

THE BRIDGE

@ TRELAI

*“Why should it just be a tin shed?
– it should be a thing of beauty.”*

Carl Meredith



by ROOTED ARCHITECTURE

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OUR VISION - RAISING ASPIRATIONS & EMPOWERING THE COMMUNITY

Through conversation with community leaders, it is clear the immense pride and passion they have in the areas **RICH HERITAGE**, cultivating the **POTENTIAL OF THE LOCAL YOUTH** and promoting aspirational thinking for the local area in terms of **HEALTH, EDUCATION** and **SUPPORT**.

A gateway to develop a multi-generational space that will foster **POSITIVE LOCAL ENCOUNTERS**, provide support for local families and showcase the immense pride felt by the community of Ely and Caerau, in regards to sporting achievement and heritage.

A **LANDMARK CIVIC STRUCTURE** in the area, to strengthen **CONNECTIONS** with other initiatives whilst also providing additional services and spaces that can be shared with the wider community.

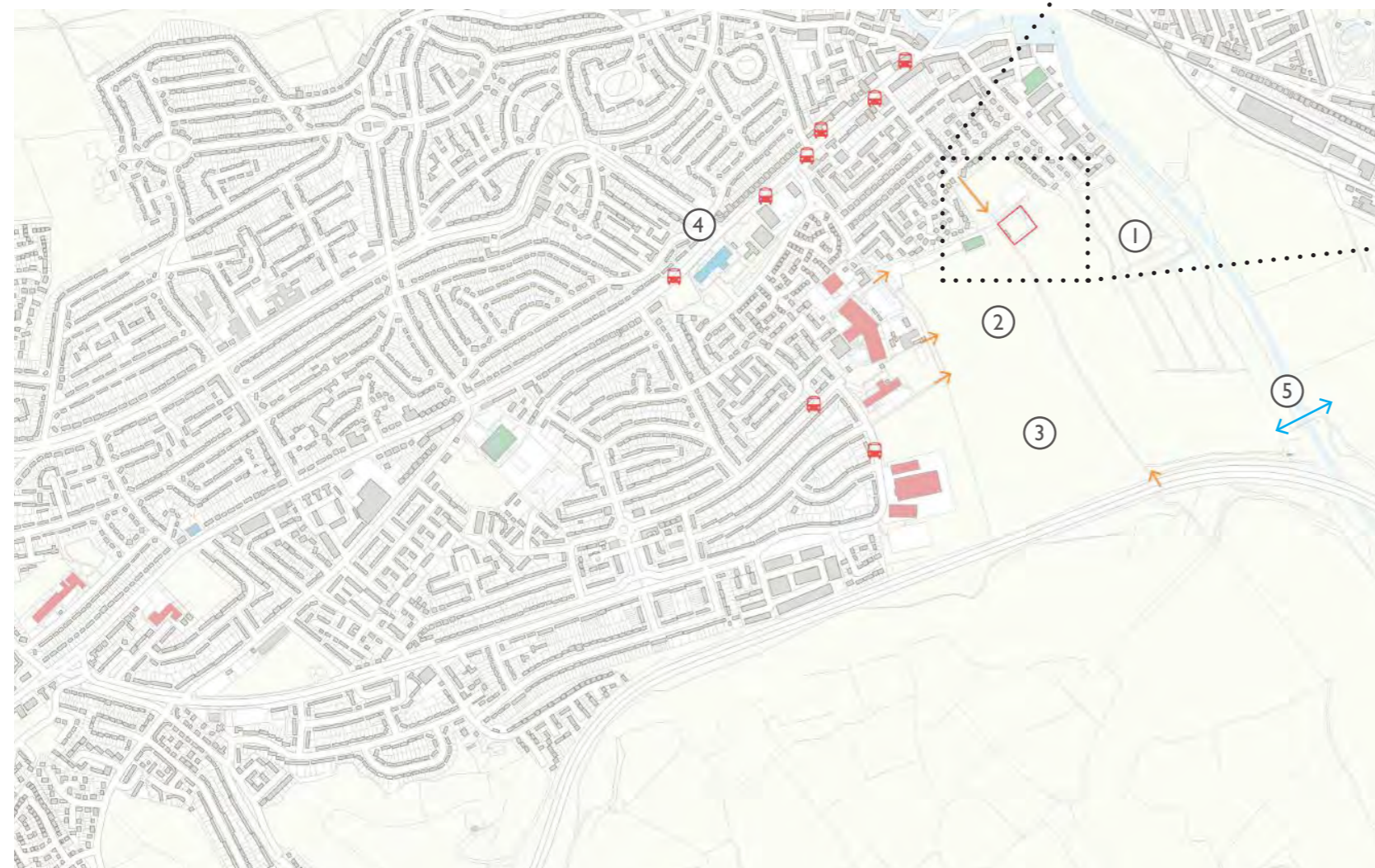
Improving links with the university through education will encourage a more dynamic symbiotic **RELATIONSHIP BETWEEN THE COMMUNITY AND HIGHER EDUCATION**.



SITE ANALYSIS - CONSTRAINTS AND OPPORTUNITIES

- ① Possible partnership with owners of allotments to provide organic produce to a cafe.
- ② The Roman Villa site should be preserved as a part of the local heritage. A new pathway with information boards can be introduced to tell the centuries-old story of the site.
- ③ Providing a safe and sheltered space for parents and kids to use during sports events, especially in bad weather conditions.
- ④ A link to the Ely and Caerau Community Hub can provide further satellite facilities for community support, including adult learning, emotional support and advice services.

- ⑤ Connecting the Ely Cycle Trail with Trelai Park
- ⑥ Existing woodland garden can be renovated and incorporated into the site to provide high quality landscaped space with outdoor exercise equipment and playground apparatus.
- ⑦ Opportunity to create a heart zone in Trelai park that brings all within the local community together.



- Site Boundary
- Sports Facilities
- Key Buildings
- Schools
- Park Entrances
- 🚌 Bus Stops Within 500m of Park Entrance

SITE ANALYSIS - PARK AND SITE MASTERPLAN

- ① THE BRIDGE @ TRELAI
- ② EXTENDED PLAY PARK
- ③ WOODLAND TRAIL WITH OUTDOOR EXERCISE EQUIPMENT AND SEATING AREAS
- ④ NEW PUBLIC SQUARE WITH AREA FOR MONTHLY MARKET STALLS
- ⑤ ROMAN VILLA SITE WITH INFORMATIVE SIGNAGE
- ⑥ MULTI-USE SPORTS PITCHES
- ⑦ NEW, UPGRADED SKATEPARK
- ⑧ FORMALISED PEDESTRIAN ROUTES AND NEWLY LINKED ELY TRAIL CYCLE ROUTE TO CENTRAL CARDIFF
- ⑨ LINKS WITH EXISTING ALLOTMENTS CREATING OPPORTUNITY FOR PROVIDING LOCALLY SOURCED PRODUCE TO THE CAFE IN THE BRIDGE



SITE ANALYSIS - ENGAGEMENT AND SURROUNDING COMMUNITY LINKS

A major driver for the urban design masterplan is community involvement and integration, and the site is ideally located on a large crossroad within Trelai Park

The bowling green has been retained, opening the space up to the public and removing the 'elite' stereotype surrounding the sport.

The nursery in the East end of The Bridge has both covered and exposed outdoor areas, including a sensory garden, enclosed by fence and hedgerow, promoting engagement with the outdoors from a young age in a safe environment.

Pedestrian trails and flower gardens are introduced to the existing woodland area to the East of the site, and durable outdoor exercise equipment promotes healthy living in residents and visitors.

A new public plaza in the centre of the existing pedestrian crossroads creates an inviting space for congregation and hosts an independent market once a month. Parents can gather in this social space and watch their children as they play on the sports pitches.

Links to the new building are enhanced through the new cycle route linking Trelai Park to Cardiff Bay via the Ely Trail, increasing recognition of the area within the wider site.



BOWLS GREEN



DUSTY FORGE



SPORTS FIELDS



SCHOOLS



SKATEPARK



THE HYB



BOWLS GREEN



ALLOTMENTS



NURSERY



THE LOCAL COMMUNITY - FORMING THE VISION

Within Cardiff, it is difficult for parents to access courses without childcare support, as well as good deal of encouragement and understanding of their situation.

Young people who become parents should not lose out on the opportunity of completing their education.



re-establishing positive relationships

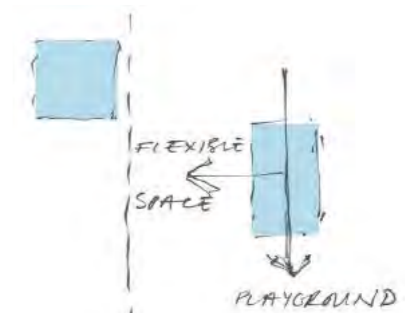
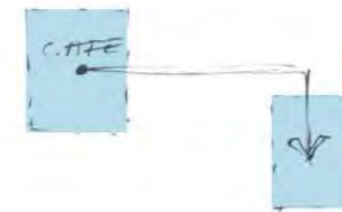
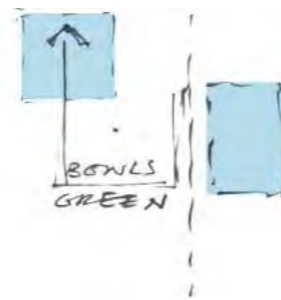


In a survey carried out for the Cardiff Family Support Strategy Report, when asked to suggest what services parents thought were needed within the area the following were mentioned:

- New children's activities,
- Centres for children and families
- Advice on children's behaviour
- Nurseries
- Family learning
- Money/housing advice
- Mental health

Members of the newlyformed Ely Racecourse Bowling Club are hoping to involve the whole community in the sport. The club now has 22 members with around 8 men working on the green during their spare time.

GETTING IT RIGHT - SUPPORTING PARENTS AND CHILDREN
Children's early years are an important period and experiences at this time impact greatly on their future development. Creating an opportunity for families to spend time together by providing activities and resources that actively combat barriers to positive family life.



HEALTH & WELLBEING

- HEALTHY EATING
- SPORTS AND PHYSICAL ACTIVITY
- MENTAL HEALTH



EDUCATION

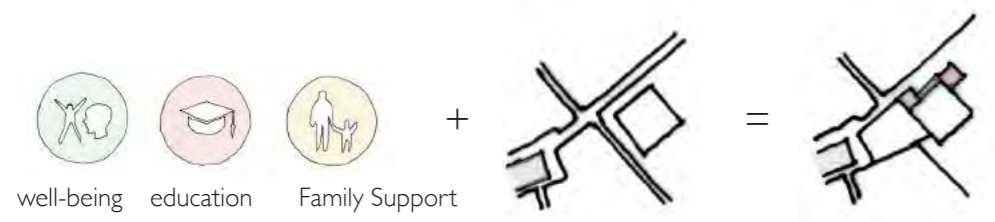
- UNIVERSITY AND LOCAL FACILITIES
- COACHING BADGES
- INTERNET ACCESS



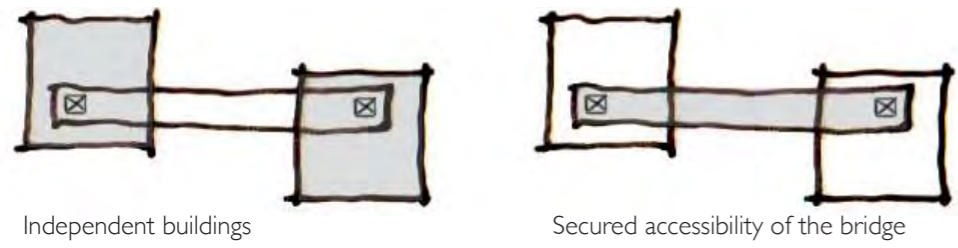
PARENTAL SUPPORT

- SOCIAL INTERACTION
- CHILDCARE
- COMMUNITY LINKS

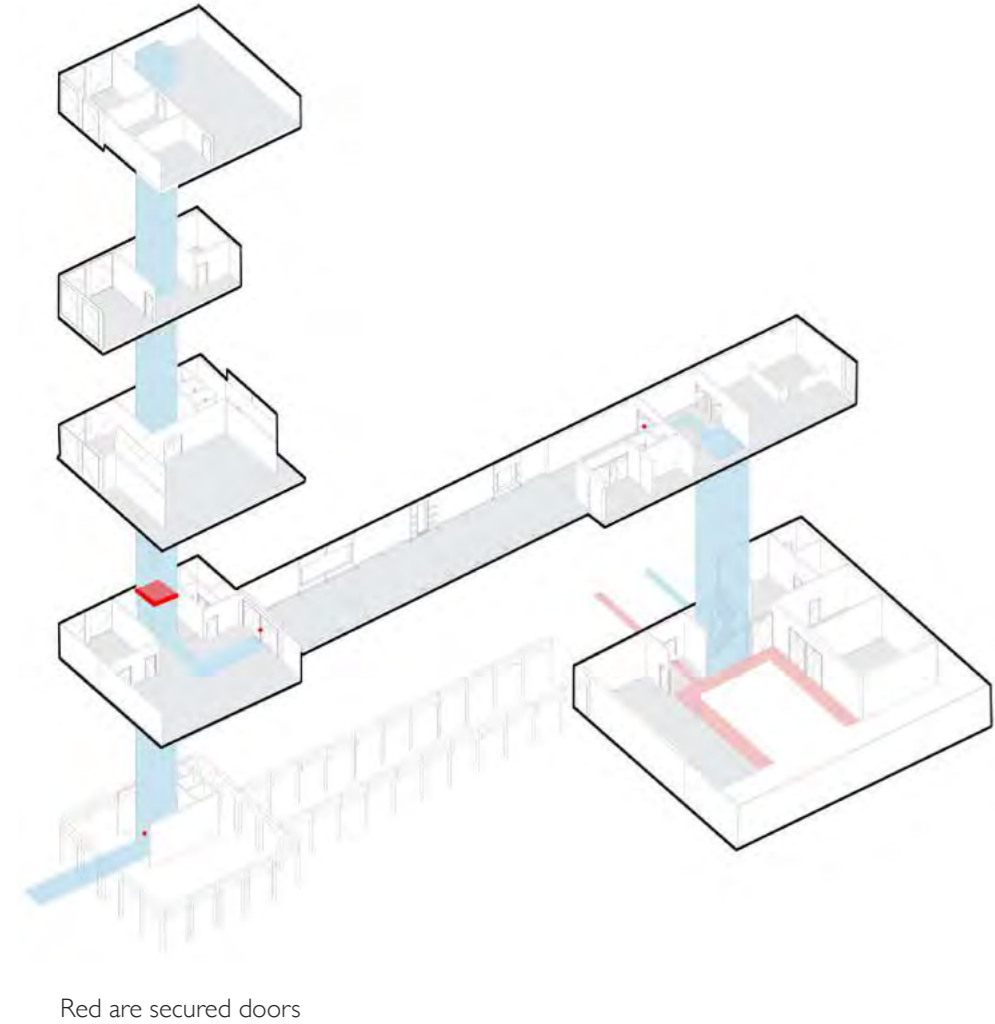
SITE STRATEGY



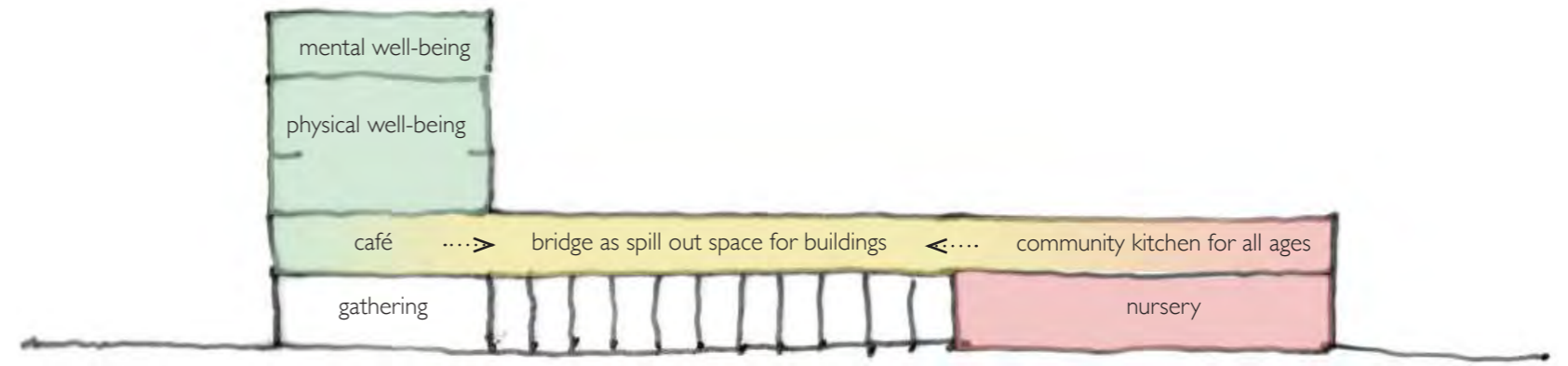
PARTI DIAGRAM



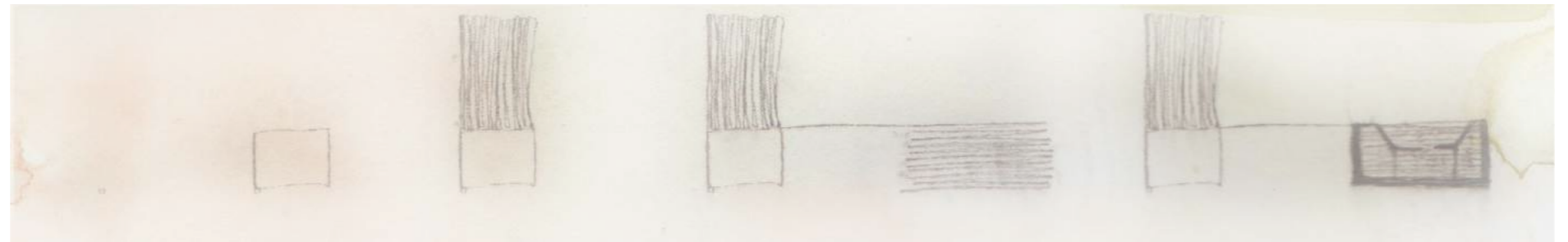
CIRCULATION & SECURITY STRATEGY



PROGRAM STRATEGY



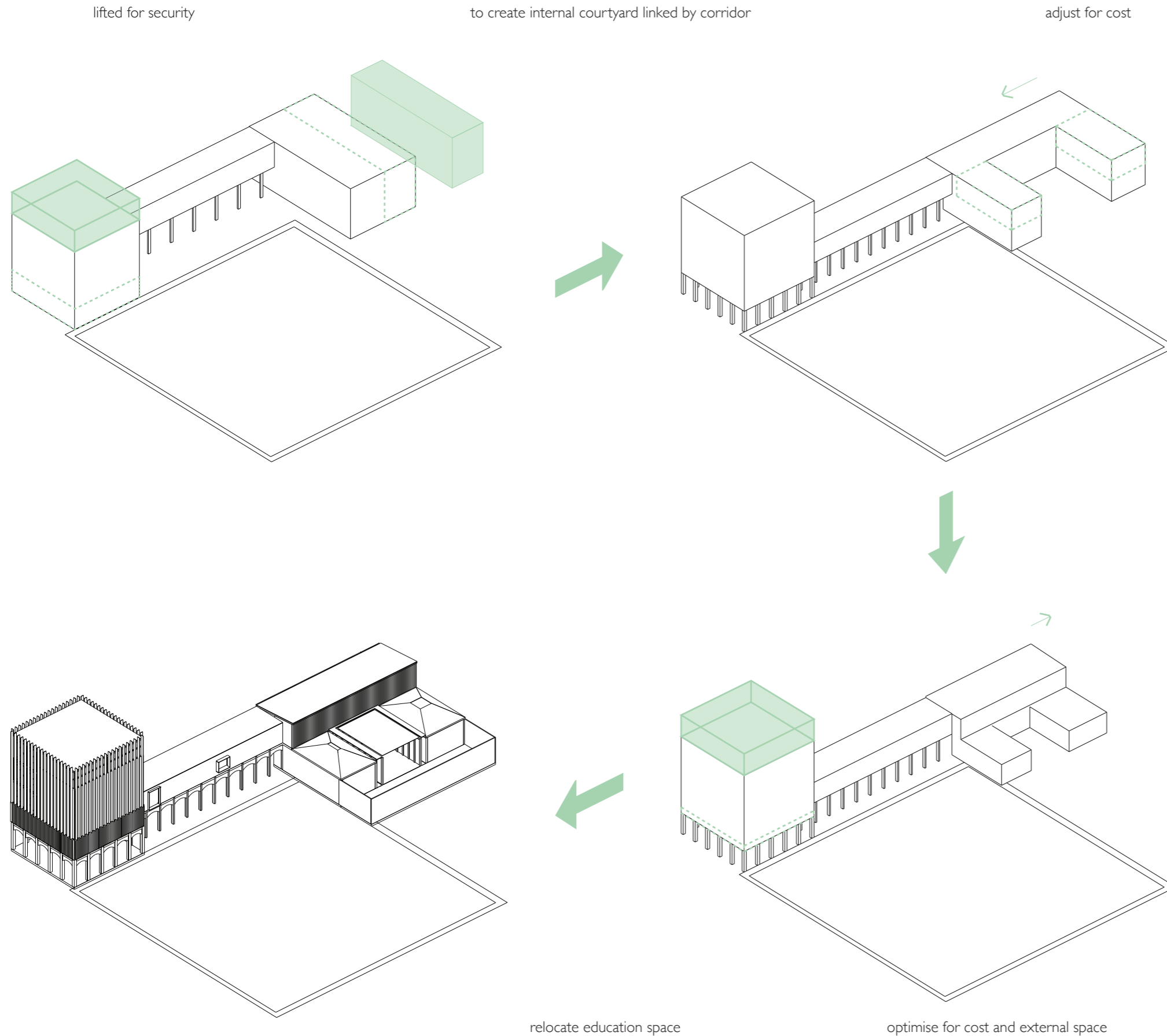
FORM PROGRESSION



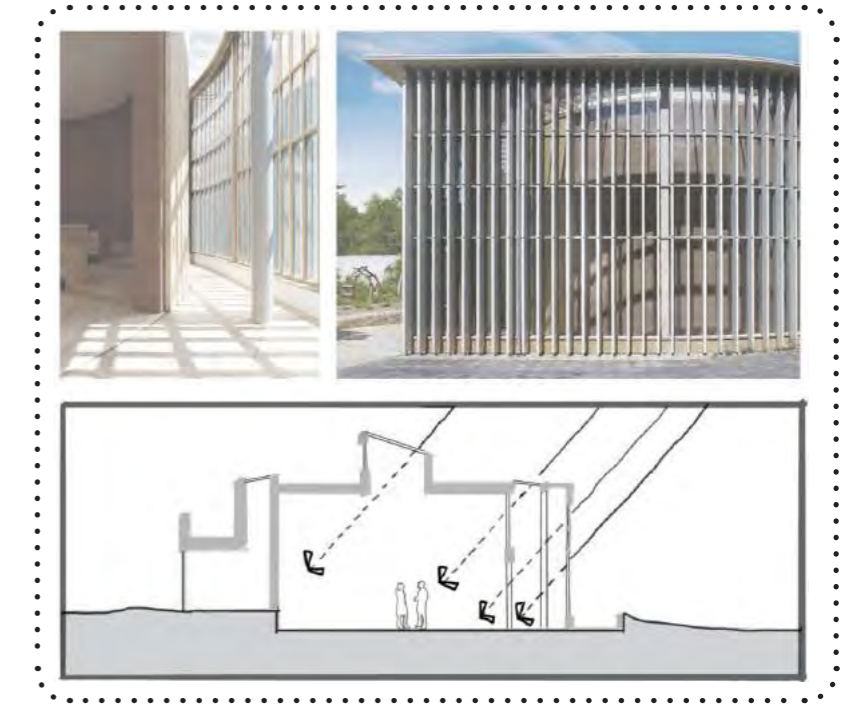
FLEXIBLE MULTI-GENERATIONL SPACE CONCEPT



EVOLUTION OF FORM - MANIPULATION OF SPATIAL CONFIGURATION

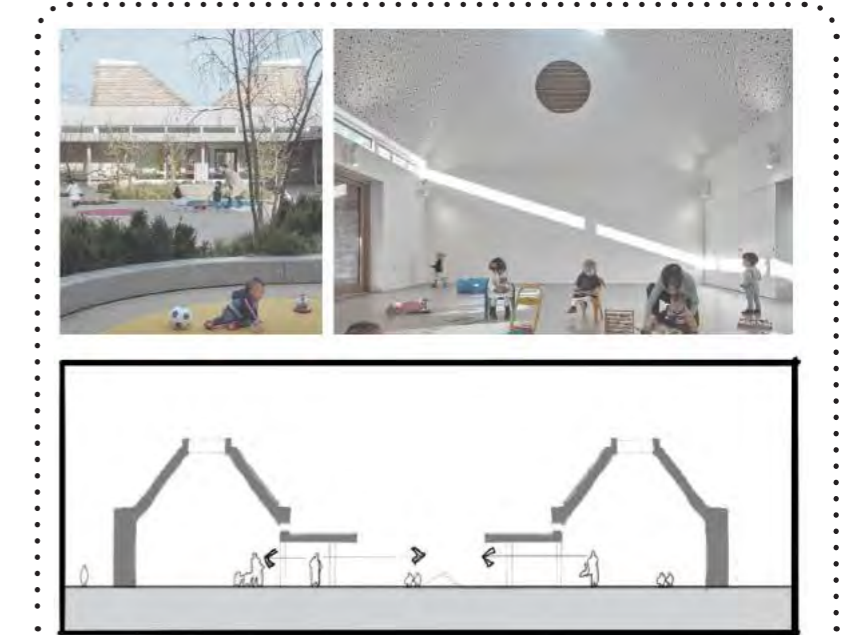


KEY PRECEDENTS



For the community centre

PROJECT NAME: The Wales Institute for Sustainable Education
 LOCATION: Machynlleth, North Wales
 ARCHITECT: Pat Borer & David Lea
 Floor area: 2,280m²
 Total cost: £42M

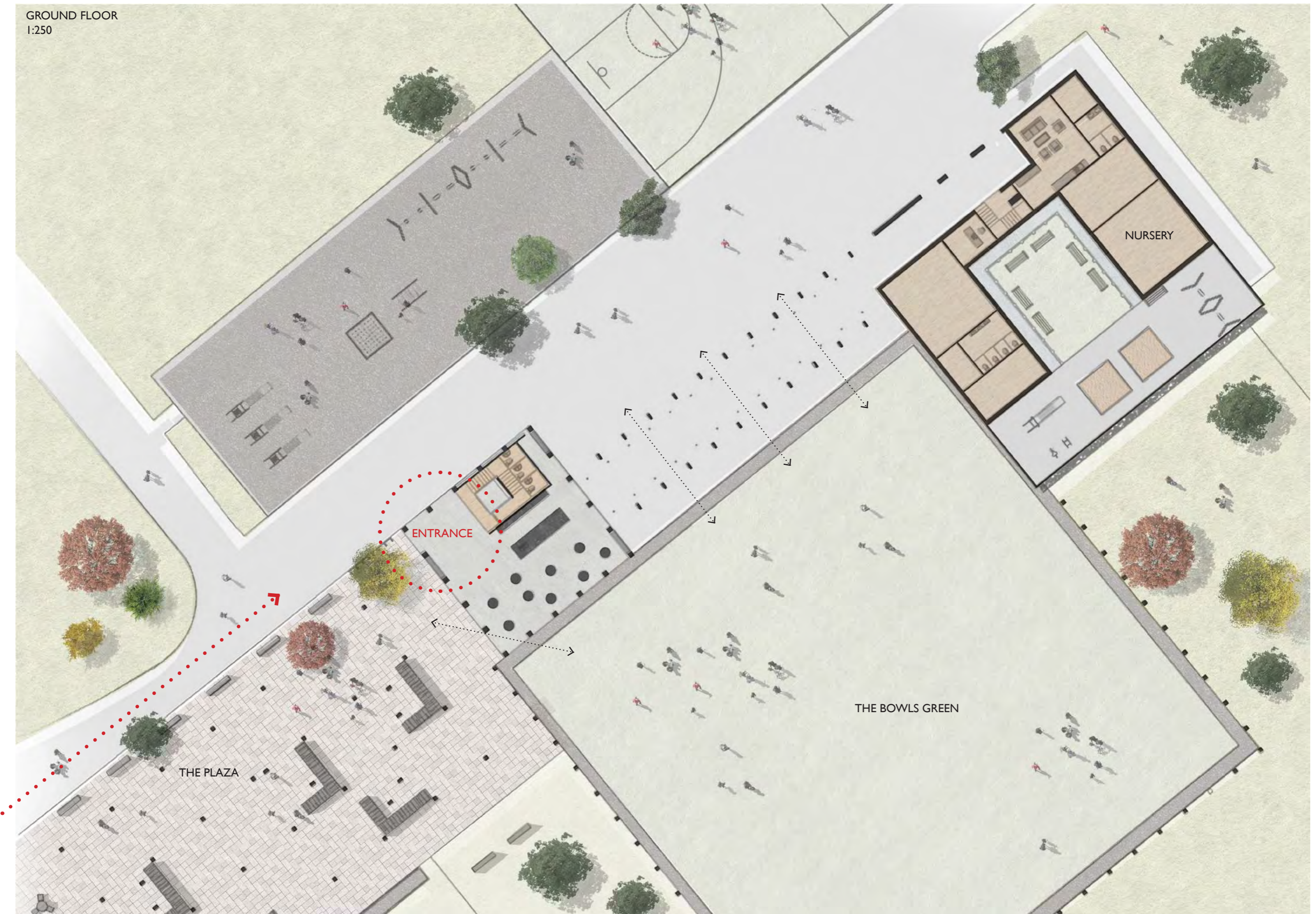


For the nursery building

PROJECT NAME: Storey's Field Centre and Eddington Nursery
 LOCATION: Cambridge, England
 ARCHITECT: MUMA
 Floor area: 2,248m²
 Total cost: £8.3M

* Buildings Library, <https://www.aajbuildingslibrary.co.uk/projects/display/id/619>, [accessed 15 February 2019]
 ** Buildings Library, <https://www.aajbuildingslibrary.co.uk/projects/display/id/8012>, [accessed 15 February 2019]

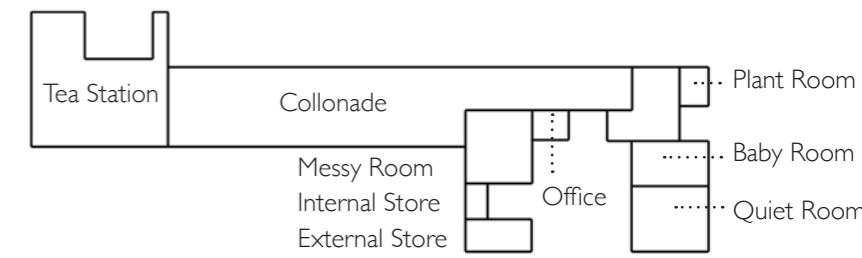
GROUND FLOOR
1:250



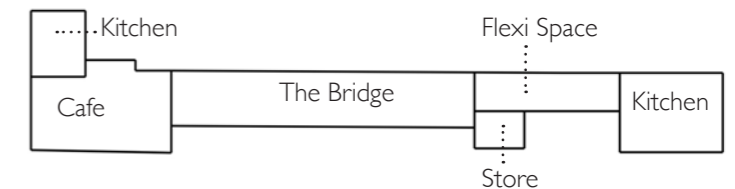
FIRST FLOOR
1:250



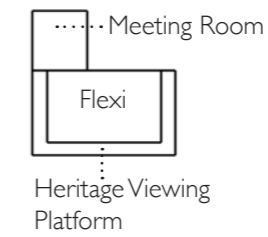
GROUND FLOOR



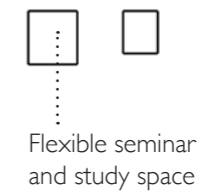
FIRST FLOOR



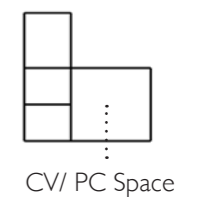
SECOND FLOOR



THIRD FLOOR

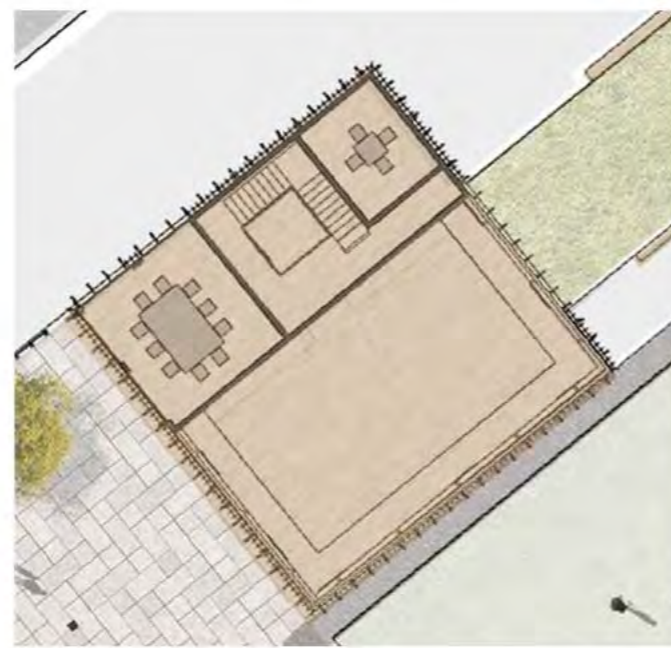
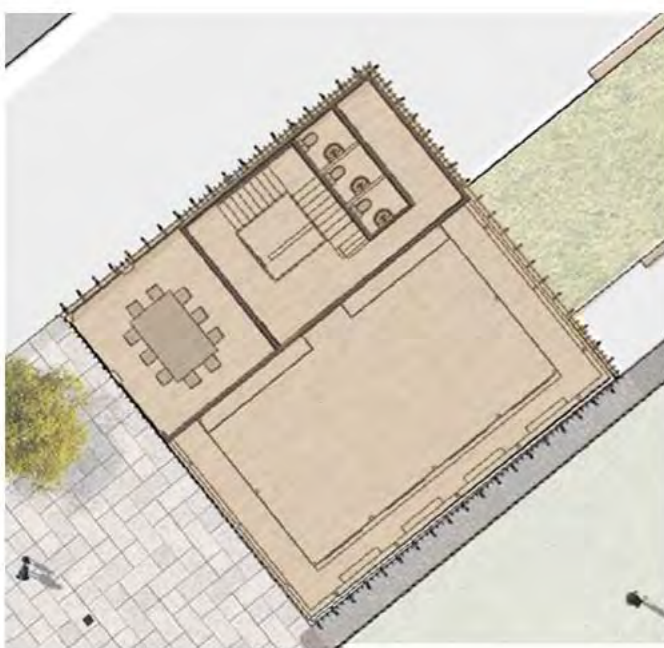


FOURTH FLOOR



AREA SCHEDULE

	SPACES	AMOUNT OF PEOPLE	AREA IN M2
COMMUNITY BUILDING	Cafe	50	74
	Kitchen	15	32
	WC	250	30
	Services	-	12
	Small multi purpose rooms	10	44.5
	Larger multi purpose rooms	20	50
	Storage	-	20
	Bridge - Flexible Space	-	125
NURSERY	Entrance	-	16
	Class room	30	47.5
	Pupils WC	30	14.4
	Staff Room	6	16
	Quiet room	-	47
	Services	-	8.3
	Internal storage	-	15
	External storage	-	6
	Staff toilet	6	6.5





NORTH WEST ELEVATION 1:250



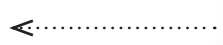
SOUTH WEST ELEVATION 1:250



NORTH EAST ELEVATION 1:250



Boxing Gym & Car Park



SOUTH EAST ELEVATION 1:250

PROGRAMMATIC SECTION



T H E T O W E R



T H E B R I D G E



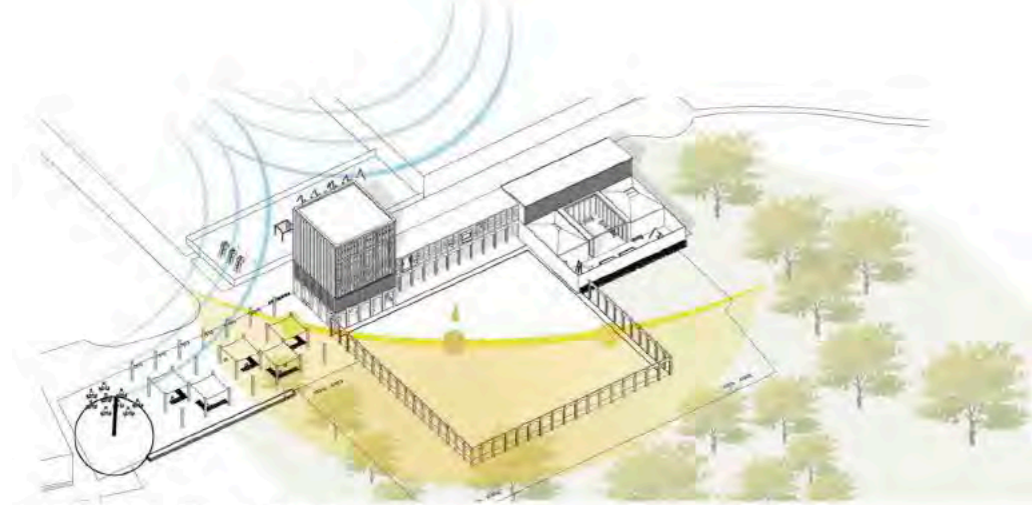
T H E N U R S E R Y

- 01 The Plaza
- 02 Tea Station
- 03 Cafe - service
- 04 Cafe - seating
- 05 Dance studio
- 06 Viewing area
- 07 Heritage walkway
- 08 Private study area
- 09 Community study space
- 10 Collonade
- 11 The Bridge
- 12 Bridge storage
- 13 W/C
- 14 Reception
- 15 Class room
- 16 Nursery entrance
- 17 Circulation
- 18 Staff storage
- 19 Youth club/kid's parties
- 20 Staff room
- 21 Community kitchen
- 22 Staff W/C



ENVIRONMENTAL STRATEGY

SITE POTENTIALS / LIMITATIONS



SUN / TEMPERATURE

The mean annual temperature at low altitudes in Wales varies from about 9.5 °C to 11 °C. Key factor for light and thermal comfort. The site is open towards the South. The ground floor of the 'tower' satisfies the need for creating shaded outdoor space which is protected from wind and rain as well.

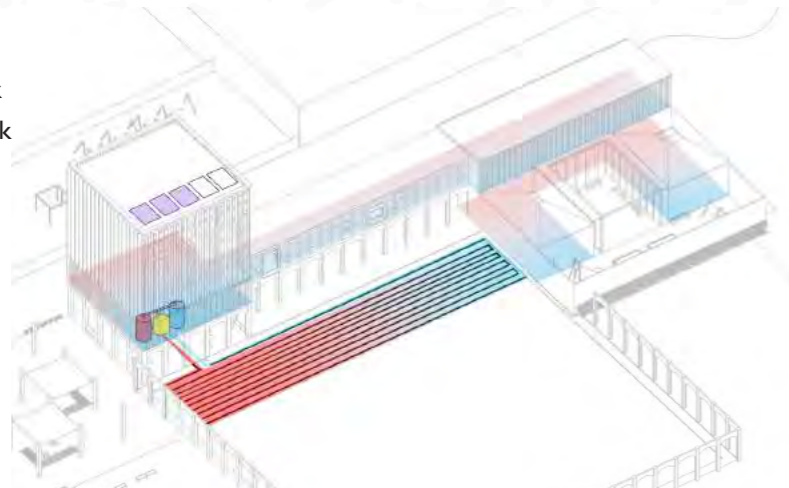
STRATEGY



The public building and the nursery both use ground source heat pumps as the main heating system due to the great potential of the site. The ground source heat pump system distributes the heat through underfloor heating. The volumes depend on natural heating with some 'buffer' zones between the inside and the outside. Mechanical ventilation is used in the multi-functional space due to the great variety of activities held in there and the need for accurate control.

SERVICES

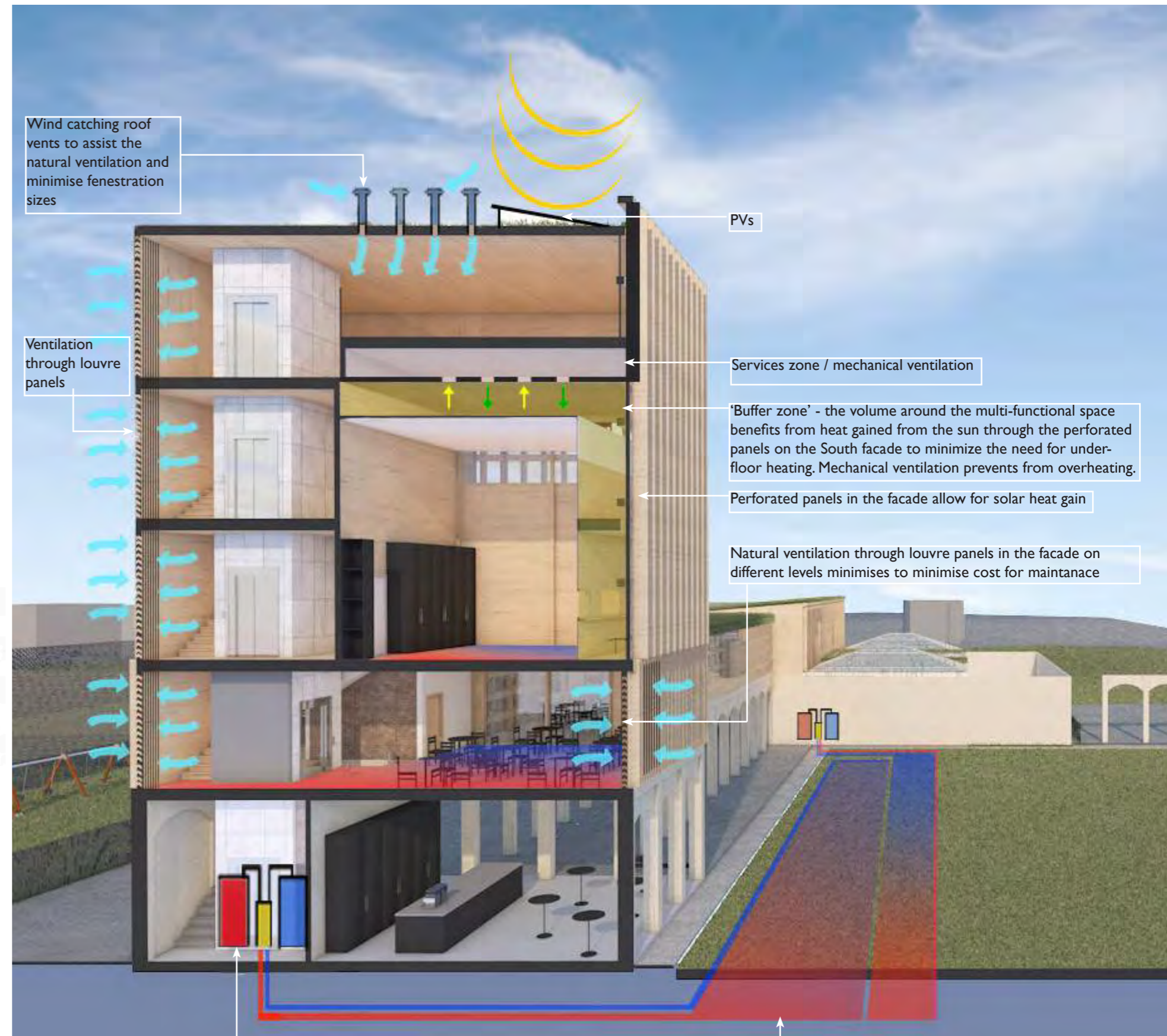
- Hot water tank
- Cold water tank
- Heat pump
- PVs



- Combination between heat pumps/ solar water heating reduces running costs and carbon footprint and working towards net zero.

Information taken from - Wales climate, Met Office
<https://en.climate-data.org/europe/united-kingdom/wales/cardiff-5419/>

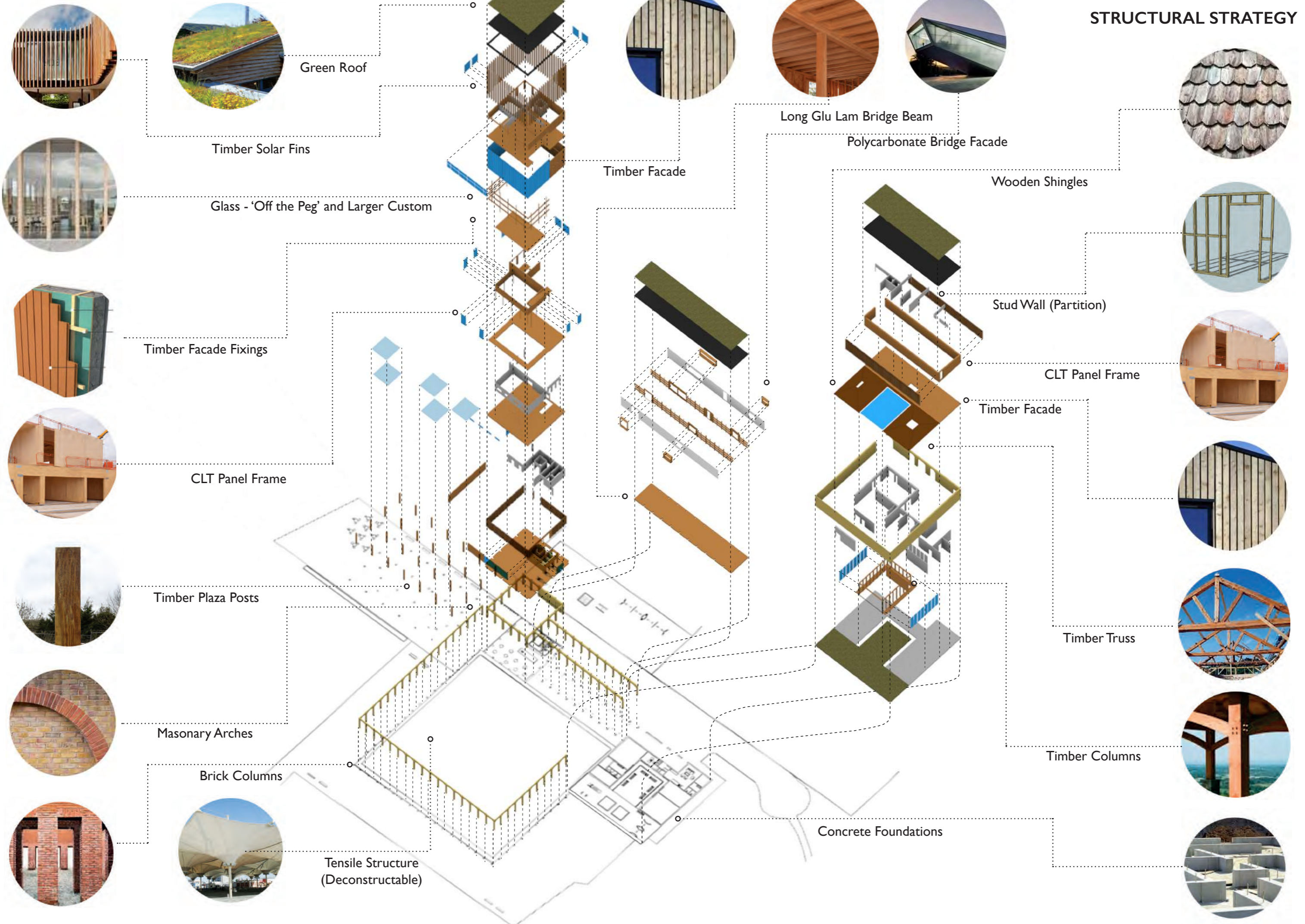
HEATING / COOLING / VENTILATION



The GSHP-ERV systems allows for the waste heat generated during cooling operations to be used to supply for running hot water and underfloor heating, further reducing energy demands.

The site allows for installing horizontal ground-source heat pumps (GSHP) 1-2m under the artificial bowls green. Two closed loop systems operating separately allow for accommodating the different usage schedules of the two volumes. The heating process is reversed via a valve and can be used for cooling.

STRUCTURAL STRATEGY



Green Roof

Timber Solar Fins

Glass - 'Off the Peg' and Larger Custom

Timber Facade Fixings

CLT Panel Frame

Timber Plaza Posts

Masonary Arches

Brick Columns

Tensile Structure (Deconstructable)

Timber Facade

Long Glu Lam Bridge Beam

Polycarbonate Bridge Facade

Wooden Shingles

Stud Wall (Partition)

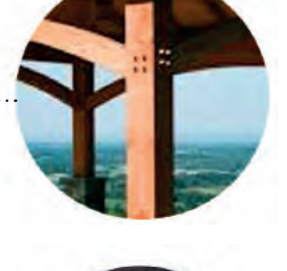
CLT Panel Frame

Timber Facade

Timber Truss

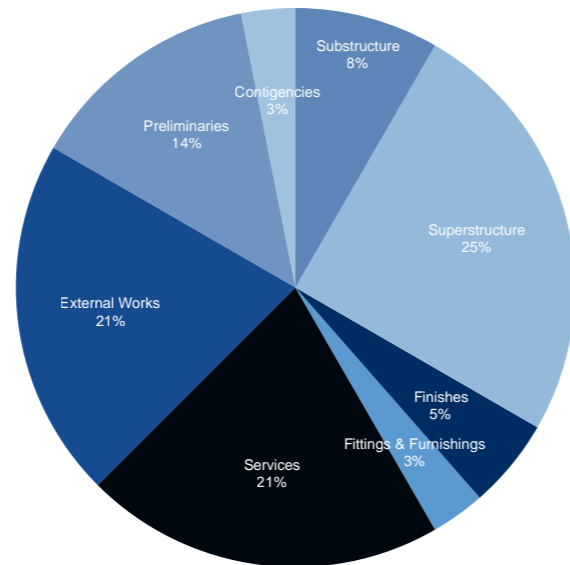
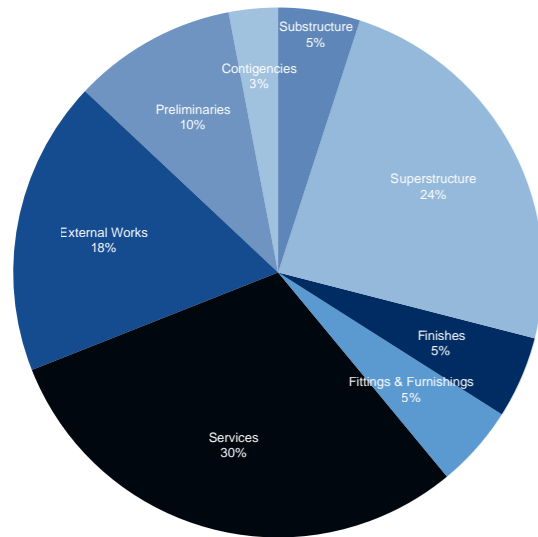
Timber Columns

Concrete Foundations





Kingswood School, Bath



Sandal Magna Primary School, Yorkshire

PRECEDENT 1 - MASONRY

- If we need to reduce the build cost, the two 'blocks' could be constructed from masonry which is at the average £/sqm for a standard community centre.
- This option has a lower percentage of the budget spent on superstructure & preliminaries as opposed to CLT.
- We could clad this in timber and/or the bridge could still be constructed from timber for a dramatic contrast.

Project: Medical Centre and Pharmacy
Location: Baildon, West Yorkshire
Architect: Halliday Clark Architects
Build Cost: £842,624
GIA: 782m²
Cost per m²: £1345

PRECEDENT 2 - CLT

- A CLT pavilion at a lower £/sqm than Precedent 3, We would like to aim for a 2500-3000 £/sqm rate which means we can achieve a higher quality design, however this shows the elemental breakdown and demonstrates to the client that CLT can be made more affordable.

Project: Classroom Block, Parish C of E Primary School
Location: London Lane, Bromley, Kent
Architect: ECD
Build Cost: £1,795,878
GIA: 985m²
Cost per m²: £1,823

PAVILION PRECEDENT

- To save money on the bridge aspect, this element could be treated as a semi-enclosed, pavilion.
- This striking Pavilion constructed from CLT is only 1000 £/sqm which could be applied to the bridge.
- However, to make the bridge a welcoming and usable space, we are proposing to thermally insulate and heat the space..

Project: Lakefront Kiosk / Ultramoderne
Location: Lakefront Trail, Chicago
Architect: Yasmin Vobis & Aaron Forrest
Build Cost: £283,000
GIA: 289m²
Cost per m²: £979

PRECEDENT 3 - CLT

- Example of CLT construction at an above standard £/sqm rate.
- This architectural quality is within our target of 2000 £/sqm rate, subject to sufficient funding.
- By using this construction we would raise the profile of CLT construction in Wales and give local builders valuable experience in this sustainable material.

Project: Cairngorms National Park HQ **Location:** Cairngorms, Scotland
Architect: Moxon
Build Cost: £1.03m
GIA: 405m²
Cost per m²: £2,515

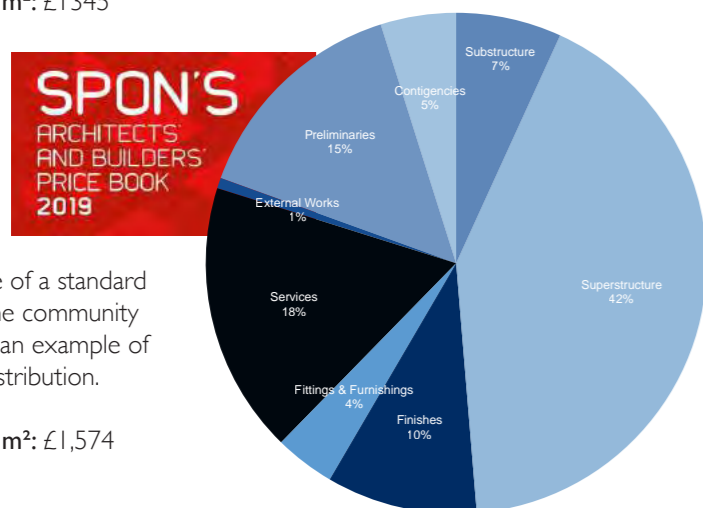


CLT DESIGN PRECEDENTS WITH SIMILAR ATTRIBUTES TO OUR PROPOSALS @ £2500-3000 PER M².



Davenies School, Beaconsfield

SPONS



- Example of a standard steel-frame community centre as an example of budget distribution.

Cost per m²: £1,574

SITE MASTERPLAN - KEY SPACES AND PROPOSALS



THE PLAZA &
COLLONADE

ARTIFICIAL
BOWLS GREEN

WOODLAND WALK/ FITNESS TRAIL

BOWLING CLUB



LARGE EVENTS - CANOPY



SPORT - NURSERY



The bowling green has been retained in the centre of the site, opening the space up to the public and removing the 'elite' stereotype surrounding the sport. Bowls can be hired from inside The Bridge for use by all ages, bridging the segregation within the local demographic.

2



SKATE PARK



PLAZA



GATHERING SPACE

A new public plaza in the centre of the existing pedestrian crossroads creates an inviting space for congregation and hosts an independent market once a month. Parents can gather in this social space and watch their children as they play on the sports pitches. The play park has been extended to provide a new enticing area for kids and the skate park is relocated to the new central heart zone.

3



FITNESS TRAIL



EXERCISE EQUIPMENT

The existing woodland area now incorporates a fitness trail with outdoor exercise equipment to bring diversity to visitors workouts. Floral gardens are introduced and informative signage tell a story about the site and its plant life.

WAYFINDING - ENCOURAGING EXPLORATION

Wayfinding checkpoint 01:
Park entrance

Heritage checkpoint 02:
Ely brewery

Heritage checkpoint 01:
Ely race course

Wayfinding checkpoint 03:
Woodland trail

Wayfinding checkpoint 02:
The Bridge entrance

Wayfinding checkpoint 04:
Allotment entrance



Wayfinding map

Heritage checkpoint 04:
Ely paper mill

Heritage checkpoint 03:
Roman villa

Wayfinding checkpoint 05:
End of woodland trail

01 Heritage checkpoint 01

02

03

04

05

Description of heritage feature:
Including location, directions to the location and what currently is located in this area. A description of the history including dates and a timeline to the site's development. A full description of the site's purpose and how it would have appeared originally, including which elements remain or have been excavated.

The description should be educational and interesting to encourage the local people of Ely and Caeror to be proud of their heritage.

How the site would have appeared:
1819 - 1870



Wayfinding checkpoint 01

The Nursery:
0.1 miles

Boxing gym:
0.2 miles

Allotments:
0.8 miles

Cardiff West School:
1.4 miles

The Hub:
2.1 miles

Heritage checkpoint key features

- 01: Title and orientation number
- 02: Heritage trail map with current location and orientation numbers
- 03: Description of immediate heritage feature
- 04: Conceptual image of how the feature would have appeared
- 05: Key dates that the feature existed within the landscape

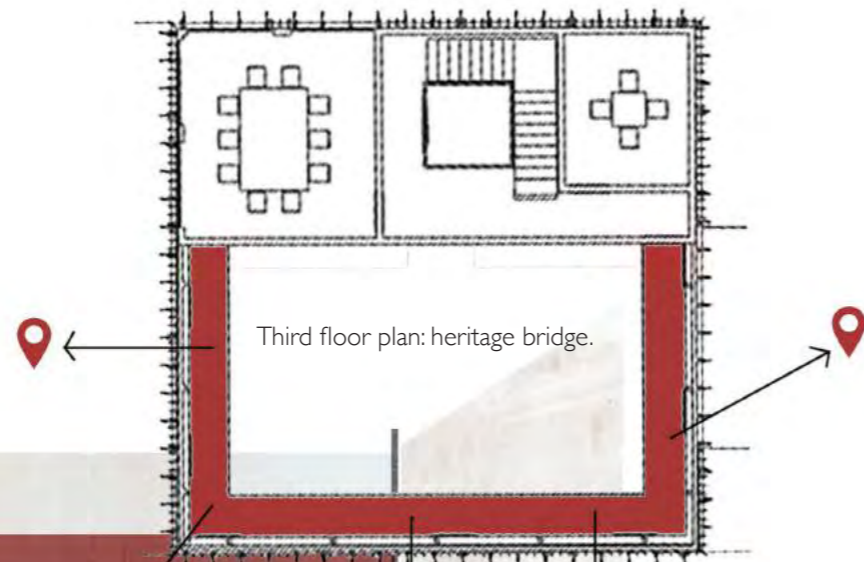
PRECEDENT



PUBLIC REALM WAYFINDING
Architect: Pearson Lloyd
Location: Bath, UK
Point of interest: The signage is clear but also looks appealing within the public landscape. It is immediately identifiable as a wayfinding aid so allows people to efficiently get to the right place within the city.
Relation to our project: We want the general public to clearly find their way through the site. The signposts will point them in the correct direction and give historical information about key heritage sites.

HERITAGE - CONNECTING THE COMMUNITY

The key space that represents the building's connection to the local heritage is the heritage bridge. This bridge surrounds the dance studio upper floor, and incorporates red frames (pictured below) that frame key views of the heritage features in the local landscape. Besides each frame is an image and description of the heritage feature, showcasing the local rich history. The aim of the bridge is to allow the community to travel through their past as they move around the building.



Heritage bridge key perspective



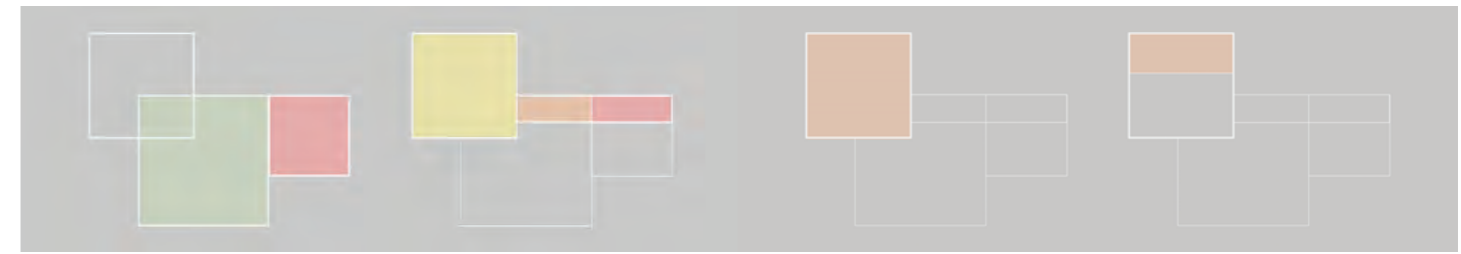
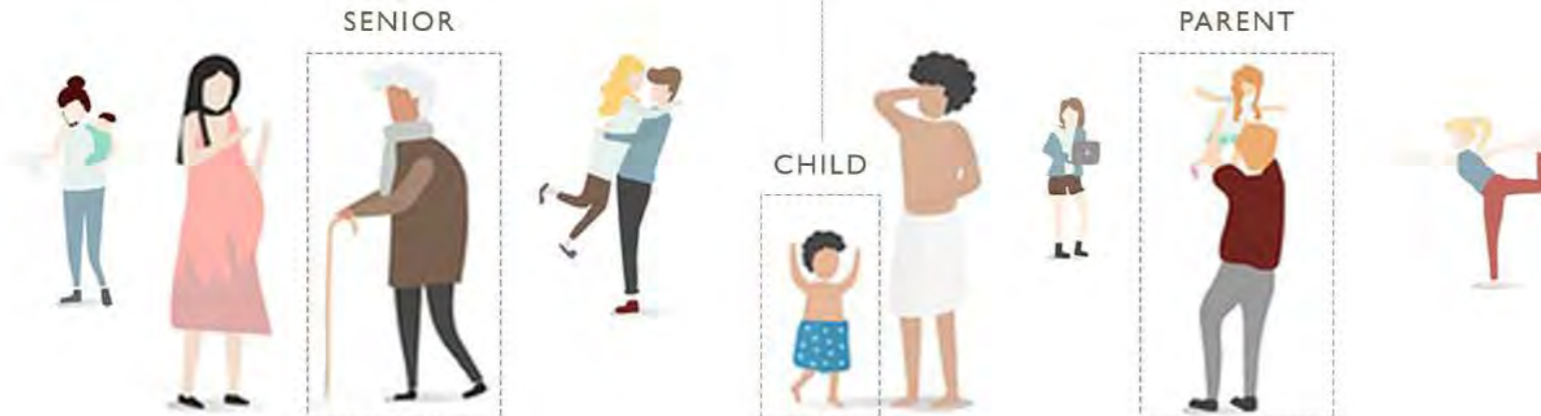
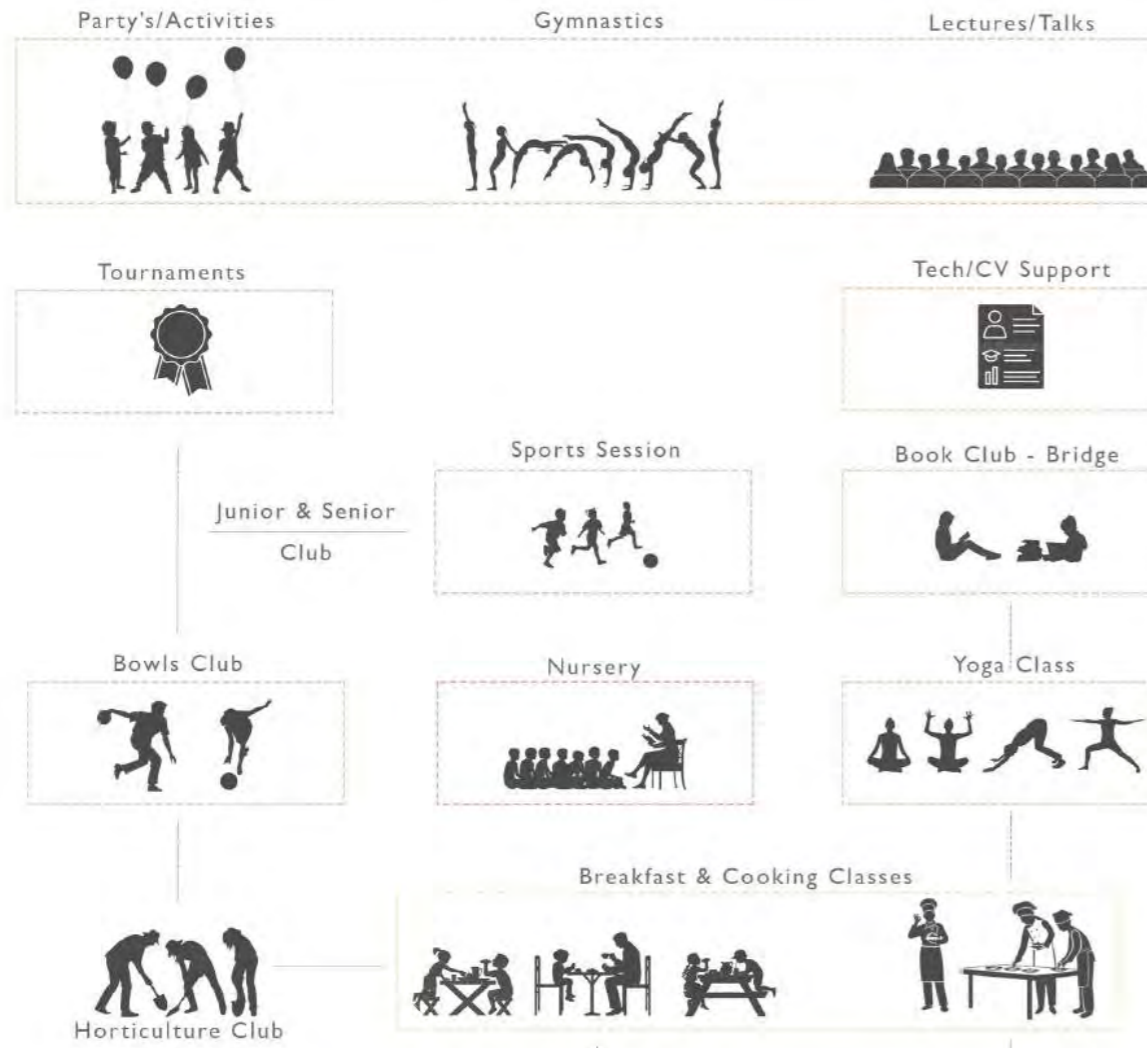
Map representing key heritage features of the local area.



Historical images of key features of Ely & Caerau's history.



A SPACE FOR ALL AGES - ACTIVITIES AND USERS GROUPS



TIMETABLE OF ACTIVITIES

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
8:00	Cooking Sessions - Cafe/Kitchen						
Nursery Opens 9:00	Cafe open to Public <small>The Bridge Open to Public - 9AM - 7PM - Bookable Meeting Rooms - Internet Access</small>					Family Sessions - Arts and Crafts	
10:00	Book Club - The Bridge	Yoga Club - The Bridge	Housing Surgery <small>small meeting room</small>	Horticulture Club - Allotments	Buggy Fit Walks	Family Sessions - Arts and Crafts <small>large meeting room</small>	Family Sessions - Arts and Crafts <small>large meeting room</small>
11:00	Horticulture Club - Allotments	Adult Sessions (newcomers welcome)	Parent group activity <small>large meeting room</small>	Family Support drop-in <small>small meeting room</small>	Adult Sessions (newcomers welcome)	CV Workshops/ Job Seeking Support <small>large meeting room</small>	Family Sessions - Arts and Crafts <small>large meeting room</small>
12:00						Adult Sessions (newcomers welcome)	
Lunch 13:00		TEA/COFFEE - CAFE			TEA/COFFEE - CAFE		
14:00			Technology Class			TEA/COFFEE - CAFE	Part Time Education during Childrend sports <small>large meeting room</small>
15:00	Seniors league Tournament	Nursery Sports Sessions - Bowling Green	Book Club - The Bridge		Nursery Sports Sessions - Bowling Green	Part Time Education during Childrend sports <small>large meeting room</small>	Child development checks - Health Visitors <small>large meeting room</small>
16:00			Counselling/ Mental Health Talks <small>small meeting room</small>	Counselling/ Mental Health Talks <small>small meeting room</small>	Yoga Club - The Bridge	Part Time Education during Childrend sports <small>large meeting room</small>	
Nursery Closes 17:00	TEA/COFFEE - CAFE	Family Sessions - Arts and Crafts <small>large meeting room</small>	Junior and Senior Club	Junior and Senior Club	Venue Hire - Canopy Set Up	After Match Tea <small>cafe</small>	After Match Tea <small>cafe</small>
18:00	Junior and Senior Club Night						
19:00	Evening Classes - Bookable Meetings rooms					Venue Hire - Larger Events - Bowling Green	Venue Hire - Dismantle
20:00							

Venue hire every 2 weeks

■ Bowling Green
 ■ Parent Support
 ■ Education
 ■ Flexible Space

Our proposal aims to encourage multi-generational interactions by creating spaces that cater towards all user groups. The bowling green will continue to accommodate the members club while also providing a multifunctional space for others to use; sporting classes and tournaments or large bookable events.

Supporting parents and facilitating their growth is one of our key aims. Cooking classes will act as both a form of learning and helping the community. Nursery children will benefit from a healthy locally sourced cooked breakfast and lunch. The flexible areas within the building will facilitate events such as; book club, yoga classes, technology and CV/ job support with the aim to encourage parents to bring their children to play sports. Children can benefit from many multifunctional spaces these range from a gymnastics class to a kids party or just quiet time.

THE BRIDGE - A COMMUNITY CONNECTION

BRIDGE SECTION

KEY PRECEDENT

PROJECT NAME: Monayo Clubhouse **LOCATION:** Mexico **ARCHITECT:** Iconico Studio

The space within the bridge allows a flexible area that can be utilised by the local community for various activities. Gym equipment is sometimes moved into space for classes or general community use. It also acts as a landmark upon entry to the city and becomes a recognisable form.



The Bridge is a key selling point within the proposal that provides a space for the community to interact with each other and the surrounding landscape through key viewpoints. It allows a unique space within the community that is designed for everyone. It can be used for many purposes or simply be a positive space to inhabit and take a moment.

The bowls green has no boundaries since it is covered with artificial grass. This will make the space robust for general use and require minimal maintenance.



Potential for green/brown roof, evacuated solar heating tubes, underfloor heating and adaptive passive ventilation to combat overheating.

The bridge is a flexible space with little fixed furnishings, to allow the area to be adapted as needed for various activities.

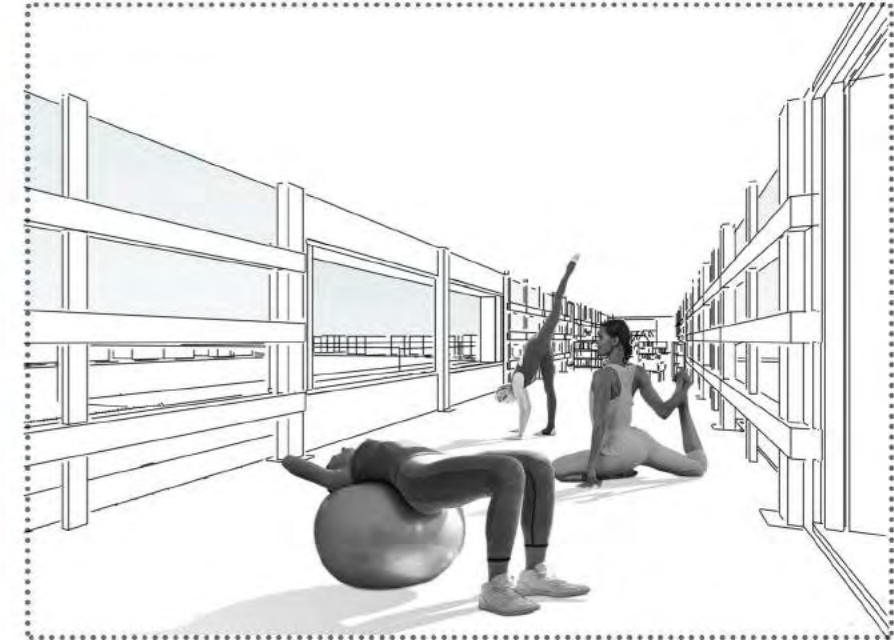
The windows look out over the playing fields so parents can watch their children in all weathers.



THE BRIDGE - A FLEXIBLE SPACE FOR ALL AGES



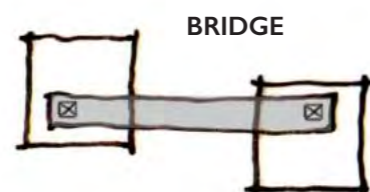
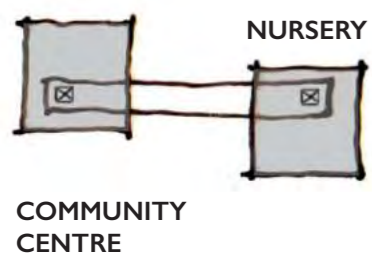
Yoga/ Exercise classes



Library/ Learning Environment



Viewing Platforms for Events



Although the idea of the “bridge” emerged from the procedure of optimizing the site’s circulation and connecting the nursery with the proposed community centre, the variety of activities taking place within the structure and its multifunctional nature, encourages communication and the enrolment of people of all ages.

The deliberate decision of enriching the bridge function has enabled the structure to metaphorically “bridge” the generation gap within the local community. The participation of both the elder and the young people will have the primary focus of organizing activities with an adjustable space to promote the health and wellbeing as well as education of the community.

THE COLLONADE - 24/7 COMMUNITY

The collonade linked to the plaza provides a social gathering space at all times of the day reflecting back on the Roman heritage and materiality of the site.

Raising the building provides a shelter from the weather, added security and covered space for outdoor events.

A tea station and seating has been installed for dog walkers, parents and members of the public who don't want to venture up to the cafe on the first floor.

Security is paramount on site and so the proposed installation of security doors within the arches of the collonade provide a level of security for the building outside of working hours.

PRECEDENT STUDY: THE ROMAN COLOSSEUM
ARCHITECT: VESPASIAN

The Roman arches used to elevate the proposal above the ground, reflect on the heritage of the site with the remains of a Roman Villa which is a key monument for the site.

The elevated building aims to provide a feeling of civic pride and connection to the local heritage.



Open and permeable to encourage interaction



Security doors installed to be used out of working hours



The collonade as a night events space



THE BOWLS GREEN - MULTI-USE SPACE FOR ALL GENERATIONS

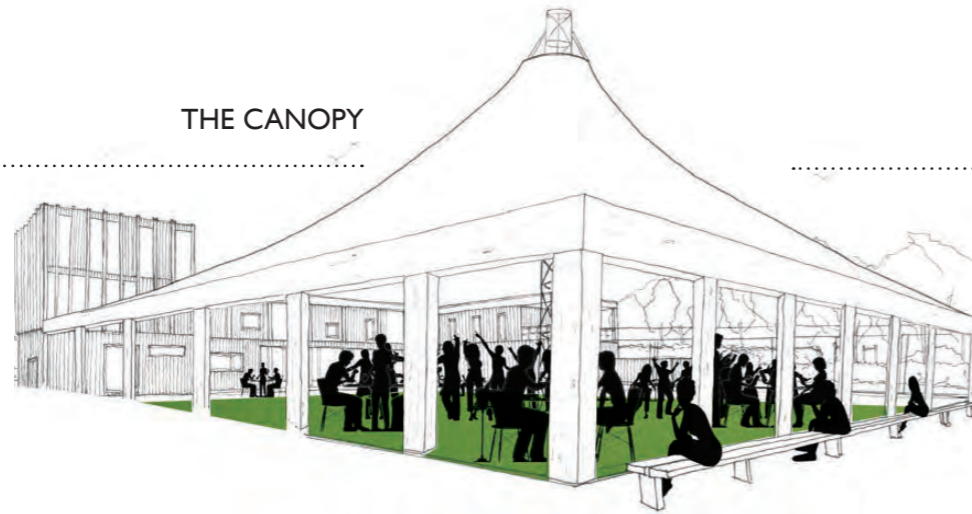


THE BOWLS GREEN - A GREEN FOR ALL

We are proposing an **artificial bowling green** which we believe will **not only serve the bowlers**, but the proposed canopy will also provide a platform which cultivates **community spirit** + generates an **excellent revenue source** to secure a bright future for 'The Bridge @ Trelai'.



THE CANOPY



THE ARTIFICIAL BOWLING GREEN

We recognise that this may require a period of adjustment for the existing users, however we hope the undoubted benefits of the increasingly popular artificial greens will be recognised in time and the existing users will welcome the change.

Key benefits to bowlers:

- Extended season
- Low maintenance costs
- Reduced membership costs
- Drains faster than real grass
- No chemicals required
- Consistent surface

*The increased capital cost is in line with our cost strategy to increase capital cost through funding but reduce runnings costs.

HOW WILL IT WORK?

The green will be hired out at a range of prices, depending on the use. When there is an event; this could be **staffed by a rota of local people** (perhaps looking for employment) who are trained to construct the temporary venue. Erecting the canopy will take between 3 hours to over a day (dependent on the chosen service) to erect and deconstruct. This increases the minimum hire charge for the covered venue option, however, the volume is large and unique which will therefore attract interest. Given that the space is multi-functional; the events can occur **every other weekend only**, during the bowling season so as not to cause disruption. When appropriate, venue hire to be **charged to cover costs only**.

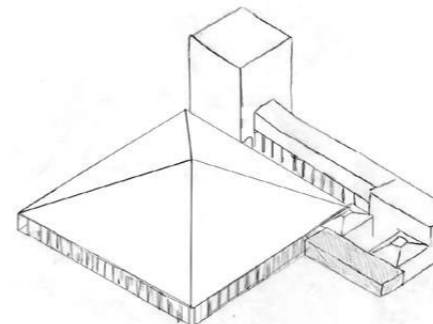
- No Canopy** (e.g. sports day):
 - Hire Charge: £75
 - Expenses: £25
 - Profit: £50
- Canopy Only** (e.g. summer fetes):
 - Hire Charge: £250
 - Expenses (Staff): £150
 - Profit: £100
- Canopy (with walls)** (e.g. fairs):
 - Hire Charge: £350
 - Expenses (Staff): £200
 - Profit: £150
- Canopy with fixtures & fittings** (e.g. Community Christmas Fairs):
 - Hire Charge: £500-600
 - Expenses: £300-400
 - Profit: £200

Private Functions : Rates are low due to the social value of these events for local people. **WEDDINGS & CORPORATE EVENTS WILL BE CHARGED AT 300%**. In addition to this, non-community events are limited to **once a month** during the bowling season and peak months so as not to encroach on community activity.

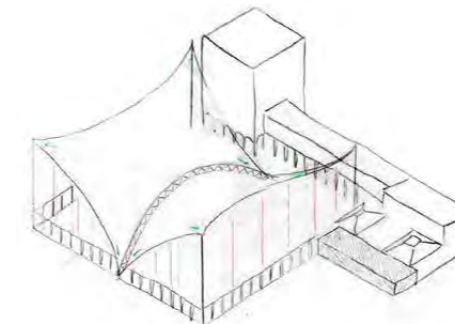
Potential to accommodate a temporary ice-skating rink for the community at Christmas (out of season).



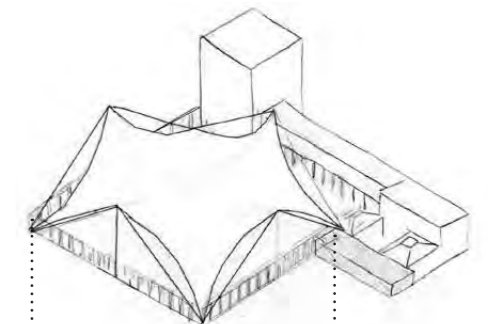
STRUCTURAL EXPLORATIONS



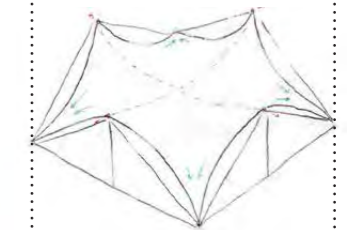
Simple Marquee Option



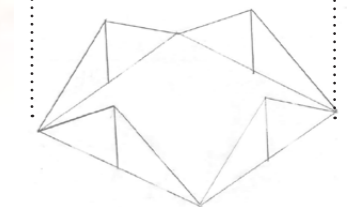
Option with attachable sides for shelter.



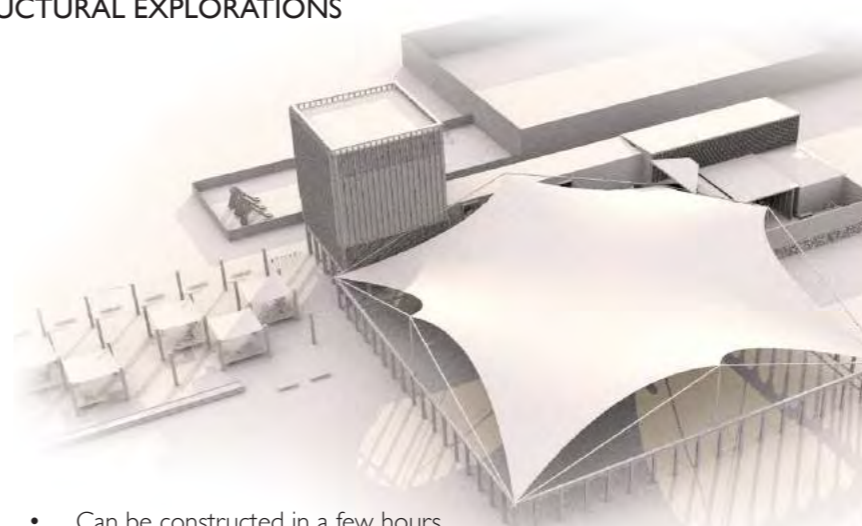
Tension Points at Apices and Corners of Green



Frame construction - reinforced by colonnade



No penetrations to the bowling green surface.



- Can be constructed in a few hours.
- Architectural Aesthetic
- Rain runs off to corners
- PVC can be affixed to colonnade to create an enclosing wall.

TYPICAL ANNUAL USAGE

	J	F	M	A	M	J	J	A	S	O	N	D	
COMMUNITY EVENT		▲	▲	◆	●		●	●			■	■	£1250
WEDDING	★	★	★	★		★	★	★	★	★	★	★	£17600
PRIVATE FUNCTION	★	★			★				★	★	★	★	£11200
FAIRS						■					▲	▲	£450
NURSERY						■							£50
TOTAL REVENUE													£30550

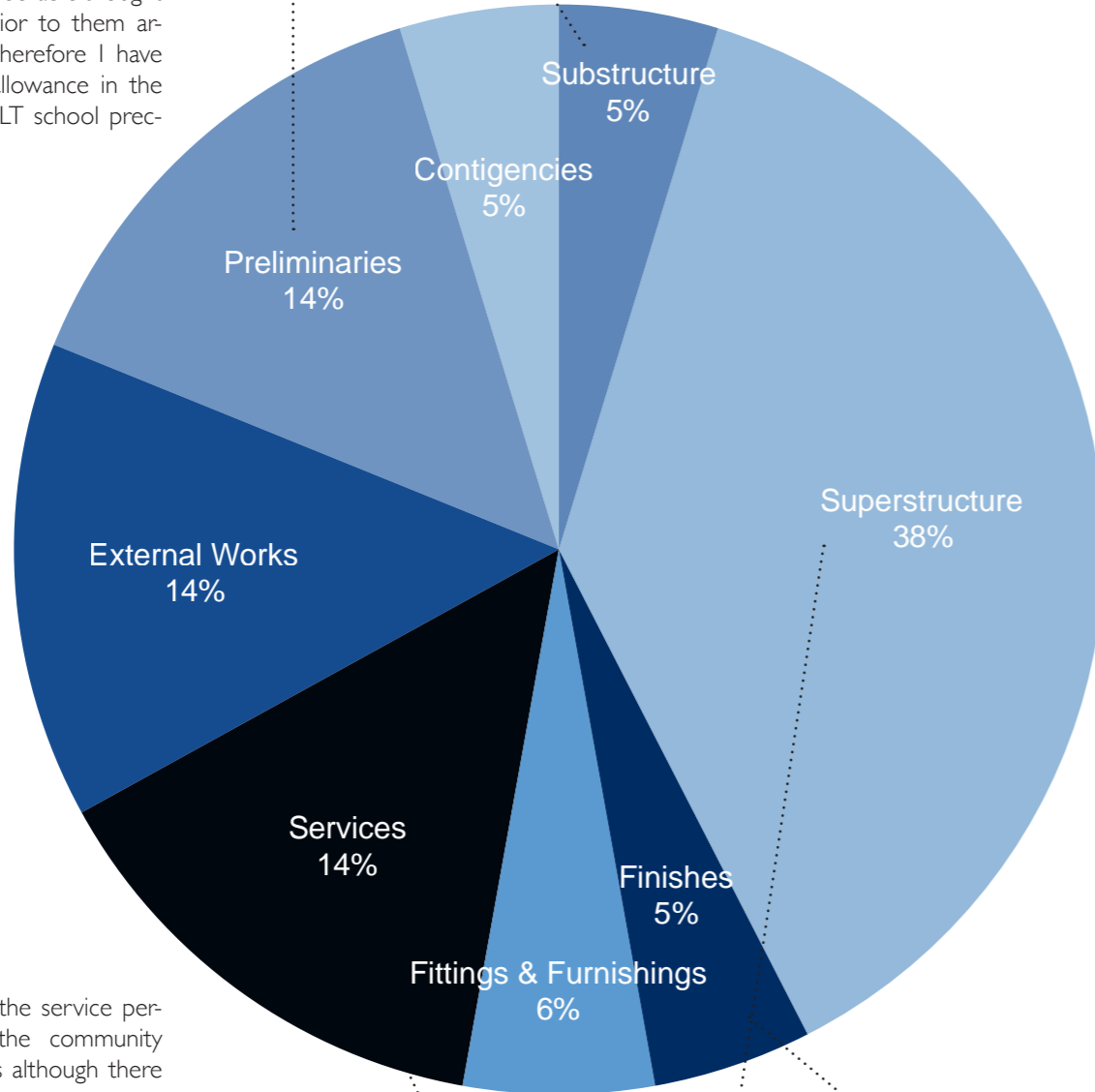


OUR COST MODEL - MATERIAL PRECEDENT ANALYSIS

Although the site is relatively straight forward with regard to topography and access for the construction phase; the CLT's will require considerable thought and planning prior to them arriving on site. Therefore I have used a similar allowance in the budget, as the CLT school precedent (right).

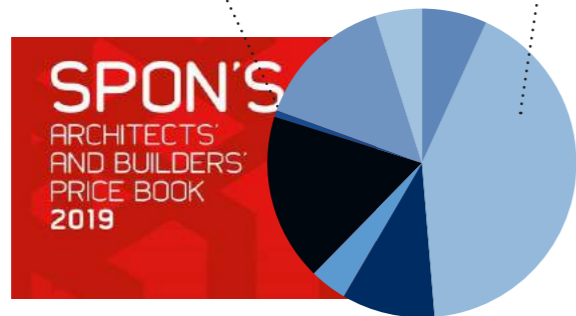


The substructure breakdown has been estimated from the CLT precedent used, since our proposals have a smaller buildings footprint & timber is light compared with other construction materials, so the foundations are shallower.



I have reduced the service percentage from the community centre model as although there will be similar programmes running, 'The Bridge' has been designed to have low running costs.

Although our proposals aren't steel frame (as the Spons example), I have estimated the superstructure to be somewhere inbetween the CLT school and the Spons Community centre, combining a community centre model with the CLT model. The cladding material is inexpensive, since brick and welsh larch cladding will be locally sourced and simple to construct.



We have attributed 5% to finishes, based on Precedent 2 and since CLT doesn't require a finish internally as it provides the desired internal aesthetic unfinished.

Desired interior finish and large openings



Similar Plan



Sheltered outdoor space with solar shading



Large openings, shingles + brick clad CLT.



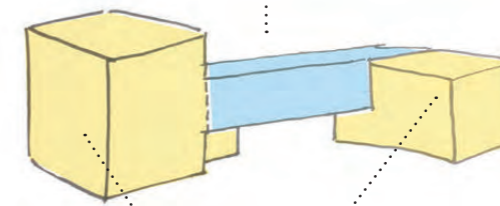
Kingswood School, Bath

£2889 / m² - cost calculated using regional indices and December 2020 forecast. We believe this rate can reduce in our proposals due to the increase in storeys - as the roof and foundations are accounted for already.

TARGET : 2000 £/SQM THE BRIDGE -

Price estimate based upon a simple primary school CLT precedent (right) with playful attributes (heritage windows) and polycarbonate. While the space can be unheated and partially insulated to reduce costs - we propose to include it within the thermal envelope of the building to make it a welcoming and usable space all year round.

FA: 125M²



Playful use of polycarbonate + timber



Obscure openings (heritage windows)



The school uses passive ventilation using brickwork and a ground source heat pump.

TARGET : 2750 £/SQM
THERMALLY INSULATED ENVELOPE -
Price estimate based upon combination of CLT precedents.
IFA: 725m²

ESTIMATED CONSTRUCTION COST =
£2,250,000

This estimate can decrease and increase, depending on further consultation which will determine priorities and funding streams.

ESTIMATED LANDSCAPING /
MASTERPLAN COSTS =
£250,000

With the plans to uncover the heritage assets in the area, promote wellbeing through nature, develop a woodland nursery & outdoor gym, there are various funding avenues we will target to fund these. If delayed, all of the items listed above can be put on hold while awaiting funding.

OVERALL CAPITAL COST OF PROPOSALS =
£2,500,000

Please see 'Our Cost Strategy' to see how we intend to make this capital cost plan possible...



Sandal Magna Primary School, Yorkshire

£2162 / m² - cost calculated using regional indices and December 2020 forecast. We have used this precedent to inform our estimated rate for constructing the bridge due to the similar attributes. It is also a useful precedent for its sustainable technology which we are also incorporating.

↓
LOW RUNNING COSTS

ESTIMATED RUNNING COSTS : £85,000

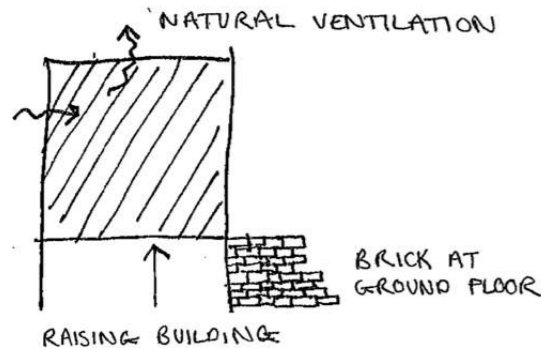


ESTIMATED TOTAL REVENUE: £85,000

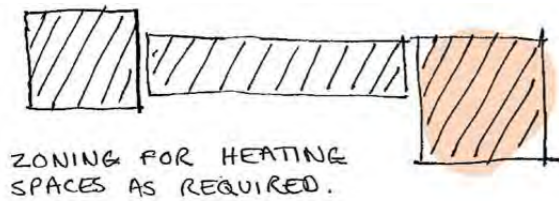
These revenue predictions show a self-funded Community Centre, securing a bright future for the 'The Bridge @ Trelai'.

↑
INCREASED FUNDING

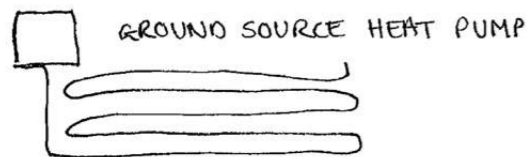
The centre can invest all of the additional annual funding into serving the community and empowering individuals.



We have also raised the building off the ground and selected brick cladding for the ground floor as this material is durable and less vulnerable to vandalism., reducing the maintenance costs.



By creating two zones, the areas can be heated in isolation, dependant on use and scheduling, which limits the wasted cost of heating un-used spaces. The intimate nature of the floorplans also means the rooms are relatively quick to heat (no lofty halls) and so can be heated as required, closer to the time of use.



Although an increased capital cost, the lifespan of the building will ensure this will be covered by the savings in lower running costs. Also, to aid the capital cost we will apply for specific funding relating to their installation, and further to this the government scheme 'Renewable Heat Incentive (RHI)' will contribute to the running costs of the heat pump for 20 years (at a rate of 9.56 pence/kWhour). Aswell as saving on energy bills, they are also have low maintenance costs because they are largely protected underground.

- Life Span:
- Ground Collector: 70 Years
 - Heat Pump: 20 Years



Based upon RICS Average Occupancy Costs for a community centre, I have predicted an annual running cost of: £65,000 Occupancy costs + Staff expenses £20,000 (Cafe/Centre Manager for bookings / information / organising volunteers)

ROOM HIRE + 17,000

- Example Rates:
- £5 - Single Weekly User
 - £15 - Weekly Group Sessions
 - £20-35 - One off Room
 - £75 for Cafe + Kitchen Hire (e.g. Hen do's)
 - £50 - Birthday Parties
 - Free/subsidized rates for charitable organisations (e.g. Mind UK).

Llywodraeth Cymru
Welsh Government

Welsh Government's Community Facilities Programme
Up to +£250,000

COMMUNITY FUND

People & Places - Large Grants
Up to +£500,000

Dechrau'n Deg
Flying Start

Welsh Government's 'Flying Start' Scheme
Up to +£1,000,000.

CARDIFF UNIVERSITY
PRIFYSGOL CAERDYDD

We want organisations interested in providing educational opportunities for local young people to partner with us and provide ongoing support, both financially and physically. **Could fund state of the art meeting rooms**

CARDIFF CITY
BLUES

We hope that support from local clubs would be ongoing and not necessarily financial, but interactive also in providing opportunities to the local sportsmen and women to aim higher.

mind
for better mental health

We would like to partner with 'Mind' who would be able to use the facilities at the Bridge, and who would want the building to be a safe, friendly & uplifting environment. **Could fund integration with natural landscape and/or enhancing the meeting rooms/bridge.**

CAFE + £17,500

We envisage the cafe being very busy with the various users which will generate reliable revenue, however the prices will be moderate as the primary purpose is to have a social impact and serve the parents of the children in sports training and the bowlers, as well as other users. The cafe will use volunteers to keep prices affordable and but keep it an important revenue source.

NURSERY + 15,000

(£300 a week)

To fund the large nursery with an added baby room (a direct response to the community engagement process which highlighted the need for more childcare provision within the community), we would apply for funding from the Welsh governments 'Flying Start' scheme (who already use the site) who fund similar projects.

BOWLING GREEN + £5,000

We believe the revenue the Bowling Green generates will increase due to the introduction of artifical grass:

- Reduced maintenance costs.
- Length of season extended since not weather dependant.
- The new surface (along with the centre) will raise the profile of the sport in the local area, attracting new vistors.

FLEXIBLE EVENT SPACE +£30,000

Please refer to Bowling Green Page for further details of this vital revenue stream...

HERITAGE FUND

Up to +£500,000



The lottery heritage fund would see value for money in engagement with the historical context of the site which is a key move in the proposals. **Could fund heritage trail and interventions within the building.**

HERITAGE TRAILS →

ALLOTMENTS →

National Garden Scheme could fund work to the allotments.



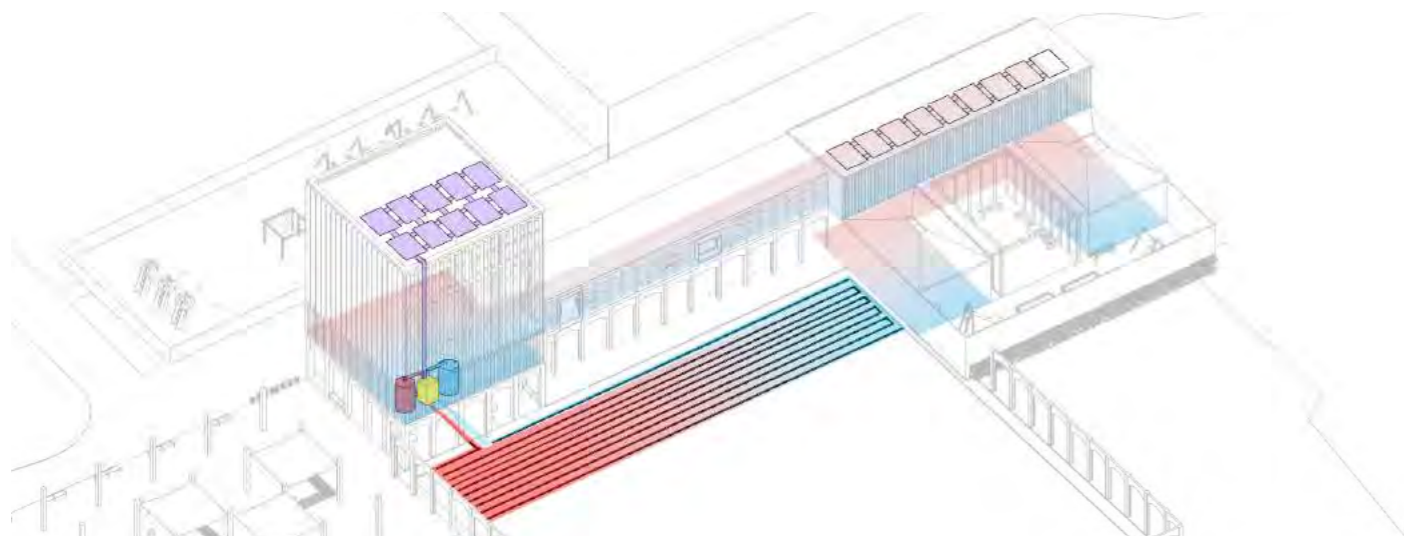
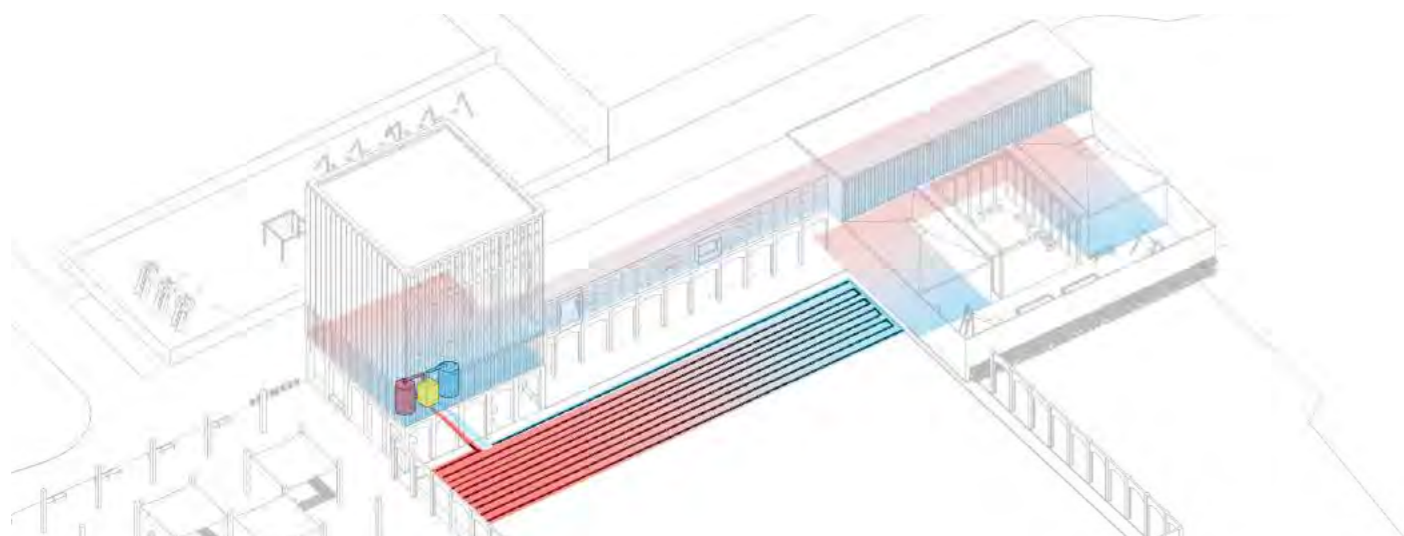
OUTDOOR GYM

SportWales
chwaraeoncymsu

SportWales could fund the outdoor gym.

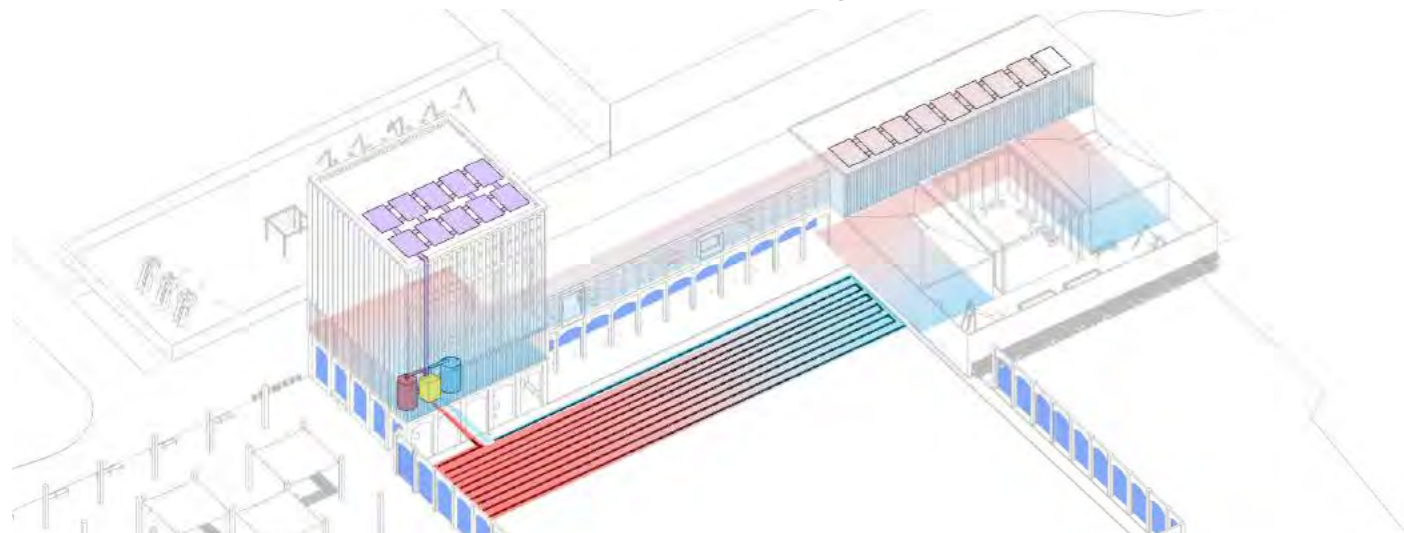
THE LONG TERM - POTENTIAL FUTURE DEVELOPMENT OF PORPOSAL

POTENTIAL FUTURE UPGRADES



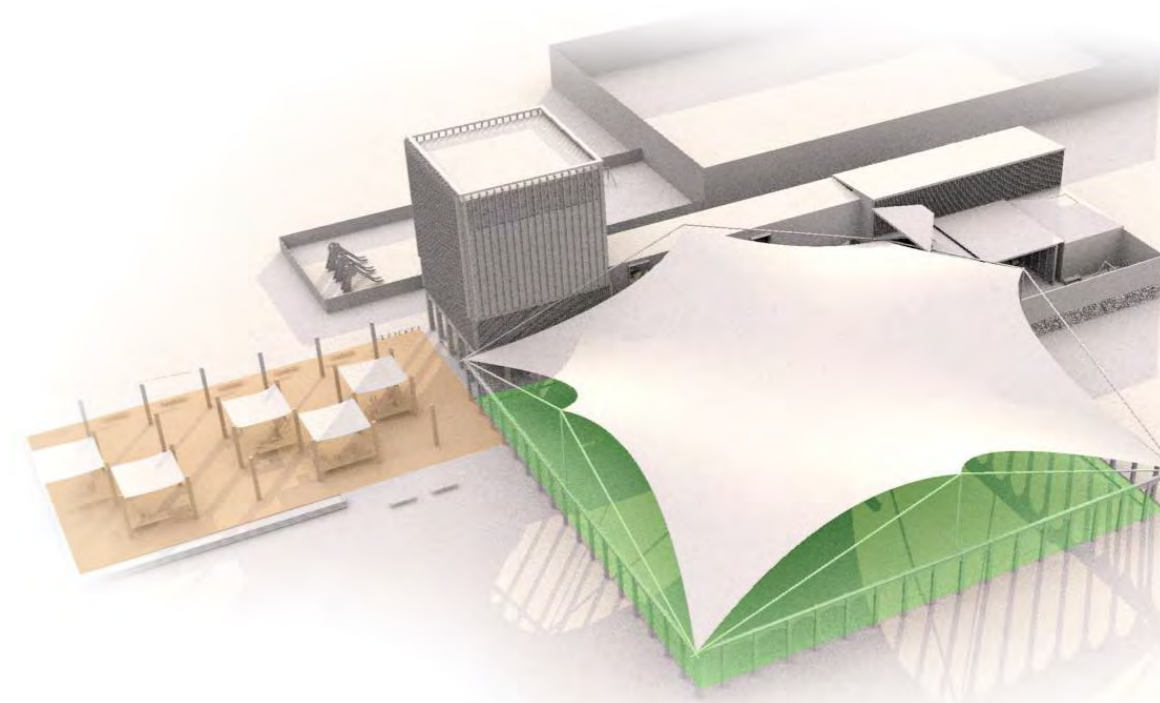
The heat pump system run on solar an energy on a later date when funds are availavle for PVs.

The future PVs and batteries will possibly be sufficient enough to provide energy for the building so that it does not depend on the grid.

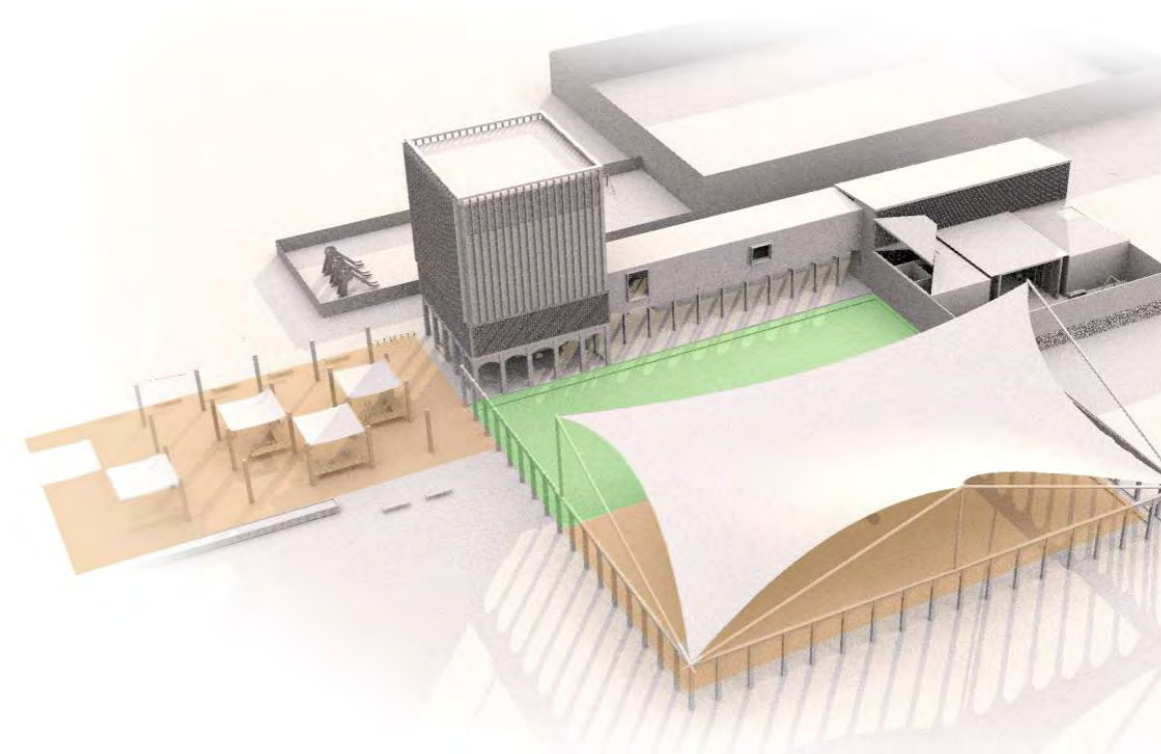


Security is one of the main problems of the site. The colonade allows for security screens to be installed if needed and when funding is available.

BOWLS GREEN



- Public space used for events
- Bowling green



The current proposal utilises the use of the bowling green for public events by providing shelter under a temporary canopy. However, in case the area proves to be inefficiently used or if there is a need for more permanent shelter due to an extensive use, the bowling green field could be split into two - permanent bowling green field used only for games and canopy providing shelter for public events.

ROOTED ARCHITECTURE - PROJECT TEAM

PROJECT MANAGER: CHRIS KNOX

ARCHITECT: JANET WONG

ARCHITECT: ELEONORA CONSTANTINOU

COST MANAGER: RHIANNON THOMAS

COMMUNITY: PAULINA KONOPACKA

STRUCTURE: ALEX HARGREAVES

ENVIRONMENT: NADYA ANGELOVA

URBAN DESIGNER: MATTHEW STUBBS

LANDSCAPE & HERITAGE: HANNAH CUMMINGS

