to take the opportunity to explore the boundary between man and nature – between earth and built forms in the natural environment. The initial ideas attempt to reinterpret the way in which we deal with the earth. Not just simply to live upon it, but to live with it. In order to do this, it seemed natural to ‘insert’ the architecture into the landscape. This creates a type of silent merging with the site where the built forms become part of the landscape. In order to accomplish this, layers have been explored in order to create tiered levels that accommodate the slope of the land, therefore synchronizing with the typography. The idea of layering has its roots in the geological histories of the region. Many of the rocks found on site possessed a multitude of various layers, owing to an evolutionary process that has occurred over millennia through intense pressure and heat.
These series of drawings show initial concepts of layering. The interior spaces are ‘inserted’ into the landscape so that the boundaries between man-made and nature are deliberately blurred. The floor of one level extends out beyond the threshold of the interior/exterior and also acts as the roof to the level below. This action blurs the boundary of interior and exterior, and also lends itself to an action of unification with the surrounding landscape. The development of simple polygonal forms have been utilised in order to create some fluidity with the typography, whilst creating exciting interior and exterior spaces. Although the drawings are somewhat primitive in their spatial exploration, they show the amount of useable space – both indoor and outdoor. Being partially buried within the ground, also explores the sense in which the user would experience the space. Feelings of enclosure, rawness and heaviness come into play.
In progressing from the exploration of layering, the vision was to create a multitude of built forms nestled across the landscape. These built forms aim to reinforce the natural contours in order to establish a natural connection with the site. These very simple drawings attempt to explore the relationships between several built forms. In addition, they aim to provide a better understanding of how polygonal and organic forms may merge into the curving contours of the landscape whilst also creating useable outdoor spaces through their shapes and relationships with one another. What predominantly transpires through this exploration is a resulting courtyard or space whose boundaries are set by several surrounding buildings. The irregular shapes of the buildings reinforce the contour lines whilst also creating a series of circulation routes through the intermediate space of the built forms.
To further the study of built forms and landscape, and the previous exploration of layering and polygonal forms, it seems appropriate to further focus on the site. There are several key features that the site possesses. The most predominant would be the break in the steep slope which is characterized by an expanse of level terrain running through the centre of the site. This level terrain ends with a circular plateau at the north-western edge of the site, before dropping off steeply. It is also reinforced to the north-east by strong slopes and to the south by the recommencing rise of the land. Additionally, the site nestles a small lake to the west.
The strong features of the site are a pivotal influence on the resulting outcome of initial explorations. Consequently, a more expansive design has been adopted, rather than a singular building comparable to those analysed in the precedent study. The design has utilised a series of built forms to reinforce the strong features existing on the site. The drawing below demonstrates a developed layout of a series of layered, polygonal forms nestled across the site. They each represent the different amenities required of the project and are grouped together according to their general function. Each has been developed to further the idea of integrating with the typography in order to retain the natural beauty of the site. The design also aims to create outdoor space that is considered as important and useable as the interior space, and to maximise the views towards both lakes. This offers direct physical and emotional contact with the natural environment and visual contact with the water.

The main heart or core of the design is nestled into the rising southern edge of the site. This is where the common functions are situated and the most social interaction occurs between occupants. What transpires here is a series of polygonal forms that are cut into the hillside, organised in a fan-like orientation towards the north. The massing of these spaces is generously proportioned and are arranged in order to surround and provide a central courtyard, similar those often created when earlier exploring the relationships between several built forms. These new forms possess a hierarchy of levels in order obtain view points towards the lakes and provide an overview of the entire site and its facilities. The five accommodation blocks strongly reinforce the north-eastern edge and are vertically tiered to maximise views towards Lake Hawea and accommodate the generous slope of the land. Each block establishes outdoor space that aligns with each other through their form and level changing in an attempt to generate a cohesive connection with one another, and the site. The therapy facilities are grouped together by the lake. This position is enclosed naturally by the land, providing an ideal atmosphere for peace, relaxation and recovery. It is a place for the occupants to thoroughly enjoy the natural beauty of the site and to establish an emotional and physical connection. Lastly, the physical activities are embanked into the edge of the circular plateau where expansive views are afforded towards Lake Wanaka and beyond. The sports hall is situated below ground level.
1. ENTRANCE
2. LOBBY + ADMINISTRATION
3. COMMONS
4. CAFETERIA
5. LIBRARY
6. THERAPY BLOCK
7. ACCOMMODATION
8. FITNESS CENTRE
9. DOJO
6.1.1 Outcome of Initial Exploration

The initial exploration attempts to establish a connection between built forms and the site and also explore the relationships between the resulting forms. This was an exercise of massing rather than developing the finer details of the interior spaces and exploring the three-dimensional experience. The polygonal shapes provide a dynamic feel and in some aspects, generate some inspiring indoor and outdoor spaces. However, the design has failed to create the type of connection needed in certain areas and particular weak points have arisen from the exploration.

Firstly, the external spaces are too big to generate a strong sense of external spatial containment. In attempting to reinforce all the features of the site through an expansive design, an abundance of space has been created between each cluster of built forms. This has also resulted in a weak articulation of movement through the site. Additionally, due to the deficiency in proximity, a sense of enclosure has not been achieved within the sites boundaries. This is most evident in the level open space dominating the middle of the design where its size and inadequate presence of external spatial containment may lead to reduced amounts of interaction between occupants. This has the ability to heavily reduce the social qualities and potential of the project.

All forms are open to views which aim to establish a physical and emotional connection with the site. However, with a lack of articulated movement through the site, combined with the current orientation of all the built forms, the views towards the lakes are revealed to the occupant in overwhelming amounts. These views are very much awe-inspiring and intense; therefore it may be useful to break up the intensity of the views afforded to the user and provide some relief. Creating a journey through the site and the buildings in order to reveal the views to the occupants at certain ‘moments’ may prove to be a more successful strategy to employ.
The most successful component of this design is the accommodation buildings where the built forms most successfully merge with the landscape. The outdoor spaces appear more useable and establish a better connection with the site through their polygonal form. The relationship between each block is better articulated and more developed than anywhere else in the design with levels meeting one another at common planes. This creates warm and welcoming spaces for social interaction to occur.

There is a concern from an environmental point of view that there is too much excavation needed in order for these inserted built forms to materialise. Although the idea of inserting the architecture or built forms into landscape, and the idea of layering still has a great appeal, a method needs to be devised in which it can used at a reduced level in order to lessen the environmental impact of such an untouched and naturally beautiful landscape.
6.2 Development of Design

It was clear the main issue that arose from the earlier exploration was the need to create more spatial containment. On such a large site, the previous design was far too expansive and the relationships between the different amenities suffered as a result. Referring back to precedent studies for direction, it was distinguished that there was a prevailing trend of utilising one central building to house all the functions of the youth centres. A resulting advantage was the opportunity to enhance the articulation of circulation routes and movement, thus giving the architect the ability to design and plan ‘accidental’ social encounters between occupants. Therefore, in order to create a more intimate environment that is currently lacking, and to further articulate movement, a more unified type of design is explored. For this, the most advantageous location appears to be the circular plateau towards the northwest of the site.

The ideas of vertical layering and inserting built forms into the ground were strong concepts that had shown some degree of success in the previous explorations. In order to further those ideas, I have incorporated them into this design in addition to utilising the same types of polygonal forms previously used, but on a more unified scale. This exercise was very much a continuation of massing in order to develop shapes, spaces and movement.
6.2.1 Developed Plan One

The image below is an adaptation of a unified design taking into account the various functions of the centre. It develops space through polygonal forms and continues the concept of layering through a change in planes to either side of the main space. This has created a long axis with a series of platforms that can be used as social spaces and viewpoints towards the spectacular scenery. In addition, layering reinstates several characteristics apparent in the initial explorations. First it helps to accommodate the steepness of the land; second it defines a hierarchy of spaces; and lastly it allows the building to form part of the landscape. Ramps are employed as a feature in designated circulation areas in order to vertically connect layered levels. Layering has also characterised the design with a very strong horizontal element and the absence of any strong vertical features is noticeable. The main dojo space is far too symmetrical which contrasts too strongly with the rest of the design. This results in some very awkward subsidiary and circulation spaces that will need to be resolved with further development.
6.2.2 Developed Plan Two

These designs show a development of space and angles that eliminate several of the awkward angles and subsidiary spaces apparent in the previous design. Movement has become more articulated through a modification of angles and spaces, and circulation ramps have become more accentuated. This has allowed the building to ‘breathe’ better and provides it with an improved sense of flow. Another major reason for this is the alteration of the dojo seating, and the experimentation with its orientation. Adjusting the main dojo area begins to contribute to a more comfortable feel to the main space and its subsidiary spaces, defining the circulation around the dojo more clearly. Additionally, the dojo and seating have been sunken down into the building. This is for two reasons. The first is to enhance the idea of layering, and the second is to reduce the maximum height level so that the design can better merge visually with the surrounding landscape. Several cantilevered platforms are orientated to focus on the views of the spectacular landscape. The three accommodation blocks were reduced to two at the realisation that three was over compensating for the amount of occupants needing accommodation at any one time. These have been rotated 180 degrees to coincide with the shapes of the viewing platforms of the main building, giving them a better architectural relationship to the overall design.
Figure 6.2.2.3: Developed Plan 2 Model

Figure 6.2.2.4: Developed Plan 2 Model
Figure 6.2.2.5: Developed Plan 2 Model
6.3 Developed Design

Previous explorations are vital in securing an overall solution. In this case, there is a need to reanalyse the direction of the design and also be mindful of occupant’s experience. The unified design risks cluttering the circular plateau it is situated on, thus dominating it without letting its natural beauty permeate. The design must be a flawless connection with the natural landscape, appearing as if it belongs there. It also risks a substantial amount of excavation since several of the facilities will have to be situated on the steep sides encircling the plateau. This would result in a deeper insertion into the ground in order to create useable level planes. In addition, it would be favourable to group the physical and interactive functions together, whilst separating the more relaxed activities in order for participants to be relieved from the intensity of some of the activities of the program. For these reasons it has been decided that the design will revert back to a degree of separation but not to the extent seen in the outcome of the initial exploration. The previous developed plans had already begun to do this to a minute degree when the accommodation blocks departed from the main building.

This drawing demonstrates the sought of separation envisaged. It compromises of three separated volumes representing the accommodation block to the east, the therapy facility to the southwest, and the main building arranged along a northwest axis as per previous designs. The main building will encompass the remainder of the centre’s amenities. These three forms will connect visually and physically through form, style of architecture, and a common relationship with each other and the land.

Figure 6.3.1: Envisaged Design Scheme
6.3.1 Spatial Development of Main Building

The development of the main building recommences from the previous developed design, with the ejection of the therapy facility and accommodation block formerly connected to either side of the main building. The series of images below show a development of the main building. Notably, the orientation of the judo mats and surrounding seating has remained in the experimented axis. This defines the flow of movement from the entrance ramps into and around the main dojo space. The inner edge however, provides a threshold between the main entry circulation and the heart of the main building.

Additionally, an upper level has been added to create more room for the buildings functions. It is vital that the main building height is restrained if it is to visually merge with the landscape. The circulation ramps have been effective in this matter, allowing the upper floor to stay level with the entrance, yet still raise high above the dojo. A side circulation route and ramp has been added to the western edge of the building which allows access to this upper floor.

Figure 6.3.1.1: Circulation

Figure 6.3.1.2: Ramp to Upper Level
The dojo area is the heart of the building and is considered the main space. Therefore circulation around this space is vital in order to attain a comfortable flow into and around the area. Figure 6.3.1.3 shows the development of this circulation and how an occupant is now able to circulate around the entire upper level of the dojo flawlessly. This has been enabled by the removal of the dead end previously produced at the northeastern edge. An interesting strategy employed by the Youth Centre and Sports Complex in Saint-Cloud (discussed in the precedents study), was that all circulation space – corridors, access ramps and passageways are wide and spacious, was designed to be up to three times the regulation size. This feature invites spontaneous social and physical activity between occupants – a strategy that this design has emulated.

Figure 6.3.1.4 shows the development of the entrance and lobby area. The upper level towards the south of the building has been altered so that it doesn’t entirely extend over the top of the lobby area. Furthermore, a roof plane has been added as a protective shelter for the entrance way. Both these features combine to give the new lobby area a double height space that provide the occupant with a heightened sense of ‘arrival’ when they first enter the building.
Additionally, roof forms have been explored. A continuation of layering and polygonal forms has been utilised in order for the architecture to read as one. What transpires is a series of cascading roofs at varying heights to provide an ever changing environment for the user not only in the interior, but also when viewing the building from the outside. The break up of roof forms reflects the rise and fall of the surrounding landscape, therefore helps to merge the built form with its environment.

Figure 6.3.1.5: ‘Cascading’ Roof Planes
Layering has been a really successful and strong aspect in the design process thus far, allowing the creation of dynamic spaces resulting in a greater experience for the occupant. In this design development, the idea has been pushed even further with more break up of floor and roof planes. By simply separating and raising the roof height of the entry and main upper level spaces, several strong horizontal elements have been created.

Figure 6.3.1.6: Horizontal Layering

Figure 6.3.1.7: Southwest View of Horizontal Layering
Courtyard

Courtyards and outdoor spaces were an integral part of the earlier explorations in the design process. It was a goal to create outdoor spaces that were as useable as the indoor spaces. In this case, it is envisaged that a space be created in order for physical activities and social gatherings to take place outdoors. This vision arose from the images of Chinese monks training and meditating in the outdoors and of their temples perched high in the mountains.
An outdoor space has begun to be developed in the below drawings. It attempts to form a space that is open to the crisp fresh air of the Southern Alps, maximising the views, yet still establish a connection with the main building. This connection is established directly between itself and the main dojo, providing direct and open flow between one another.

Figure 6.3.11: Outdoor Space

Figure 6.3.12: Connection Between Outdoor Space and Dojo
These series of drawings show a development of the outdoor space. Figure 6.3.1.13 shows a slightly wider outdoor space than the previous
design and a sharp angled ramp up to the lobby area. This ramp was designed with the purpose in mind of acting as a useable space for groups
of individuals to sit and view activities taking place in the main outdoor space.

Figure 6.3.1.14 shows the application of a angled wall to shield the outdoor space from the northeast wind that can strike the site from the
Dingle Burn Valley.

Figure 6.3.1.15 shows a substantial development to the shape and surrounding of the outdoor space. Previously the southern end of the court-
yard ended with a sharp angle before the ramp commenced to the upper levels. This angle has been eliminated in favour of a more
rectangular spatial composition. This move has quickly instantly created a more comfortably proportioned and useable space. The subtle use
of angles to form the boundaries of this space has assisted it in conforming to the existing polygonal forms of the design. At the southern end
of the courtyard a new wing has been added which protrudes out on an angle. This adds more useable space to the building and is envisaged
as a connection element to the accommodation block to the east. Additionally, the roof of the upper level has been altered in order to partially protrude over the outdoor space to help protect it from the elements. This also creates an intermediate threshold for the occupant when moving between the indoor and outdoor spaces by providing a vertical boundary before opening to the limitless sky beyond.

In figure 6.3.1.16 a great ‘L’ shaped wing has been produced, which is connected to the eastern side of the main building. This feature has been employed as an element to enclose the outdoor space to create a courtyard, and also to deter the northeast wind. Previously, this outdoor area did not possess a sense of enclosure and protection and featured as a more boundless space. Therefore it was not a place one could imagine feeling comfortable enough to dwell in for long periods of time, particularly in unfavourable weather conditions. Now this feature produces a warmer feeling space with a sense of protection from the elements. It is vital that the ‘L’ shaped wing not rise too high as to obstruct the morning and noon sun penetrating this outdoor space. Finally a thinner ramp is reinstated, running from the entrance down to the courtyard.

Figure 6.3.1.15: Development of Outdoor Space

Figure 6.3.1.16: ‘L’ Shaped Wing
The roof over the main space is vital in order to tie the whole design together and to make sure the buildings sits well with its surrounds. These images show an attempt at developing a roof over the main space. It utilises two overlapping planes in an attempt to recreate the ideas of the previous ‘cascading’ roof forms. However, these planes are somewhat unsuccessful in the way they interact with each other and the existing roof forms. The connections they form are rather harsh and therefore do not conform with the remainder of the building. Furthermore the flat angled planes fail to foster the space beneath. It is evident more development is needed, however attempting to enclose the space has at least given a feel of what it may possibly feel like with a vertical boundary.

Figure 6.3.1.17: Main Roof Planes
Although not evident in previous images, the design was constantly transferred to the site model in order to evaluate its ability to conform to the site’s typography. Below is an image of the developed design thus far, placed within the site context. The main goal is to strive to make the built form part of the land, not just simply an addition placed upon it. A heavy emphasis is placed upon the architecture to meet this goal. The breaking up of horizontal planes and roof forms, coupled with the desire to keep roof height restricted, have helped to potentially meet this goal. The design possesses an irregularity in it that is attempting to replicate its surroundings. A major feature noticeable from this image is the cantilevered viewing platform which will provide spectacular views to both lakes and beyond.
This image offers a better overview of the design within its context. The longitudinal axis of the building is aligned so it points back towards the mountain and the rising ridgeline in the background. Additionally, the axis of the cantilevered viewing platform is designed to align along the northeast ridgeline that culminates at the circular plateau. The site model is incomplete in regards to the design being fully integrated into the site. However, it is envisaged that the outdoor courtyard will adjoin to the land before steeply dropping off to form a plateau. This will create an amplified sense of an isolated mountainous site as well as replicating, on a smaller scale, the circular plateau on which the building is built into.
With a main core form of the main building developed, and the eastern side of the building well on its way, it seems appropriate to further focus in on the western spaces of the building and its functions operating there. These images show a development of the west facing protruding form which is currently designated as the common space where youth and athletes come to enjoy social interaction with one another. This space has been altered in order for it to become more involved with the building and adjacent spaces rather than a protrusion which gave the feeling of an dead end. The new space feels more comfortable in its geometry in relation to the rest of the building and the reduction of angles leads to a more useable space. Second level has been added on south side to provide access to the second level through the main space. Previously, one could only access the second level by the path and ramp situated at the lobby area. Needs more development because it now hinders the circulation around the main space.

Figure 6.3.1.18: Common Area Space
At present, the common space to the west floats above the ground. In order to create more space and further integrate the design into the site, a lower level has been created. The geometry of this space mirrors that of the one above, and will serve as a training room for the physical development of both youth and athlete consisting of weight training and cardio training equipment. These activities will take place along tiers, so that any individual utilising this area can always maintain a direct line of sight towards the northern and western views. A direct connection has been created between the dojo and gym via a wide tunnel-like passageway which has been carved out of the center of the seating. This now offers a continuous line of movement along the east-west axis of the building, from the gym right through to the outdoor courtyard.
The ramp on the southern edge that connects the main space with the upper level has been altered. Previously it obstructed the natural flow of the circulation around the main space. This circulation area has been extended to the south in order to accommodate the ramp and create a more comfortable flow of movement. It also now appears as a more comfortable element within the context of the main space. Additionally, another ramp has been created adjacent to this ramp. It allows direct access to the gym at a point closer to the main entrance, meaning an individual does not have to enter the dojo and use the tunnel entrance.
6.3.2 Spatial Development of Accommodation Building

The accommodation building is a variation of the main building in terms of architecture and ideas. It is vital that both buildings ‘talk’ to each other if they are to form a cohesive visual and physical relationship on the site. The three main ideas carried through from previous explorations were layering, polygonal geometries, and partially inserting the built form into the landscape in order to give some semblance of being integrated with its surrounds. The later idea, is the basis for the initial form of the design. Contours have been extracted from a three dimensional model to form the guiding lines of the geometrical shape. From here the accommodation building begins to explore the development of form through the same polygonal shapes utilised in the spatial design of the main building. The form of the design begins with a narrow ramping entrance before opening up into larger spaces - similar to the main building. The more substantial geometric elements are informed by their relation to a consistent overall design scheme, as well as to create useable and liveable spaces. The horizontal elements are more fragmented than previously seen. This is to produce more natural light into the spaces.

Figure 6.3.2.1: Initial Spatial Design of Accommodation Building
In order to create more space for accommodating occupants, the design has been extended to the east marginally. Another polygonal shape is utilised to do this, once again exploiting their form to merge with the curving contours. Additionally, the whole design bears a convex form, further possessing the ability to mould into the landscape.
Several issues have now been identified through the development of this design. There is an urge to avoid stacking spaces on top and in front of each other as much as possible. Doing this tends to create long corridors and a lack of intermediate or shared space where social encounters may occur. However, extending the building too far to the east along its longitudinal axis will result in the relationship between the accommodation building and main building becoming unbalanced and conflicted. Consequently, the main building may begin to lose its hierarchy in the overall design scheme. Additionally, it is vital not to venture too deep along the south - north axis otherwise the building will protrude too far out of the landscape, breaking the natural flow of the contours. This would mean moving the building further back into the mountainside, thus requiring more excavation.

This means a compromise has to be met. Firstly, as evident in the images on the previous page, a second level has been created to add more useable space. This building must comfortably house 20-30 youth and 20-30 athletes and required support staff. This move has reduced the need to extend the building further along its longitudinal axis. However the building has been kept at the same depth along its shorter north - south axis. This means a certain amount of stacking has been used to keep the buildings footprint in proportion to the main building. This move has been justified by the provision of balconies, and common interactive spaces being created; and where corridors exist, they have been made extra wide. These are 2.5 - 3 metres in width to dispel the sense of a corridor and promote social interaction. Additionally, these ‘corridors’ have open or permeable coverings overhead so that natural sunlight can penetrate into them and make these spaces more warm and welcoming. Circulation to the lower floor is gained via ramps located at the centre of the building.
Natural light will find it difficult to penetrate into the rear row of spaces because the built form is partially buried into the site, and a depth exists due to the double row of living spaces. In order to counter this issue, long light wells have been incorporated along the southern edge of the built form. This feature aims to allow natural light to penetrate the deeper spaces, even on the lower level of the building.

The provision of spaces for physical activity and social interaction were a vital component to the main building. In order to conform to the objectives of the project, it seemed appropriate to incorporate some larger open spaces to promote social interaction in the accommodation block. The area of these spaces has been very much controlled as it is vital that the occupants do not dwell down in the accommodation building for extended periods of time. It is to their benefit to maximise the spaces and functions created for them in the main building as this is where they will receive the most positive impact.
Roof forms have been designed to emulate the ideas of the main building. The use of ‘cascading’ and layering roof forms has once again been utilised. The roofs protect the spaces from the elements but have minimal overhangs to the north and northeast. Since the building faces northeast, the design intends to welcome as much of the morning sun as possible. In some areas, there is a higher roof form sitting above a lower one. The higher one is used as a thicker, stronger element to protect the spaces from the weather. The lower roof form acts as a more permeable element to allow sunlight to penetrate into the spaces. The northeast wind is a factor that also needs to be considered. The floor to roof height has been kept as low as possible whilst still providing comfortable living spaces. Keeping the built form as low as possible leaves it less exposed to the wind when it decides to kick up. Keeping the design as integrated into the landscape as possible will also aid in deflecting the wind up and over the building. Additionally, the fact that the function of the building only requires use during resting and recovery times, and within the interior spaces, means the wind is not such a worrying issue.
This is an image of the accommodation within its site context. Although it is not quite completely built in yet, it demonstrates how it merges with the site’s curving land form and how it relates to the main building in the background. The main building has a very dynamic feel to it in the sense that its form and shape are far more irregular. That is justified because it is the place where intense physical activity and social interaction takes place. In the design of the accommodation building, it is important to project a calmer more relaxed environment - a place for rest, relaxation and quiet time. Therefore there are less polygonal shapes forming the spaces, and more regular forms.
6.3.3 Spatial Development of Therapy Building

Research has shown that hydrotherapy can improve recovery after physical exercise. Hot and cold baths place hydrostatic pressure on the body that encourages the blood to move to the central cavity.\textsuperscript{26} Whole body water immersion is believed to alter blood flow and reduce inflammation and soreness resulting in athletes feeling better after physical activity and helping them recover faster.\textsuperscript{27} The therapy block not only serves as a place to recover, but also a place to relax, contemplate, and reflect. In order to achieve this, a certain atmosphere must be created. The following images reflect the type of atmosphere and environment envisaged.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figures/6.3.3.1.png}
\caption{Peter Zumthor, Thermal Baths}
\end{figure}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figures/6.3.3.2.png}
\caption{Peter Zumthor, Thermal Baths}
\end{figure}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figures/6.3.3.3.png}
\caption{Peter Zumthor, Thermal Baths}
\end{figure}


\textsuperscript{27} Ibid.
Figure 6.3.3.4: Kengo Kuma, Fujiya Ginza Inn

Figure 6.3.3.5: Peter Zumthor, Thermal Baths, Val
The functions of the therapy block mainly include hydrotherapy recovery. Functions include baths, a lap pool, relaxation pools and more private rooms for physio-therapy and massage therapy. On the upper level we have outdoor baths the the northeast corner that expose the occupant to the outdoor environment and stunning views to the lake below, and Wanaka in the distance. There is also a series of more protected, private baths organised in a row along back eastern edge of the building. Cantilevered over the lake is a larger and deeper pool that would cater for swimming and aqua jogging. On the bottom level are pools where participants and athletes may relax and recover. Above these are a series of spaces designated for physio-therapy and massage therapy.
The design of the therapy block began in much the same way as the accommodation building. The repetition of ideas was once again carried through to ensure a cohesive overall design scheme in terms of the architectural language. Being situated within the lake area of the site, it seems appropriate to nestle the built form into the natural curve of the lake. Not only will it make merging with the site more successful, but it will help to protect it from the north-easterly wind. The natural curve of the lake has influenced the basic geometric composition of the design whilst polygonal shapes are used to construct the more major elements of the building. These are formed in such a way that they speak the same language as the previous two buildings. Layering is achieved by a break up of horizontal elements that echo the rise and fall of the surrounding land. The roof continues this layering trend and produces the ‘cascading’ effect seen in the previous developments. Extensive overhangs are utilised as the building has a predominant westerly orientation. Occupants must be shaded from the harsh afternoon sun if the building is to facilitate a relaxing environment. A relaxation or meditation platform has been integrated into the design which is the southern most, and highest element of the building. This offers a calm spot with stunning views. It is envisaged that this is the place where a participant will be able to establish the strongest connection with the site and reflect upon experiences undertaken during the program.
Figure 6.3.3.8: Therapy Building Within Site Context
6.4 Detailed Design

Structure

At the conclusion of the spatial development of the design, the main building contained a reasonable amount of open space. Because a strong emphasis had been placed upon the idea of layering, the horizontal elements had taken priority. Consequently, there exists a lack of vertical elements to generate and define a sense of internal spatial containment. Additionally, many of the horizontal elements are currently ‘floating’. Therefore, structure can be utilised not only to create internal spatial containment, but also to substantiate a design that is currently implausible. The design at this point has utilised polygonal shapes and sloping ramps throughout. It is clear that a static, orthogonal structure will not suffice. A structure such as this will contrast too strongly with the architecture already established so it is key that a structure is designed that conforms with the existing building. The image below demonstrates a type of dynamic structure that seems appropriate for the design. It has utilised angled ‘V’ columns that support the floors and roofs. These columns also produce vertical elements that create spatial boundaries without reducing the impact of the strong horizontal elements already established.

Figure 6.4.1: Structure, Eastern Side
Here, the structure attempts to do the same. ‘V’ columns have line the southern edge of the building, supporting the upper floors whilst creating vertical elements in order to accentuate the articulation of movement, and form boundaries for spatial containment.

The image on the following page shows an internal view of the main space. The ‘V’ columns here play an immense role in containing the space. Without them, the boundaries would be far more vague and the feeling of enclosure would be lost to the views and space beyond the building. This structure adds a very dynamic atmosphere to a space where intense physical activity will be prevalent. The columns along the western edge are vital in their function of supporting the roof. The columns support the horizontal element floating above, which in turn supports the roof trusses.
Seating

As evident in the image on the previous page, the seating of the main space has been developed. Instead of the traditional stadium or stepped seating common in sports halls, a different approach has been taken. This is mainly to promote social interaction between participants and athletes alike. The design now allows groups of youth and athletes to sit on in-built chairs or sofas and watch, analyse, and discuss the physical actions taking place on the mat. Additionally, the sofas and breaks in the steps provide opportunities for social interaction. Therefore the stepped seating can be used as a common space or a viewing space; or both at the same time as shown in the image below.
Roof Design

The development of the roof was partially covered in the spatial design. However the form of the main roof was incomplete. One of the initial objectives from the beginning of the design process was that the built form must merge as seamlessly as possible with its surroundings. This is the main guiding principle when designing the roof. The design offers a solution that consists of sloped and angled polygonal geometries arranged over the main space in order to provide a sense of vertical enclosure, whilst fostering a protective atmosphere. Overlaps in the roof allow natural sunlight to penetrate and light the space underneath. The main roof possesses a hierarchy over the two lower roofs to the east and west. This informs the viewer that this is a space of great importance.
Façade

Two factors mainly influenced the design of the facade. Firstly, the need to maximise views at certain points was a predominant objective. Secondly, with such powerful horizontal elements present, any strong vertical components would contrast too much and diminish the impact that the horizontal elements currently possess. Furthermore, solid vertical walls would obstruct views of the structural ‘V’ columns introduced, diminishing their impact as powerful architectural elements. Therefore it seems appropriate to extensively utilise double-glazed glass for the facade in order to solve both problems. The moderate use of solid panels of corten steel and exposed concrete, together with some positive and negative detail, have been utilised in order to create some break up and interest in the facade.
Sustainable Strategies

As evident in the diagram below, the indoor outdoor flow of the design helps to maintain natural ventilation throughout the building. The western common space and the viewing platform to the north of the main space will be exposed to harsh sun during the summer months. These have been protected from direct sunlight by extensive overhangs. Double-glazing has also been used to keep radiant energy from overheating the interior spaces. Additionally, another strategy utilised is thermal mass. This is not only achieved through the use of thick concrete floors, but also by being partially buried within the ground. The building is able to use the earth as a thermal insulator, transferring the heat it receives from the sun during the day into the interior spaces.
Material Palette

- Exposed Concrete
- Local Timber
- Corten Steel
- Local Schist
7.0 CONCLUSION

The overall success of the project is determined by whether or not it achieves the core focus's outlined from the beginning. It is clear that the design has provided a plausible outcome for a sports centre, where all functions have been facilitated and an excellent training environment has been created. However, does the architecture provide and promote positive youth development and social interaction? This is difficult to determine as adolescent behaviour is a complex issue. Many variables have to be considered and every youth possesses individual circumstances.

However, the design outcome has developed through substantial research and design experiences, which would lead one to believe that the result would prove a successful one. Furthermore, it is important to note that the design was driven by the experience of the architecture. The shapes produced are not an arbitrary formal gesture, instead they are driven by the way one would experience the building. Experience includes appreciating the building from the outside, or when on the inside looking out. However, experiencing architecture is more than just the visual. Visual beauty is important, but the way a building feels, that is the true experience of the architecture. Facilitating this experience has been the real driving factor of the design and each space is informed by the need to create a motivating and lively social and physical environment.

The choice of site has also greatly contributed to the success of the design. Research undertaken has clearly demonstrated that an important relationship can be established between man and nature that can foster a positive impact on youth development. However, this relationship not only refers to the human being and nature, but also the man made and nature. This has been explored in an attempt to reinterpret the
way in which we deal with the earth. The project aimed to exploit the site to its benefit, whilst attempting, at the completion of the project, to leave it in its natural and undisturbed state in which it was found. The design outcome has achieved this to an extent, and one can say that it is an appropriate response to such a site. A rigid orthogonal form was never going to be suitable. Instead, irregular, multi-layered forms have been produced to reflect the erratic composition of the land surrounding it. All aspects of the design solution is united by a powerful sense of place.

The design outcome has attempted to identify and utilise the best aspects from the research undertaken. From there a design has manifested through design explorations. Overall, the project has gone some way in achieving what it has set out to achieve. Whether or not the architecture and strategies used can substantially change the lives of under privileged youth in New Zealand, is yet to be concluded.

“*The curriculum embedded in any building instructs as fully and as powerfully as any course taught in it.*”²⁸

8.0 BIBLIOGRAPHY


9.0 LIST OF FIGURES


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Figure 6.3.1.9: China Travel, *Tour China*, http://tourinchina.w2.netqd.com/english/chinatruvelguide_view.asp?id=68 (accessed May 17, 2012).


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Figure 6.3.1.5: Collection, *Thermal Bath Vals*, http://archfoto.tumblr.com/post/4204315019/helene-binet-thermal-bath-vals (accessed May 23, 2012).
10.0 APPENDIX

10.1 High Performance Sport in New Zealand

Around £70 million of direct financial support was invested into British athletes in the four years prior to the 2004 Athens Olympic Games.\(^{29}\) A further £75 million was allocated by the British government for the 2008 Beijing Olympic Games.\(^{30}\) The sustained and substantial allocation of public funds for the Australian Institute of Sport and in direct support of Australian athletes came as a result of their poor performance at the 1976 Montreal Olympic Games.\(^{31}\) New Zealand Prime Minister John Key announced in June 2010 that high performance sport in New Zealand would receive an extra $10 million in 2010-11, $15 million in 2011-12 and $20 million a year after that. An additional $30 million was also committed for a national network of high performance facilities.\(^{32}\) There is no doubt that in recent years there has been a substantial fixation on high performance sport from a diverse range of national governments\(^{33}\), hence their significant allocation of funds towards achieving success in the area. This fixation has catapulted sport to the forefront of many cultures – especially New Zealand’s. “Sport has been a significant aspect of life in New Zealand”.\(^{34}\) It has “provided a source of enjoyment, challenge, escape, pride, and meaning for many individuals”\(^{35}\); and “often features in our ‘quest for identity’, both as individuals and as a nation”.\(^{36}\)

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30 Ibid.
31 Ibid.
35 Ibid.
36 Ibid.
The government organisation responsible for sport and physical recreation in New Zealand is Sport and Recreation New Zealand (SPARC). SPARC’s vision is to encourage New Zealander’s to enjoy and excel through sport and recreation; and their mission is to create an environment where New Zealander’s can participate, support and win. SPARC aims to partner with national sports organisations in order to deliver sport and recreation to New Zealanders from grassroots level to high performance level. In particular, SPARC has identified the need to encourage sport at community and school level, as well as encouraging ‘young people’ in New Zealand to be more active and partake in sport. Therefore SPARC has invested significant funding into, and implemented several programmes which target these sectors. Additionally, high performance sport in New Zealand has received significant attention. With SPARC’s medium-term goal set at increasing the pool of high performance talent, and their long-term goal set at getting more New Zealanders winning on the world-stage; the government has injected “the most significant ever funding” into high performance sport in New Zealand. This amount of funding does not compare with the significant amount injected into high performance sport by countries such as Great Britain and Australia; however, it does demonstrate the government’s current values, increased commitment, and direction within high performance sport in New Zealand.

In order to understand why national governments, including New Zealand’s, are so concerned with achieving elite sporting success we must look at the benefits a country may gain as a result. These benefits may include international prestige and diplomatic recognition, ideological competition, and a “belief that international sporting success generates domestic political benefits ranging from the rather nebulous ‘feel good factor’ to more concrete economic impacts associated with the hosting of elite competitions”. The hosting of major sporting events has been a vital factor for economic growth for many countries, leading to increased tourism and urban regeneration. It is clear that sport may be
used as an important resource for many countries, whether for diplomatic, economic or social reasons. However, it is stated that countries are in a “much better position to exploit sport’s potential if they possess assets in the form of recognised world-class elite athletes”.46

However, there are some factors that affect some national sporting organisations that make it difficult to put programmes in place or provide the facilities suitable for the development and future success of their high performance athletes. Two of these factors include the government funding system and sports sponsorship. SPARC’s high performance funding is medal-focused, meaning a national sporting organisation only receives funding towards the development of their athletes if the sport is achieving medals at world, Commonwealth, or Olympic level.47 On top of this, over 80 percent of commercial sponsorship goes to high-performance or prestigious sports.48 Sadly, this tends to mean that minority sports in New Zealand receive very little to no funding to support their athletes. Athletes in minority sports are forced to fund their own way, and sometimes their support crew, through the expensive and arduous ordeal of building up to a major event. If athletes can focus 100 percent on their sport and training, and are provided with better opportunities, training facilities, and professional support crew, it is most certain that athletes in minority sports will achieve more at the high performance level. This may require more funding, however with the governments increased commitment towards developing high performance athletes, it is not seen as an unrealistic goal.

46 Ibid.
48 Ibid., p. 12.
1 Dojo
2 Exterior Courtyard
3 Strength and Conditioning Facility
4 Support Staff Accommodation
5 Administration
6 Male Changing Room
7 Female Changing Room
MAIN BUILDING LEVEL 1

1 Commons
2 Lobby
3 Viewing Platform
4 Quiet Space
5 Counselling Rooms
6 Toilets
1 Cafeteria
2 Multi-Purpose Theatre
3 Sky Lounge

MAIN BUILDING LEVEL 2
VIEW OF HYDRO-THERAPY FACILITY
VIEW OF DOJO AND COMMONS
VIEW OF STRENGTH AND CONDITIONING FACILITY