‘Our House’ I ‘Ein Tŷ Ni’

“Empowering a culture to go beyond building a building”

About Us

Our objective is to connect communities with new opportunities – opening doors and providing foundations for the natural formation of social systems. We aim to not change but provide foundations and opening doors to allow for gentle interaction - encouraging the formation of ‘community’ .We promote direct involvement and collective action in developing an architecture that is socially responsive and inclusive.

We strive for:

Our Aims

1. Co-production to instil social value and self-worth into the people and the communities of the places we work
2. Common governance in developing a model where communities can be assisted in taking ownership of public ground and controlling assets, investment and expenditure, establishing long establishing relationships that build upon a common goal and trust enabling co-authorship
3. Social regeneration to eradicate negative pre-conception, stigmatisation and transform perception in places of need.

Project Team

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Content

1.0 Project Introduction

This document is a develop design proposal for 'Our House' - A new community-generated building co-produced by the people of Caerau and Ely

1.1 Site & Context Statement

The location for this project is Trelai park, A suburban parkland situated West of Cardiff city centre. The specific site sits on a small plot on the northern edge of the park. The site is accessed primarily by foot however a gated vehicle entrance is located from Colin Way and a secondary access route is available via the side of Caerau and Ely ABC.

The site is relatively flat and largely enclosed with perimeter vegetation including thick hedgerows. An existing gate protects the primary user entrance. The site is currently occupied by the local bowls club and a small community nursery – the needs of both will be incorporated into the vision and proposal. Additional outbuildings are also located within the site boundary which are used for storage by both users.

The green space within the site boundary is well preserved however, much of the context to the North East and East is overgrown grassland with little use. Residential dwellings lie within 200m to the North East and there are no roadways running through or adjacent to the site.

1.2 The client

The client on paper is the Caerau and Ely Sports Trust which is made up of 6 community members made up of entrepreneurs, councillors and everyday citizens yet we argue this. We believe the client is the people of Caerau and Ely not just the chosen six, rather the thousands that live in the suburb. We believe architecture is a discipline of social purpose and through engaging with the social context, we believe we can co-produce a proposal rich in social value that empowers a culture that goes beyond building a building.

1.3 The Business plan

The proposal includes a community café and kitchen which will generate income for the proposal alongside the revenue generated from venue hire for public and private events and a percentage of the nursery's income. It is likely to run as a three-point business on the site that will employ local people with the aim of becoming self-sustainable within years.

- Community café – This is a place for the local community to visit for eating or even for a coffee break on a dog walk. It's a space for socialising and gathering where the young and the old can dine side-by-side. Produce grown in the local allotments (500m north-east) will be used within the kitchen which will also be the setting for small cookery schools for teenagers and young adults. Events in this space include book clubs, OAP lunches, coffee mornings and sports events dining.

- Venue hire / Main Hall hire – A space which can be hired by the local community which will host a range of events. Some of which include – Mother & toddlers' groups, Exercise classes for the elderly, and sports events at the weekends. Income will be generated by venue hire such as children's parties, charitable and public events. The space has the ability to be subdivided meaning that different events can occur side-by-side

- Nursery – A new home for the existing site occupants – the nursery space will be accompanied by a nursery garden. The nursery will home up to 32 toddlers and 8 babies at any one time alongside 10-12 staff. It aims to provide a safe place for young or disadvantaged parents to have childcare whilst they embark on developing a career in any given field. Opening hours will respond to general working hours whilst the nursery will open late on Thursdays allowing for parents to work late which in turn will open potential free time for parent and children on Fridays. After all happy parents equals happy children!

1.4 Scale & Character

The Existing site still has a degree of social value however our proposal and vision aim to add to this. Having recently re-opened, the bowling green will be retained with the building acting as a 'sports pavilion' during it's use. There is little immediate vernacular to informthe building in terms of materials and form therefore the wider regional context has been the key influence on the building's material and tectonic language. Many welsh buildings are modest in appearance and form yet rich in life internally. Accommodation within the facility supports ancillary uses relating to commercial use, external amenities alongside small intimate spaces for discussion, advice and support.

1.5 Materials

The materials used aim to be sympathetic to the local vernacular and aim to tie the building into the landscape rather than stand out. A simple pallet of timber siding and a plinth like stone base aim to reflect the local vernacular with a zinc roofing system providing a practical solution to the climatic conditions of the site. More information is provided throughout the document

1.6 Access and Movement

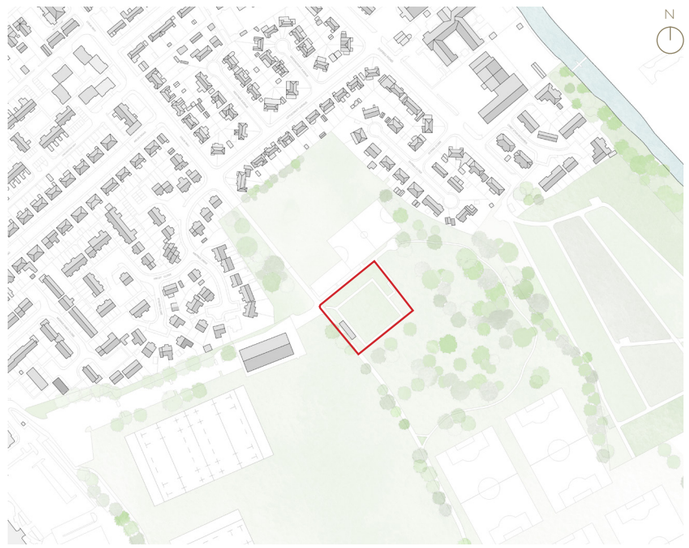
Local and civic amenities are located within 1 mile of the proposal and can be accesses on foot, car or local bus routes. The nearby settlement is truly suburban and lies within 3 miles of Cardiff city centre.

1.7 Community safety

- The proposal is located within a relatively deprived suburb ranked within the top 15% of deprived wards in Wales. (302/1909) (WIMD – Welsh Index Multiple Deprivation)
- Unemployment within Caerau & Ely is ranked within the highest 7% of ward in Wales
- Income rates show the area falls with the 'most deprived' category of the WIMD. Specific wards within Ely & Caerau rank 2nd & 5th /1909 electoral wards in Wales which highlights the level of deprivation within the area
- Overall deprivation ranks the area in the top 10% of deprived areas and wards in the country further

1.8 Environmental sustainability

This will be a low energy development which considers site orientation, solar gain, overheating and summer cooling as well as protection from the prevailing wind in the form of extensive eaves. The development will be heated using a ground source heat pump alongside a water recycling system. The low energy construction will reduce overall heat demands, reducing emissions in creating a self-sustaining running system.



Site Plan : Drawing not to scale

2.0 Vision & Concept : ‘A Story of Now and Then’

This Chapter will discuss the origins of our concept, the vision for ‘Our House’ and the key aims behind the proposal.

2.1 An Introduction to The Story

The origins of community in Wales can be traced back to the discovery of ‘black gold’ - anthracite - or as its commonly known coal. The invention of coal powered engineering transformed the welsh landscape where lush green fields were transformmed into deep, black pits. The mines provided the foundation for infastructure, street life and community in the cities, towns and villages but more importantly generated economic and social value.

In generating social value. the doors of Welsh households opened and were left open for all. It created a scene where everyone knew everyone and the streets were happy and vibrant places. Yet the dream would inevitably end during the early 1980’s where a final gast of action to save the coalfields would fail and the death of an industry that was once the biggest single employer in Wales was confirmed. Consequently street life declined -w peoples doors closed and the community spirit that built towns and villages was lost, leaving the country in a state of depression which is it still yet to recover from. This collage aims to show the origins of community in wales, from its origins to its decline.

Industrial Growth & The Foundation for Social Life

‘The Open Door’ and The Birth of Streets Full of Life

Industrial Decline, The Closing of Doors and The Demise of Street Life

A Story of Now and Then: The Story of community in Wales

2.0 Vision & Concept

2.2 A House For All

Through focusing on the needs of people within the Ely and Caerau community,We aim to collaboratively co- produce a place for all – ‘Our House’ - A health and well-being centre which offers comfort, support and opportunity for those in need and a platform for voices to be heard. The proposal also aims to provide spaces for gathering and celebration. We believe this can begin to instill self worth into the social context and recognise the achievements of individuals and the local community in creating a place of immense social value.

We believe that phasing the project will reduce the strain on funding whilst simultaneously allowing for the collaborative assembly of a building rich in social value - built for the people by the people. Through co-producing the building with many different age groups from the local community, we can diversify participation in our attempt to instill community value into the building.

Our House will be a tool for learning and educating both the young and old and common governance will allow the community to take ownership of the spaces. The idea of common governance can also allow for specific communal needs to be met - serving the needs of the community, building new and existing relationships whilst sustain social value and self-worth in tackling social isolation.

Spaces that are warm, inviting and have a degree of domesticity

Spaces for everyday life and day-to-day activity

Spaces for celebration and gathering

Providing spaces for the best start in life

Spaces for support and one-to-one discussion

Developing a conceptual understanding of space

2.3 Key Spaces

The Nest / Y Nyth - Community Hall

The nest aims to be the heart of the building and the heart of the community where voices can be heard and celebrations of local achievements take place. A highly flexible space which can serve the needs of the young, old and vulnerable; this would be the first phase of the project. A space to build social value and a testing ground for the programmes we aim to introduce in tackling social challenges.

Cuddle Cupboard / Cwtch / Private Spaces For Discussion

A cwtch is an intimate space unique to the welsh vernacular. We aspire to design such spaces to discuss the challenges that people are facing - inspired by the solid stone and earth filled walls of the welsh vernacular. Utilising the welsh langauage in crafting a sense of place and identity - rooting the proposal in context.

Community Cafe

The community cafe is a space for gathering and social integration, where the young and the old can socialise side by side. A space of domestic function, modesty and warmth, creating a ground to build and sustain social relationships

3.0 Community Engagement

3.1 Developing a Programme

The vision and concept for Our House derives from our community engagement and much of the feedback has been articulated and introduced into the programe.

From speaking to the local community, it was clear that the building needed to be welcoming to all and be a permanent space for the community, which promoted informal gathering and interation. Therefore we have focused on the idea of bringing together the existing community activities and groups in the area, providing space and support for the whole community. This created the 'nest' idea, a multifunctional space sitting in the heart of existing activity where people can come together.

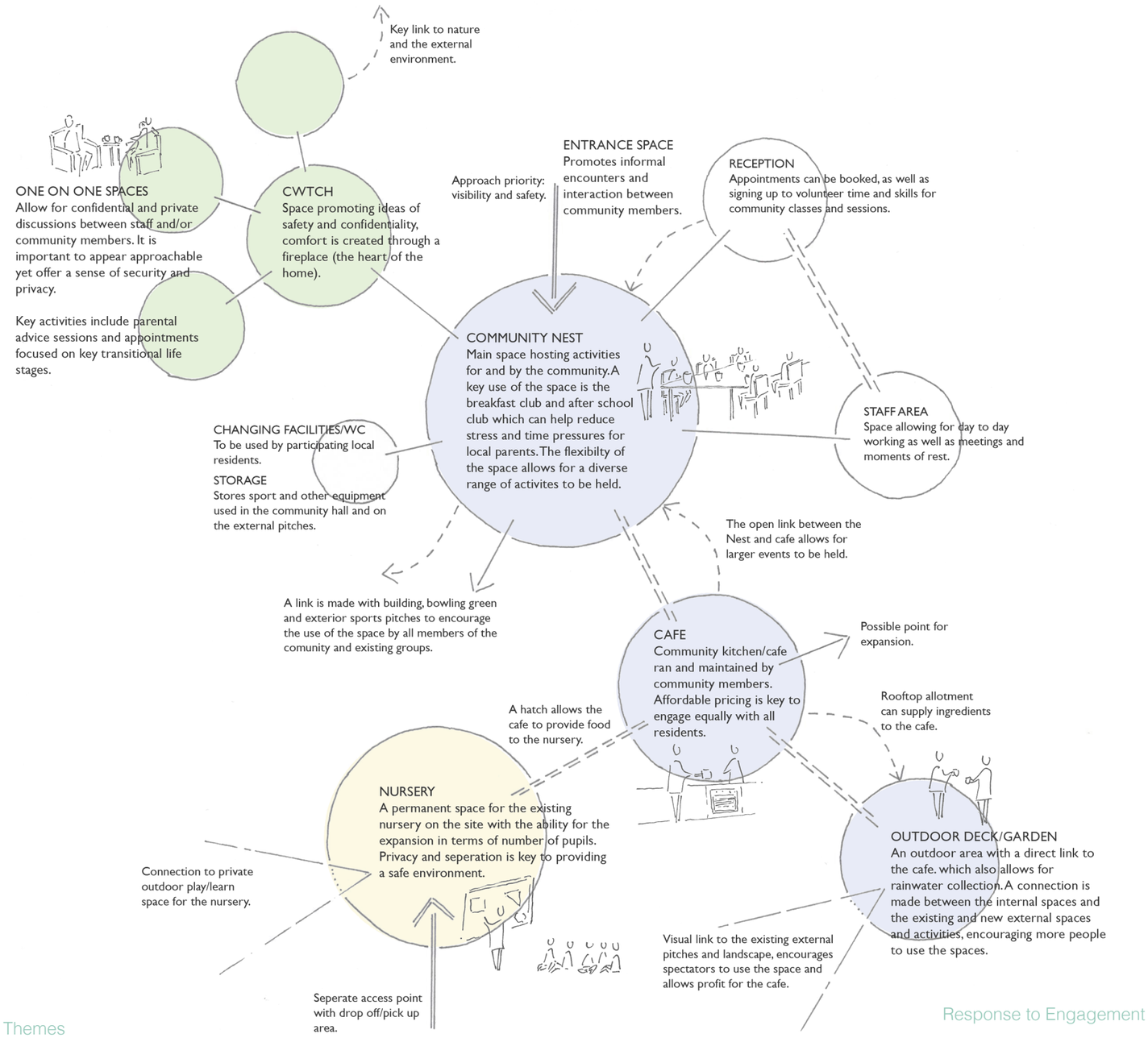
'A place for a cup of tea' - Peter Bradbury, Caerau Councillour

The scheme focuses on a community led programme, it aims to add social value through meeting the needs of local people. It is key to create an environment where individuals can grow up within, contribute to and gain from the wider community, through a collaborative and grassroots approach. The multigenerational community means that those that once learnt from the system can now volunteer time and skills to help and teach other members of the community.

Key spaces differ in size due to activity, with the nest providing a more open space for bigger groups of the community, then the cwtch providing more secure and private moments for more individual needs.

The programme has been arranged to prioritise the flexibility of spaces and to create a space that can develop over time as the community does. The function of spaces can change throughout the day with a focus on the use of different spaces by different groups of people at the same time, therefore providing a family support system.

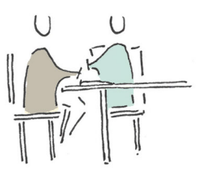
To encourage people to volunteer their time and skills, a reward system will be put in place where if an individual is to volunteer a certain amount of times, a free class pass is recieved to use for one of the paid activities. Incentives such as this help to promote the vision for a self-sustainable buisness programme.



Key Themes

Response to Engagement

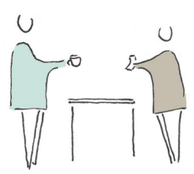
Volunteering time and skills



Family support

Multigenerational Interaction

Infant engagement



Communal responsibility

3.0 Community Engagement

3.2 Schedule of Accomodation

Key activities have been proposed on the timetable to provide an idea of what a week could look like, as time goes on the programme will develop based on emerging community needs. Activities can occur in the Community Nest and Café.

The flexibility of the programme and building allows for full time working parents to fit around busy schedules, as multiple members of the same family can be engaged in community activities at the same time.

The programme is influenced by the support currently available in the area such as the work done by ACE within The Dusty Forge, Our House provides further support along with more relaxed and informal encounters. The programme is focused around the real needs identified within the community, such as social isolation, and aims to promote co-authorship and community responsibility. The timetable targets all members of the community and works with a variety of existing community groups and charities.

The 'nest' space is large enough to hold events for 300 people, with the required m^2 per person being 0.5 for an assembly hall. The large and open plan design of the main spaces allows for flexibility over time and caters for a diverse range of occupancy levels, from small social gatherings to post game sports club events.

Schedule Of Accomodation

Ground	Community Nest/Hall	149m^2	
	Cafe	57m^2	
	Kitchen	33m^2	
	Nursery	117m^2	
	Staff Room	24m^2	
	Plant Room and Storage	25m^2	
	Changing/Showers and WC's	26m^2	
			431m^2
First	Cwtch	19m^2	
	Private Rooms	13m^2	
	Cafe	57m^2	
	Circulation	40m^2	
			129m^2
	Total Area		560m^2

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
07:00							
08:00	Breakfast club	Breakfast club	Breakfast club	Breakfast club	Breakfast club		
09:00							
10:00	Coffee morning	Infant Reading Group	Welsh Language Course	Social Bowls Group	Coffee morning		
11:00			Parent and Toddler Lunch Group				
12:00	Gardening Group	Parent and baby group		Book Club	CV drop-in sessions		
13:00							Open to sport spectators
14:00	'Hookers & Clickers'	Craft and Chat	Social Bowls Group	Afternoon tea	Walk and Talk Group		
15:00	After school club Parent support drop in	Homework club 'Gingerbread' Group	After school club Parent support drop in	After school club Parent support drop in	After school club Parent support drop in		
16:00							
17:00				Late evening after school club			
18:00	Youth Welsh Language	Youth cooking	Walk and Talk Group		Walk and Talk Group		
19:00				'Our House' Community Meeting			
20:00		Parent cooking	Parent group				
21:00	Venue Hire				Venue Hire	Open to sport spectators/ Sports club event	Venue Hire (Sports events/childrens parties)

A scheduled Tiimetable

Charity Involvement:

- A regular Hookers & Clickers Group will be run in the nest. As a charity their aim is to connect like-minded people by knitting and crocheting for various charities which change regularly based on short term, specific need projects around the UK.

- Gingerbread are a charity supporting single parent families. A Gingerbread Group will be created to provide a space to meet other single parents that understand, it is an informal space for advice and conversation.

Young Children

Children are supported by socially engaging them within a community.

Teenagers

The aim around teenagers is to push for more drive and ambition linked to their futures.

Parents

Parental support and group sessions are run to create a community of parents dealing with similar issues.

Elderly

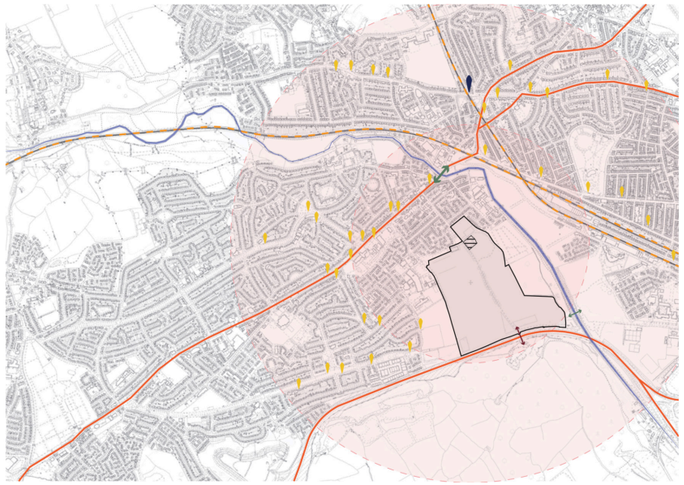
The elderly are the most socially isolated members of the community, the aim is to engage them and give them a sense of responsibility.

4.0 Masterplan & Urban Design

4.1 Site Analysis

- Train tracks
- Busy roads
- Bus stops
- Train stations

Existing transport network



- Schools
- Care homes
- Community centres
- Leisure & Sports centres

Existing potential networks

- Schools
- Heritage sites
- Care homes
- Community centres
- Green areas
- Leisure & Sports centres

Connection between the existing networks

4.2 Lessons from the Site Analysis

1. Existing transport network: studying the transport network allowed us to notice the necessity for more direct connections to the rest of the city (bus, trains, cycling paths).

1. Existing potential network: this land use map of the relevant lo- cations shows how the community has already started addressing the needs of inhabitants with leisure & sports centres, care homes or even community centres. From speaking with them, this is still not sufficient.

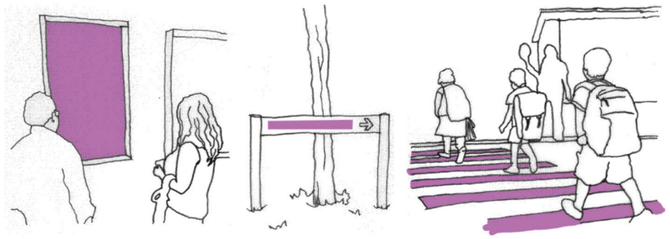
1. Connection between the existing networks: from both previous mappings, we understood the opportunity of improving the transport network by linking the existing interesting facilities. This will allow them to act almost as supporting locations while or site becomes the catalyst of community life - their “House”. By improving these main arteries, this effect will radiate to the rest of the surroundings therefore decreasing existing vandalism and antisocial behaviours.

1. 4.3 The Site as a Catalyst

1. Our site represent a wonderful opportunity as not only does it sit in a central position compared to the identified potential networks, but it also acts as a gateway toward nature. Indeed, the transition between City - River - Forest is a strong asset which is reflected in the material also choosen for our building. (See the landscape section to see how the nursery garden aims to highlight elements of river and forest)
2. By studying this unique location, we understood the connection to both River and Forest was almost inexistant. The connection to the city, although being more obvious, would benefit from being reinforced.
3. By taking into account all the possible improvments, the sites position is advantageous as it would be very well connected to the city, with less then 5 minutes walk from 6 different bus stations, while offering magical views towards a natural environment.

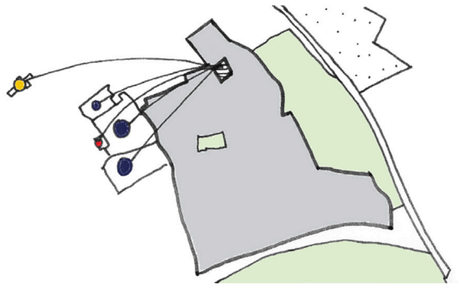
4.0 Masterplan & Urban Design

4.4 Vision Statement - Connecting spaces



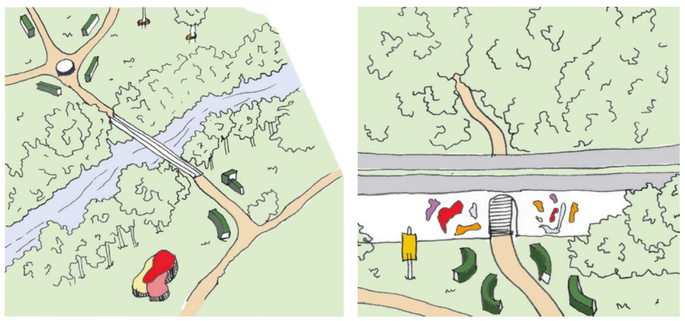
1. Branding Caerau and Ely's identity visually

Giving its rich history, heritage and values, the branding of Caerau and Ely looks at ways to communicate it to a less informed audience. This could take a graphical form (posters, leaflets, signs...) or an architectural one (future buildings, urban furniture...).



2. Connecting its existing networks and resources

Caerau and Ely posses a wide range of resources and amenities which would benefit from being more interactive and connected. Following the initial idea of branding, a strong design language present throughout the neighbourhood would offer opportunities for discussions, appreciation and improvement.



3. Improving the connectivity

Our site is located at the ideal intersection of the river, the forest and the city. It however has a very poor connection between the three and would benefit from a better connectivity.

4.5 Diagrammatical Masterplan

With these three simple points, the community can easily create initiatives to channel its existing resources and create a network between people, businesses and nature. This will reinforce its heritage, identity and create a sense of pride in each inhabitant. This could mean sponsorship from a local business to improve the street it is on or to create workshops at Our House involving a larger group of the community.

The vision statement and previous studies are reflected in this diagrammatical Masterplan.

- Existing Allotments & Forest
- Heritage sites
- Site
- Schools
- Leisure
- Community Centres
- Care Homes
- Urban Interventions
- Parkings
- Future trail with graffiti wall
- Connections to River/Forest
- Bus Stops
- Train Station
- Green Loop

Connecting Our House to the wider community

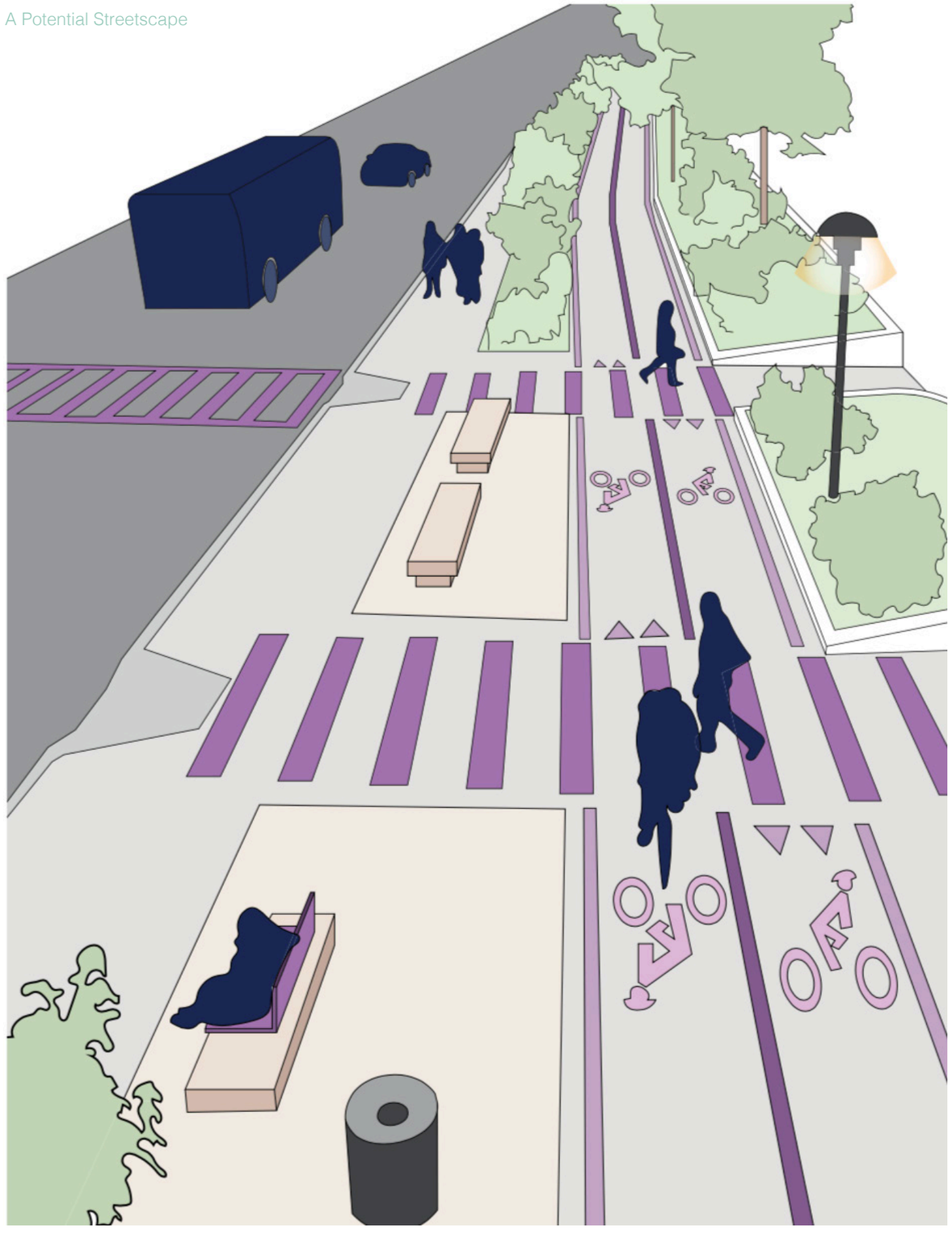
4.0 Masterplan & Urban Design

4.6 Potential Improvment:
An Example: Cowbridge Road

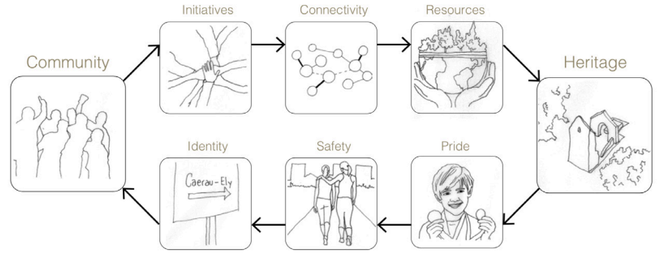
Located at 5 minutes walk from the site, Cowbridge Road is the perfect example for a typical scenario in Ely and Caerau. The street intially does not reflect the community's identity and is not recognizable. Moreover, it puts the car at the centre of the city while on the right drawing, the pedestrian is the priority.

On the drawing, there is a clear hierarchy between vehicular circulation, pedestrian and cycling. By using the branding strategy, it improves wayfinding and creates a more vibrant, safe environment, bringing more pride to the people.

A Potential Streetscape



4.7 Phases in which the Masterplan could be developed with the community's involvment



Phase 0

- Gathering information from the community (what are the vaues of Caerau and Ely? how do you think this should be shown around the neighbourhood?)
- Creating a strong graphical identity (colour palettes, style, typography...)
- Planning a strategy and targets to promote Ely and Caerau

Phase 1

- Beginning of distribution of leaflets to promote and attract people to Ely and Caerau
- Posters put up in University and other areas

Phase 2

- Creating a strong graphical Determining the functions of different areas with colours around the site

Phase 3

- Beginning to connect networks with urban furniture and special well-being spaces to increase interactions and safety within the community

Phase 4

- While the existing allotments are being connected with urban furniture and active paths, the community can begin educating each other on how to start growing vegetables at home (strong presence of underutilised green areas in houses)

Phase 5

- Utilising the newly built wall next to the Ely River for graffiti and other art expression to strenghten the branding of the area

Phase 6

- Reinforcing the connection between the site, the forest, the river and the city
- Connecting all the existing networks fully, resulting in a radiating effect (safe neighbourhood and increasing interactions improving the overall wellbeing of the community)

5.0 Developing a Proposal

5.1 Response To Site & Developing Conditions

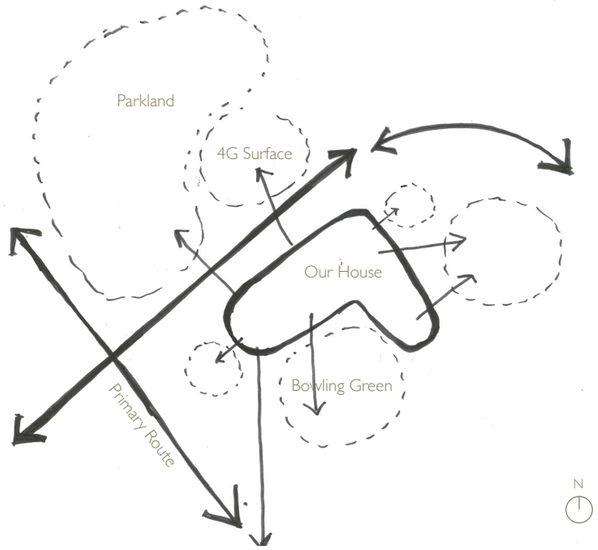
Key Observations of site and client comments

- All routes will be walkable and cyclable. Local schools, shops and a supermarket are within walking distance of the site.
- Inclusive design is high on the agenda, and constant natural surveillance is encouraged.
- Large outdoor spaces provide ample opportunities for sporting clubs and fresh air.
- The trees and vegetation surrounding the site provide privacy, there are strong potential views across the park which we aim to enhance from the first floor of Our House.
- There are north light opportunities for comfortable daylight while the south is shaded by trees. The northern light brings opportunity for lighting however southern shade provides heating difficulties fom a solar gain perspective
- There is an existing bowling green on the site and boxing club next door with potential for connectivity.
- The on-site nursery wishes to have connections to the allotments and an inviting ourdoor space for children to play.
- Further observaions highlight the difficulty in construction. The nursery still needs on-site temporary accomodation whilst construction is undertaken

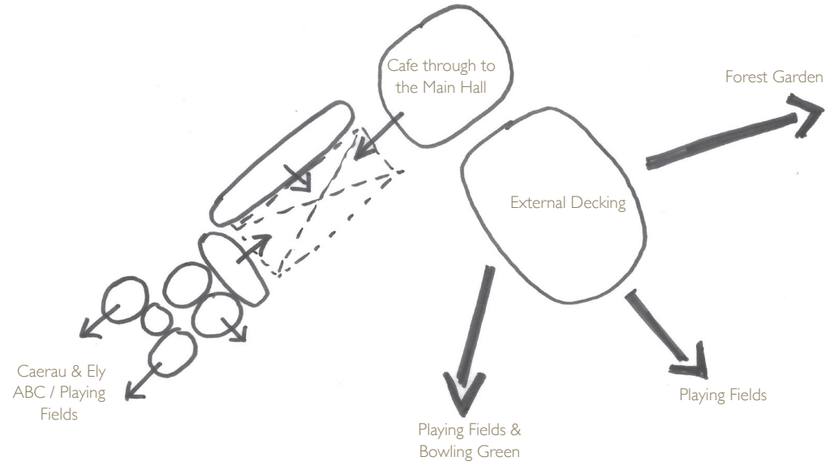
5.2 Response To Observations

- Create a destination which has an inviting public realm and includes flexible indoor and outdoor spaces for community events
- Creating a building which is simple in construction which can be phased to reduce up-front costs
- Create a building that enhances key views - through lifting
- the eyeline above ground level. Surveillance of the parkland is preferable
- Co-producing a building that meets the needs of the diverse client groups, which include the on-site nursery, various sports clubs and community groups
- Creating spaces which are filled with daylight
- External spaces which are highly lit at night to reduce vandalism and anti-social behaviour

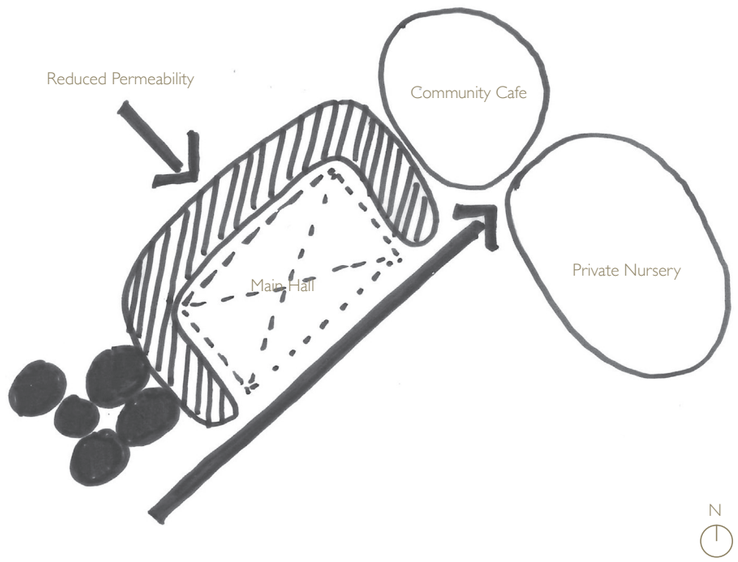
Key Routes and Relationships



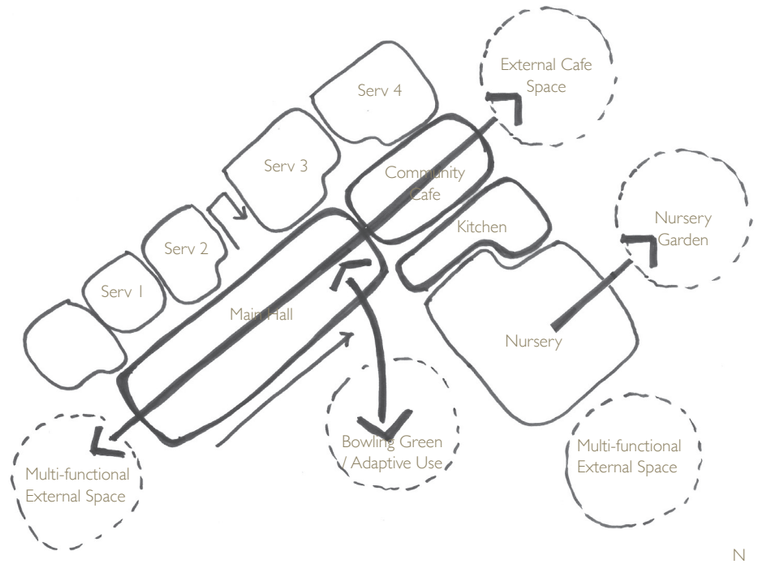
Key Views



Servicing Key Spaces



Relationships between inside and outside



5.0 Developing a Proposal

5.3 Creating Social Moments - A Place for People

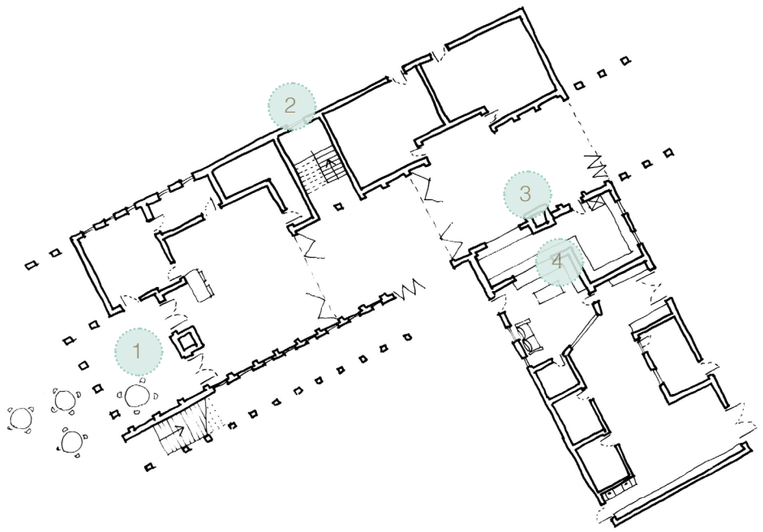
Social architecture is the conscious design of an environment or space that encourages a desired range of social behaviours leading towards a goal. Architecture can influence social behaviour and moments can be created to enhance and inform these behaviours and interactions.

Research from the site analysis and observation of behaviour in Ely correspond with literature from architectural theory. Gordon Cullen speaks of how all activities within urban life have valuable contributions towards the visual scene. He further explains that the the “human being needs anchorage” and Our House can be percieved as a community anchor - providing the community with a platform for growth and equal opportunities for all. The mixed generational site usage invites several social groups from a number of different backgrounds. The building welcomes these groups through different routes and pathways.

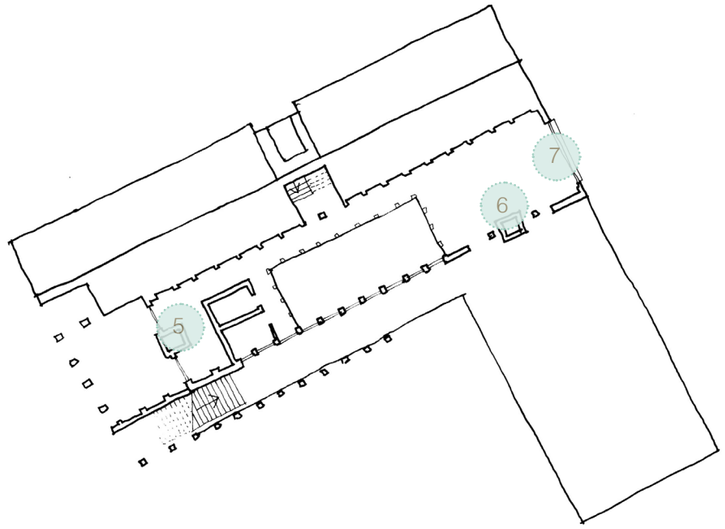
The element of street and public safety highlights the importance of an anchoring building that provides security and pride for those within the space. The external staircase and street act as ‘accidental meeting zones’ which form informal social gathering spaces that are naturally monitored. Within the building, varying social interactions are encouraged in different zones on the building and the idea of ‘accidental meeting zones’ also aim to be created internally.

5.4 Key Ideas

- A Flexible hall space which can facilitate the needs of the target user
- A comunity cafe which is welcoming and comforting
- Creating a secure place for all members of the community
- Inside-Outside Spaces.
- A building with a domestic scale
- Providing a support platform for single parents with young children
- A Sensory experience for the Nursery children
- A scheme which embraces the needs of the community .
- Quality of materials.
- Exterior spaces where large communal events can take place

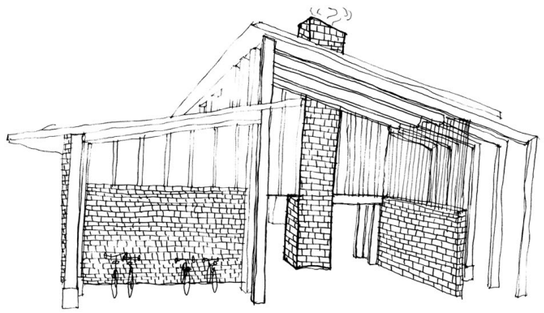


Sketch Ground Floor Plan

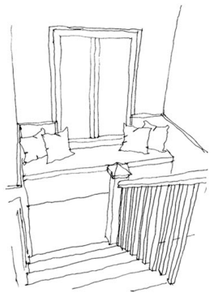


Sketch First Floor Plan

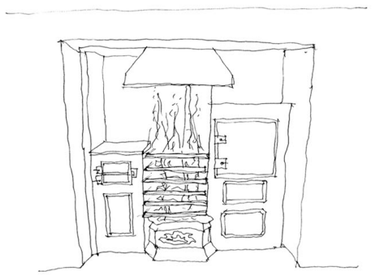
1.A Welcoming Entrance



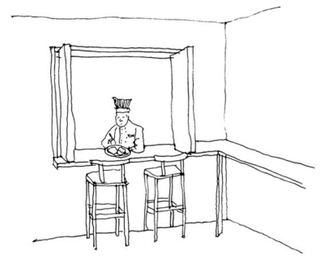
2.Crossing Points



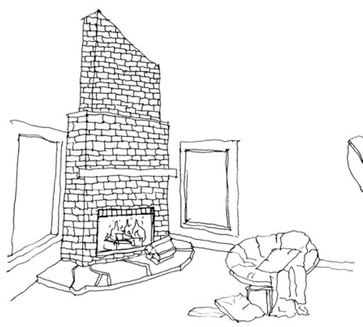
3.Warmth and Charachter



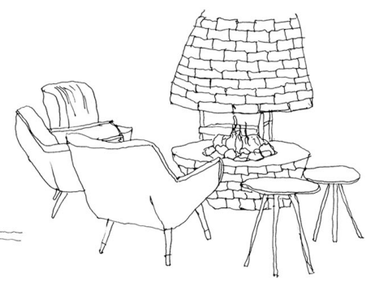
4.Visual Connection



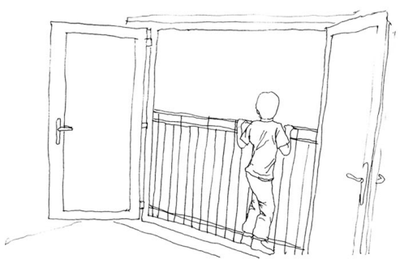
5. Comfort and Domestic



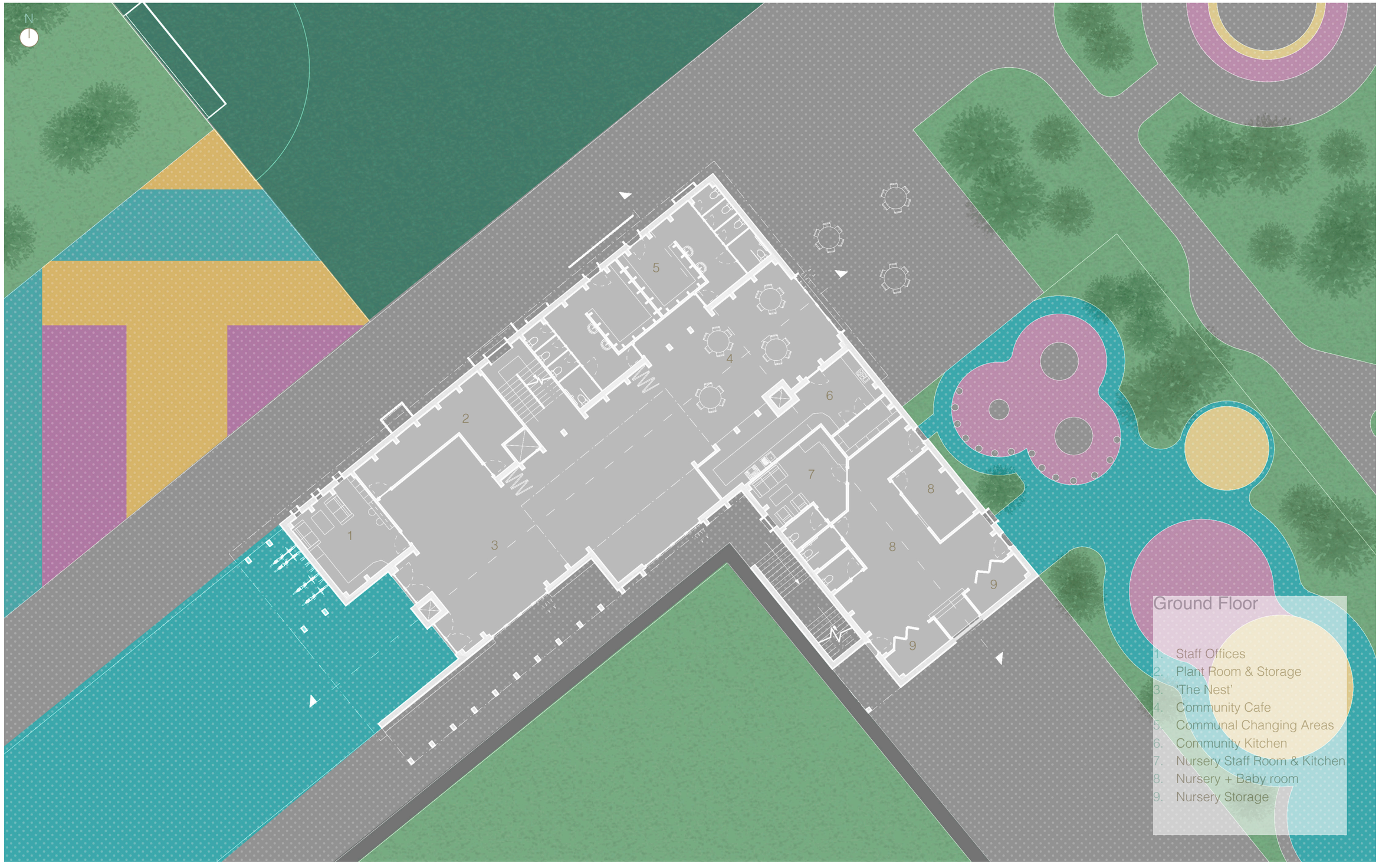
6. Modest and Inviting



7. Natural Surveillance



5.0 Our House - 5.5 Ground Floor Plan

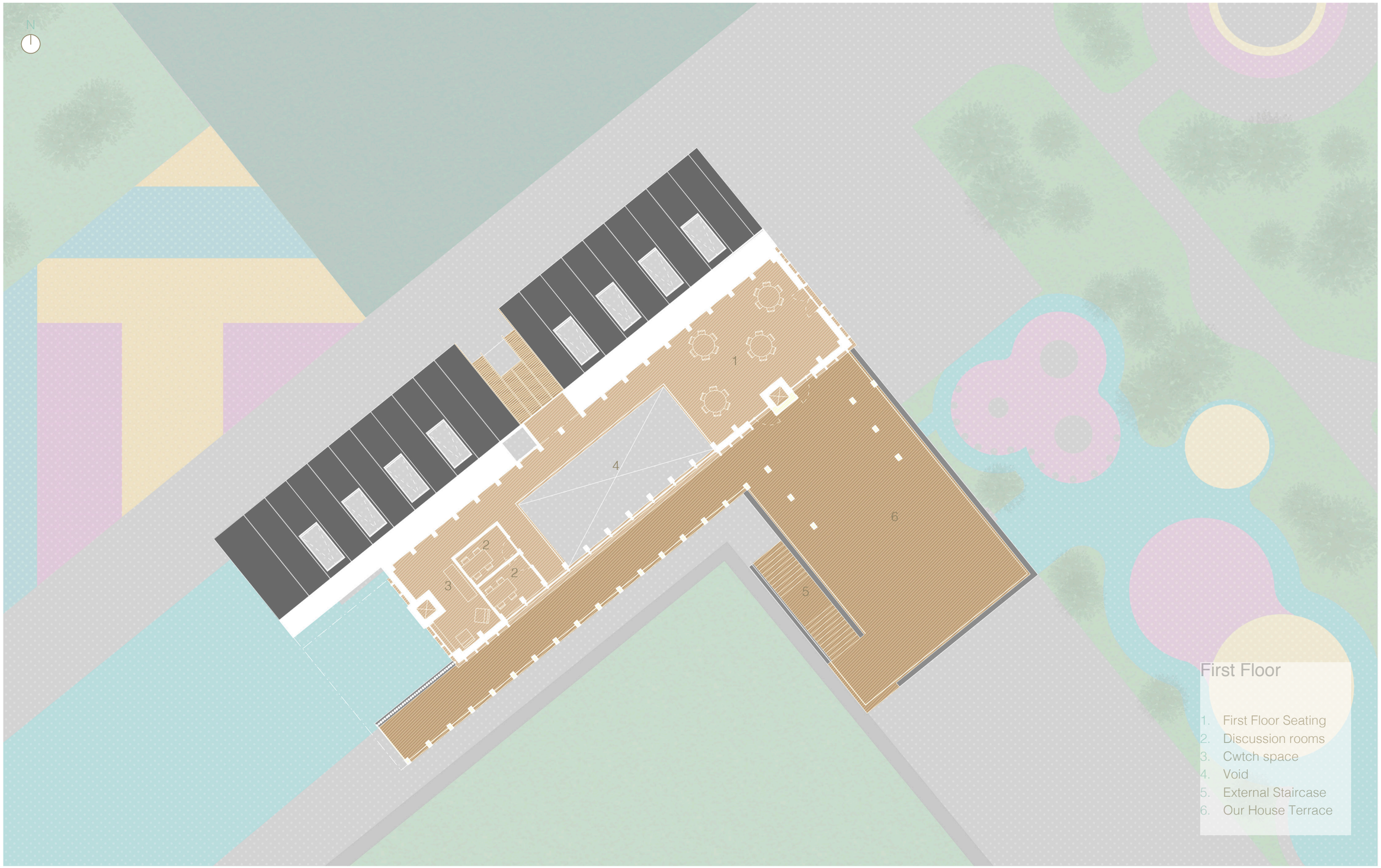


Ground Floor

1. Staff Offices
2. Plant Room & Storage
3. 'The Nest'
4. Community Cafe
5. Communal Changing Areas
6. Community Kitchen
7. Nursery Staff Room & Kitchen
8. Nursery + Baby room
9. Nursery Storage

1:200 @ A3

5.0 Our House - 5.6 First Floor Plan



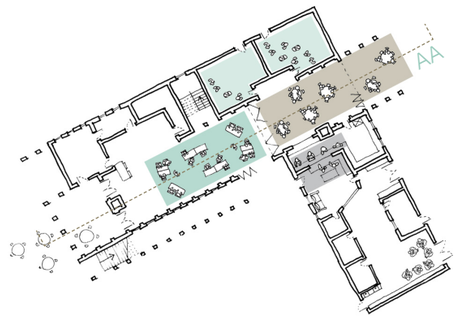
1:200 @ A3

5.0 Our House - A Series Of Events

5.7 Inhabitation

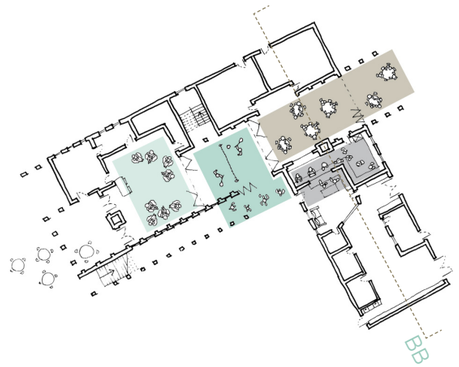
Exploring the inhabitation of Our House was key in designing a space that functions for a diverse range of activities, serving the community now and being able to adapt to future needs.

The plans below show the use of The Nest as an example of specific situations that could occur during different times of day for a variety of activities and occupancy levels. The images highlight how the space can be divided and used for multiple activites at the same time highlighting the programmes abiity to be flexible and adaptable.



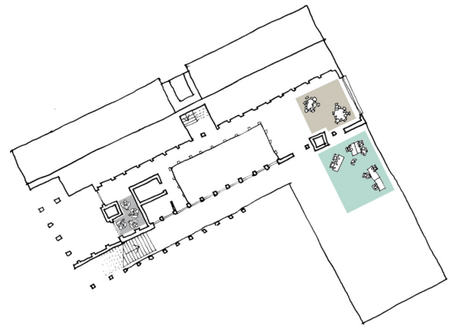
Morning and evenings:

- Before and after school clubs
- Cafe open daily - provides cookery classes
- Changing rooms in use by staff and sporting activities
- Kitchen working with the nursery for meals



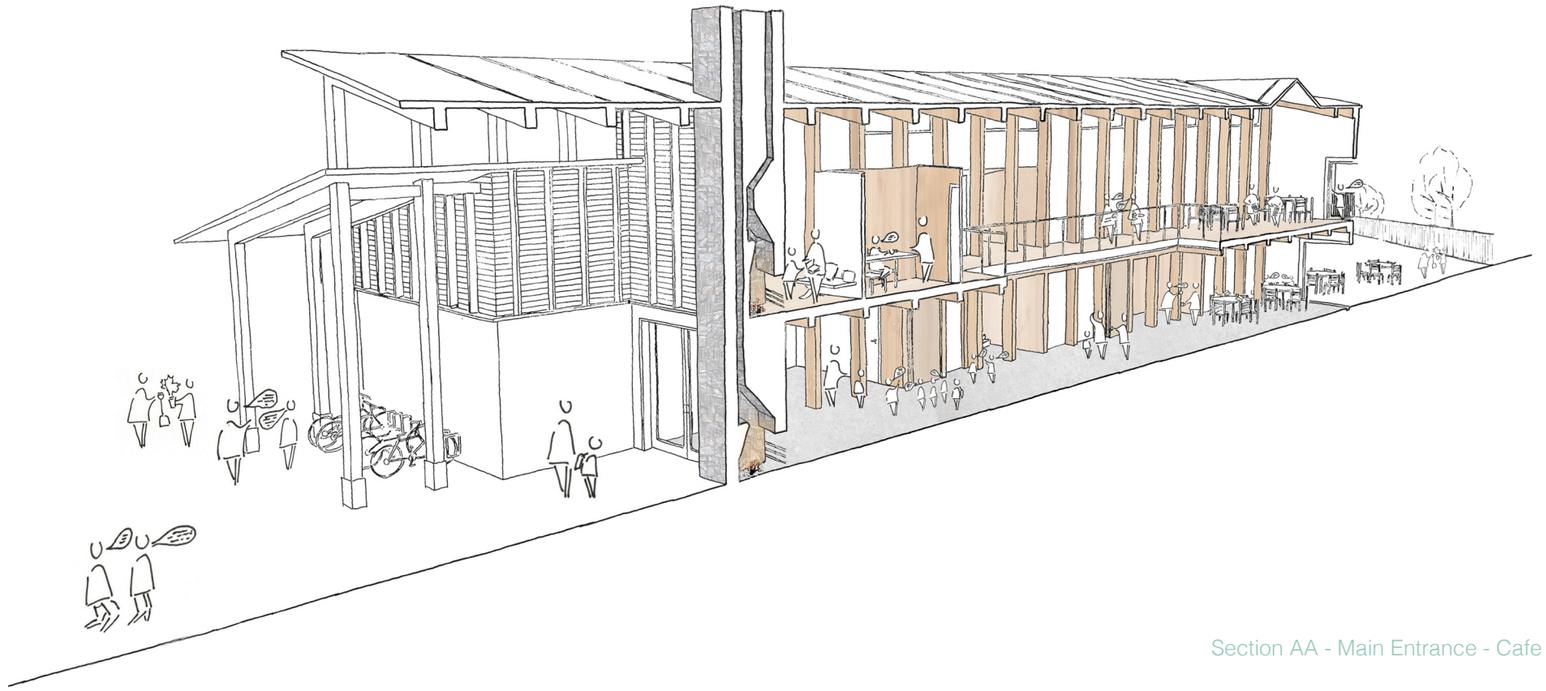
Daytime:

- Reading and social clubs for the eldery
- Sporting activities in the double height space
- Cafe and kitchen working hard throughout the day



Weekends:

- After match meals on the terrace
- Cosy cwtch reading sessions.
- Cafe overflow and upstairs space



Section AA - Main Entrance - Cafe

Section BB - 3G Pitch - Nursery

The sections show the inhabitation of the spaces focusing on the visual and physical connections between them.

5.0 Our House - The Nest

5.8 The Nest - A Detailed Study

The following three images show examples of how the nest space is adaptable and flexible. The Nest space can be sectioned off allowing for community events to occur whilst the local community are inhabitation the community cafe. The double height void space aims to add volume to the space whilst the exposed timber structure aims to create an atmosphere of warmth and comfort

A Description of Events

The Open House

This scenario shows the relationship between the nest space and the community cafe. This open situation would occur during events such as sports events on Saturdays where users are free to inhabit all spaces in and around Our House.

A Public Event

This scenario shows how the Nest space can be adapted and partitioned to allow for community events such as meetings or consultations can occur. This partitioning allows for the building to be inhabited by multiply occupants with different interests at the same time.

A Meditation Class

This scenario communicates an alternative scenario at the Nest whereby a meditation class takes place. Other classes include OAP exercise classes and ‘mother & toddler groups’ which can take place within this space. Such classes require spaces which are comforting and have an aesthetic quality which is warming and comforting.

The Nest - ‘The Open House’

The Nest - ‘A Public Event’

The Nest - ‘ A meditation Class’

5.0 Our House - The Proposal

5.9 Visualising The Proposal

'The Nursery space'

'Spaces for Informal Meeting'

'Our House at Night'

'Our House during the Day'

'Cwtch Space'

Seating Area on the First Floor

6.0 Our House - Landscape Design

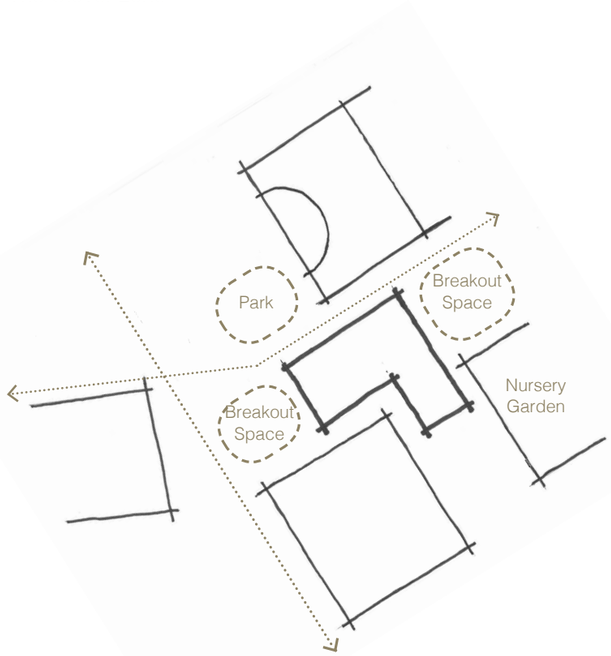
6.1 Concept

Many buildings in Wales have a strong relationship to their immediate context where the relationship between building and landscape is very strong. Our approach to the landscape design for Our House was to enhance the existing rather than clear the site and restart. We have aimed to accommodate the needs of the various users alongside public realm enhancements such as the Our House Square. The full landscape plan can be seen on the following page,

One of the most important key spaces within the landscape design for Our House is the Nursery Garden where we have aimed to create a proposal which radiates happiness. Through colour, we aim to create an intriguing environment for young children to become imaginative and inspired. We aim to create a series of spaces which offer alternative sensory experiences for the children.

These spaces include:

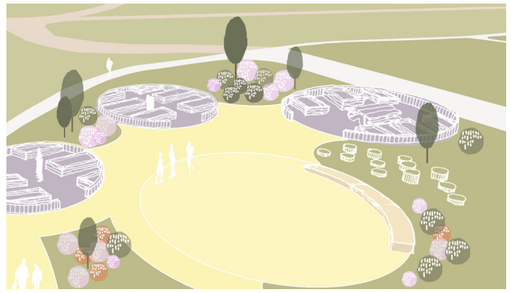
1. The Nursery Pond
2. The Growth Garden
3. The Nursery Pavillion
4. The Play Zone
5. The Clover zone



Concept Diagram :The Landscape Proposal

6.2 Developing conceptual ideas

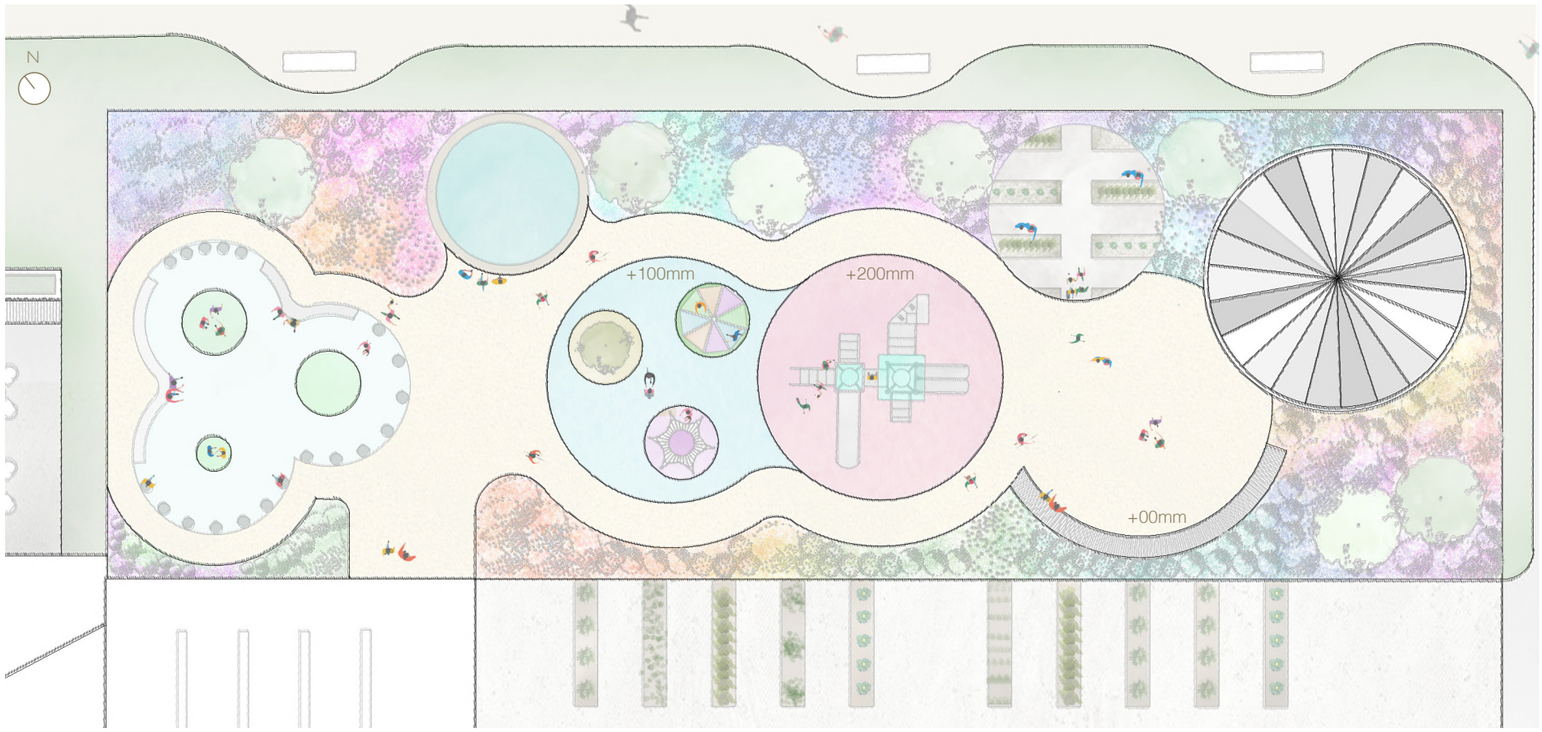
Conceptual idea for perimeter fencing



A conceptual idea for a community vegetable garden

Recreational Spaces located within ‘Our House Square’

6.3 The Nursery Garden

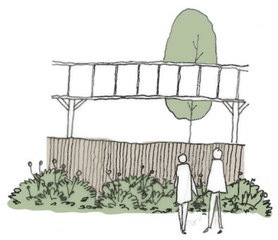


Drawing not to scale

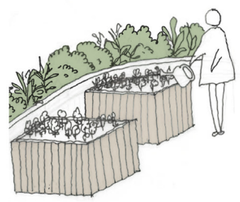
Note: seating height to vary fro 350mm for toddlers to 700mm for adults

A plan view of the nursery garden

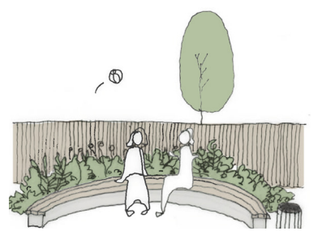
6.4 Sketching Conditions



Fencing & Vegetation



Vegetable Gardens



Communal Seating

6.0 Our House - Landscape Design

6.2 The Plan

The landscape design proposal and public realm enhancement aims to incorporate the vision of Our House where the values can be radiated around the landscape design.

The proposal aims to respond to a number of key factors we have highlighted through site observations along with the response from the client groups. We have aimed to incorporate these values at all levels from the urban design strategy through the design of the building.

In terms of the landscape the proposal attempts to be low maintenance as 'maintenance is money' (ELY RFC, Chairman). Within the boundaries of the site, maintenance will be required for the bowling green, vegetable gardens and primarily the nursery garden which will be in daily use.

The three key spaces for the landscape and enhancement works are

1. Nursery Garden: A Space of happiness, intrigue and excitement: This space aims to create a sensual experience for the toddlers that will use this space. It aims to incorporate elements of river and forest whilst simultaneously providing spaces for play and excitement. 'A happy child makes a happy parent'
2. Our House Square: A space for community events and to enhance value. This space aims to be flexible and adaptable which can hold events such as village fate (shown in plan), a park-run checkpoint or an outdoor barbeque space for sports club events
3. Bowling Green: The bowling green aims to be an all-weather surface which meets the needs of the existing bowls club. Although bowls is a summer sport when played outside, we propose that the surface will be usable in all climates providing the elderly with a space to use year round.

5.2 Landscape Plan

Key

1. Our House - The Building
2. 'Our House Square'
3. Nursery Garden
4. 4G Playing Surfaces
5. Exterior Seating Space
6. Childrens Park
7. New Forest Seating
8. Vegetable Garden
9. Bowling Green

1:500 @ A3

Landscape Plan : 'A Summer's Day'

7.0 Principles of Sustainable Design

7.1 Analysing Precedent In Setting A Sustainable Agenda

The first purpose of any building is to make people enjoy being in it and feel comfortable while there. Emotional engagement and belonging to a place should not be sacrificed in order to achieve good environmental performance. Instead, we want to use the “living” nature of the community centre and its facilities to engage the community with the building so that they really care for it and have a stake and say in its maintenance. Because this will contribute to the longevity, and environmental efficiency. Being able to control services themselves- opening windows, shutters, operating the ventilation and heating, helping to harvest rainwater - will truly give the ownership of the building to the people of Ely and Caerau.

7.2 BREEAM accreditation categories:

- Energy - Use of PV panels and heat pumps to reduce relience on main grid electrcity
- Health and Wellbeing - Good levels of daylighting, ventilation and heating throughout the whole year
- Innovation - Cross Laminated Timber structure used, servicing exceeding current Building Regulations demands
- Land Use - All existing trees retained, emphasis placed on landscaping to accomodate for biodiversity
- Materials - Use of locally sourced and sustainably managed timber and slate. Concrete for foundations speified with agregate with low C02 content
- Management - Through developing a self sustainable buisness plan which can be efficiently and simply managed
- Pollution - All measures taken for minimizing embodied and lifecycle C02 footprint
- Transport - The centre is part of a larger masterplan, accessible by public transport and by bike
- Waste - Utilising kitchen waste for compost heaps within the community allotments and striving for recycling excellence
- Water - Rain water harvesting system in place, using rainwater for flushing and irrigation

7.3 Sustainability Precedent

Precedent : Utilising Daylight

Project	Maggie’s Manchester
Architect	Foster + Partners
Opening Date	2016
Location	Manchester, England

Key Facts

- Floor area with daylight factor >2% 67%
- Floor area with daylight factor >5% 20%
- On-site energy generation: none
- Overall area-weighted u-value 0.35W/m^2
- Annual CO2 emissions: 27.46kg/m

Precedent: Energy Efficiency

Project	Kingswood Nursery
Architect	Stonewood Design
Opening Date	2019
Location	Bath, England

Key Facts

- Total energy use: 70.36 kWh/m^2/yr
- Heating and hot water load: 59.87 kWh/m^2/yr
- Airtightness at 50pa 3 m^3/hr/m^2
- Overall U-value area-weighted: 0.27 W/m^{2}K

Precedent: Energy Efficiency

Project	Mayville Community Centre
Architect	Bere: architects
Opening Date	2011
Location	Stoke Newington, England

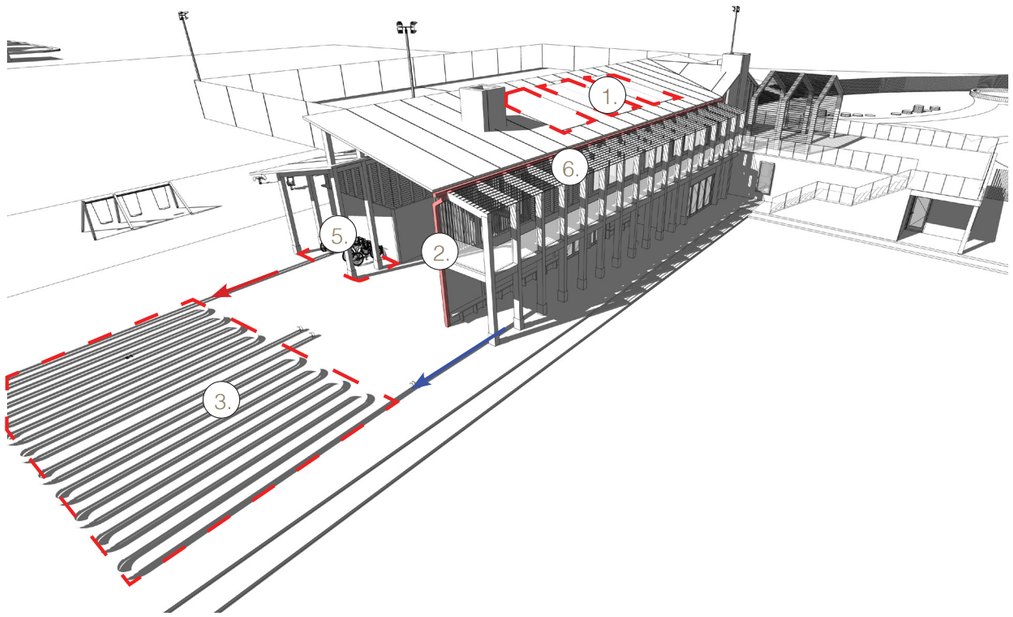
Key Facts

- 95% energy savings after refurbishment
- Annual Heat Demand: 13 kWh/m^2 /yr
- Primary Energy Demand: 120kWh/m^2 /yr
- Total CO2 emission: 6.2kg/m^2/yr
- Air test result: < 0.43h-1 at 50Pa

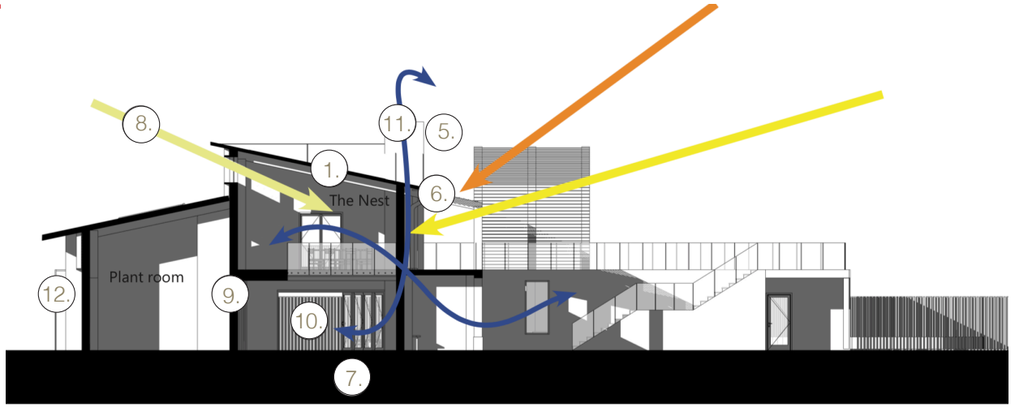
7.0 Principles of Sustainable Design

7.4 Sustainable Principles

The following section looks ar the sustainable principles at Our House with a focus on how the proposal can be environmentally self-sustainable



Aerial View of proposal



Section through the Nest

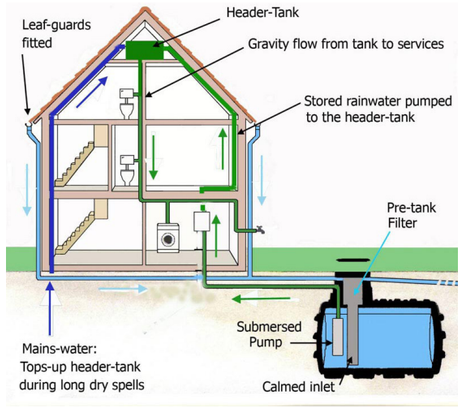
- Systems and servicing

Please see costing report for full savings account and detailed breakdown on all system running costs.

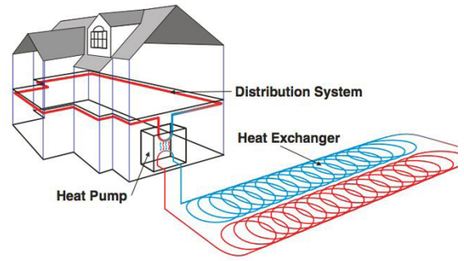
1. Solar Photovoltaic Cells (PV Panels)-25sqm array: Provide 47% reduction of electricity use from the main grid. South facing for maximum efficiency
2. Rain water capture system for WC flushing and landscape irrigation:Three reservoirs store water from the roof and one from the landscape, total capacity of 16,000ltrs
3. Ground Source Heat Pumps: A heat pump with an Seasonal Performance Factor of 3 will use about one-third as much fuel as a gas boiler. Therefore, even with double the carbon emissions per unit of electricity which fuels the pump, overall carbon emissions will be lower. The pumps are dug 2000mm below ground and heat up water for radiators and hot water for washing
4. Mechanical Ventilation Heat Recovery unit to reduce energy and heat lost due to ventilation
5. Space for bike storage, 11 bikes can be securely stored, encouraging people to use sustainable modes of transport

7.6 Built form features

6. Overhangs to avoid over heating: stopping the high summer sun, and letting through lower, less intense winter rays
7. Thermal mass to absorb heat and then release it, keeping temperatures moderate
8. North-facing skylights for constant light during the day
9. Structure made from sustainably sourced, local CLT (sequestering rather than releasing carbon)
10. Internal fixtures and systems left exposed to express how the building operates
11. Passive ventilation through chimney stacks and cross ventilation in all spaces
12. Minimal grazing on north elevation reduces heat loss, and glazing on south and west elevation maximises heat gains

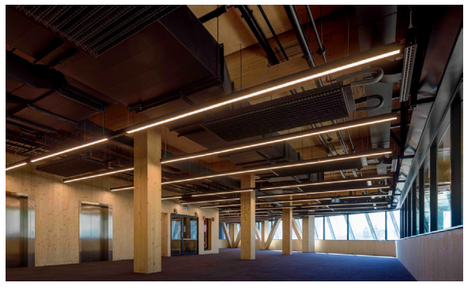


Example of rain capture system



Example of heat pump system

Example of exposed fittings and service systems



Example of exposed fittings and service systems

7 / 8.0 Sustainability And Logistics

Embodied and Operational Carbon Reductions

The building will aim to fulfil the RIBA 2030 Net Zero Carbon Challenge. The latest advice provided by the London Energy Transformation Initiative (LETI) has been take into consideration.

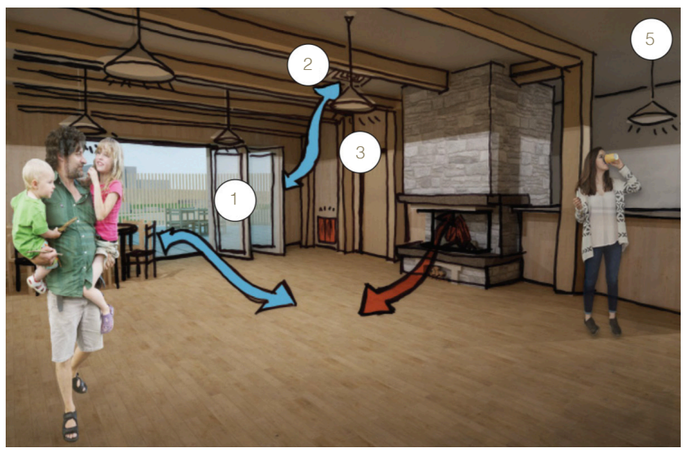
Embodied Carbon refers to the 'upfront'carbon emissions associated with building construction. These are reduced by reducing the distance materials have to travel to the site and specifying durable materials that won't need much repair and replacing.

Operational Carbon are the emissions due to the daily running of the building- including heating, hot water, cool- ing, ventilation, and lighting systems , as well as equipment (fridges, TV, lifts, computers, cooking).

Material Specification and Embodied

- Carbon CLT carbon emissions per cubic meter : +600
- Concrete carbon emissions per cubic meter: +550

- Workmanship: Contractors will be selected depending on their ability to achieve high levels of airtightness and insolation and elimination of thermal bridging.
- Post-occupancy surveys and data disclosures: Energy use will be monitored and statistics will be collected quarterly and shared openly with the rest of the industry
- Facilities management: The facilities manager will be trained to reduce energy consumption. Users will be made aware how to operate the building in a low-carbon way too.



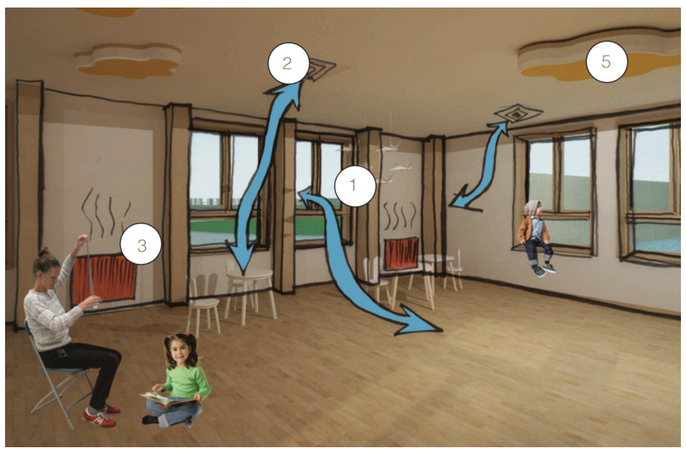
Sustainable Initiatives at the Community Cafe

Logistics Diagram

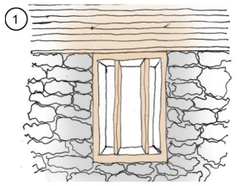
- Site boundary
- Lorry access
- Provisoned zone for site
- office and offloading materialS
- No access for public (site cordon)
- Temporary relocation for the nursery
- Temporary pedestrian entry points Site
- security

Heating, Ventilation and Airtightness

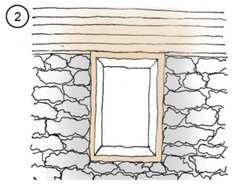
1. Natural Ventilation- Fenestration can be opened
2. Mechanical Ventilation - in colder months, mechanical ventilation will extract the stagnant air, and recover the heat with
3. Heating with radiators - The radiators will have a lower than normal temperature, about 35 degrees. This will provide an ambient temperature during the whole occupation period.
4. LED lighting is highly energy efficient and its intensity does not tire the human eye.



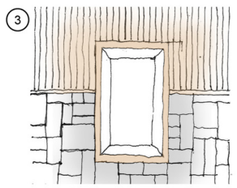
Sustainable Initiatives at the Nursery



Window casement study with stone material, horizontal timber panels and vertical timber panels in front of the window.

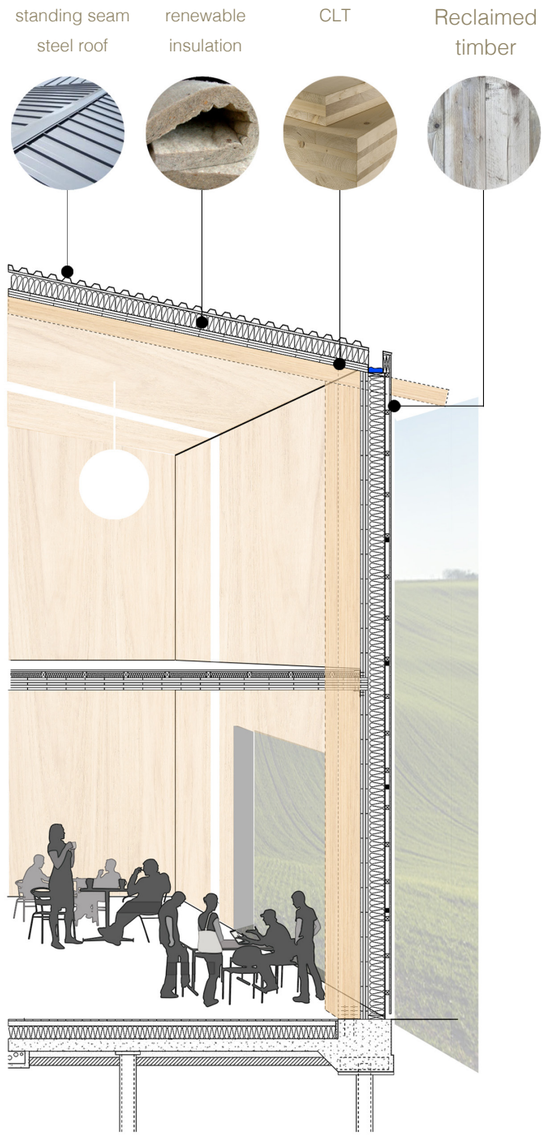


Window casement study with stone material, horizontal timber panel



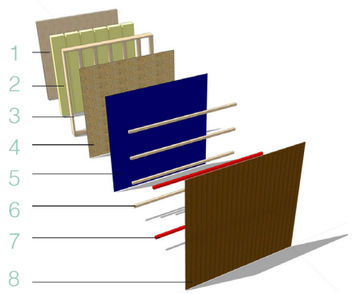
Window casement study with irregular stone material and vertical timber cladding

Technical Consideration



Typical Wall build-up

1. CLT - 90mm
2. Renewable Insulation 180mm
3. Studwall - 200mm
4. OSB - 9mm
5. Breather Membrane - 0.4mm
6. Cavity with Battens - 50mm
7. TCB Cavity Fire Stop - 50mm
8. TImber Cladding - 18mm



8.0 Structure And operations

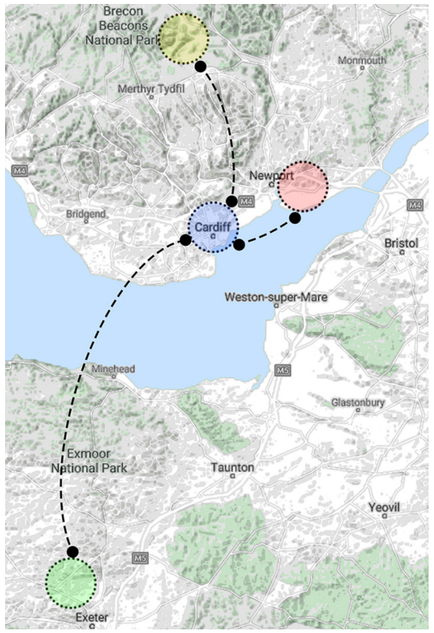
8.1 Precedent and Material Analysis

Our proposed structure has been influence by our desire to provide a comfortable and secure environment.We believe that can be achieved through using materials that relate to the wider context and have properties that create a warm and attractive environment to be situated within.

Our primary substructure will be a concrete foundation with a Glulam structural frame. We propose that the envelope will be finished with timber cladding panels and welsh stone slips. We propose a locally sourced standing seam steel room for the covering.

8.2 Logistics of Materials

- Brecon Beacons National Park (tbc)
- Reclaimed Timber, Cardiff
- Glulam Manufacturers, Devon
- TATA Steel Manufacturers, Llanwern



8.3 Why Glulam & CLT?

- Consists of sandwiched timber pieces held together with strong adhesive.
- Comes in various sizes, spans and thicknesses.
- Construction in high demand over the past two decades due to the advantages.
- Forms structural elements such as walls, floor and roof.

8.4 Precedent of Structure & Materiality

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Substructure

Concrete slab foundation with concrete footings for steel/concrete supports columns.

Steel Roof

Sourced locally, Used for roof covering

Primary Structure Solid Timber (hardwood)

Sourced in the UK. Used for Glulam & CLT primary structural frame and partially for wall, floors and roof.

Landscape Furniture

Purpose: Secondary use to design and build landscape furniture.

External Cladding

Purpose: Primary use to replace timber cladding.

Reclaimed Timber

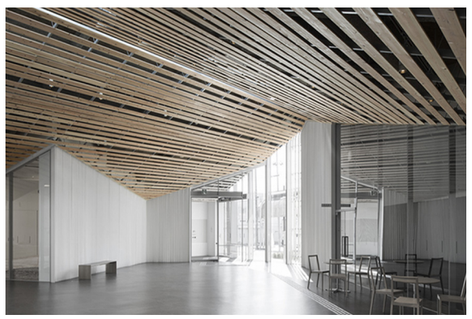
Materials sourced locally from re-claimed Timber Merchants.

John Hope Gateway, Edinburgh
Cullinan Studio

Primary structure is Glulam beams with Steel columns/steel plates.

Towada Community Plaza, Japan
N/A

CLT Walls with a primary exposed structure using no steel connecters. Net Carbon Footprint (Co2) CLT-2600 / Concrete +2000



The Kings Wood School,
Stonewood Design

Internal timber clad ceiling. Walls are predominantly made from CLT and relies on no internal structure.

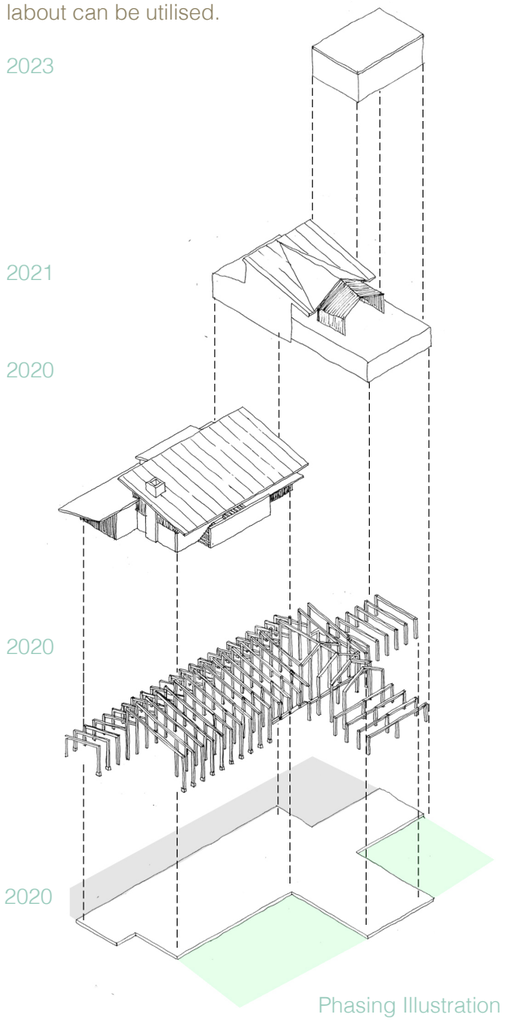
8.0 Structure And Operations

8.5 Building Strategy and Tectonics

The building strargy aims to icorperate both skilled and unskilled labour where the collage ‘A culture of co-production’ aims to show how we can instill social value into the buidling through this approach.

The internal timber structure will be treated and not exposed to elements, therefore maintenence checks should be carried out between every 5-10 years. Much of this heavy load work will be carried out by specialist contractors.

The external cladding will be exposed to the elements. Using a clear treament will have the longest maintenence intervals which will be easy to repair and maintain.This is where the use of communal - unskilled labout can be utilised.



Phasing Illustration

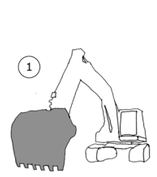
Collage: A Culture of Co-production

8.6 Phasing the Build

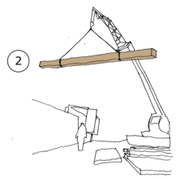
The building itself will be a phased project where skilled workers and unskilled community members will work collaboratively in producing certain parts of the building.

- 2020: Piling, Piled Raft Foundation and all Future Proofing services will be incorporated to provide provision for future expansion. Primary structure will be built along with community hall, plant and temporary spaces.
- 2021:Cafe, kitchen, well being and nursery spaces will be built.
- 2023: Future extension will be constructed for new use.

8.7 Site Preperation

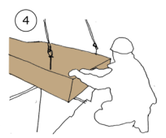


1. Site Excavation

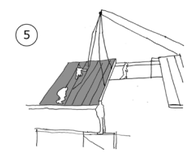


2. Primary structure

3. External walls



4. Internal floors



5. Roof and PV panels

9.0 Our House - Cost Management

9.1 Precedence Study

Mayville Community Centre (Passivhaus Concrete Structure)

Date of Completion – 2011
Location - Woodville Rd, Mayville Estate, London N16 8NA
Floor Area – 665m2

London

Total cost - £1,540,020.74
Total Cost (Inflation) - £1,843,774.75
Cost per m2 – £2,315.82
Annual Energy Cost (2011) - £4,625
Inflated Energy Costs – £5,537.24

Cardiff

Total Cost (-11%) – £1,370,618.54
Total Cost (Inflation) - £1,627,359.63
Cost per m2 (2018 - Cardiff) - £2,447.16
Annual Energy Cost (-2.87%) – £4,492.26
Inflation Energy Cost (-2.87%) - £5,378.32

Explanation of Analysis

- Existing structure was structural sound, 400mm solid brick walls and a concrete frame.
- Large renovations needed and new roof structure due to an existing asbestos riddled and damaged roof.
- Small area of the site was to be excavated and opened up.
- Internal applications installed to adhere to the Passivhaus concept,
- The instillation of airtight triple glazed windows, a ventilation system and various insulation methods would cause high costs in the initial construction process but save money in the longevity of the building on; heating, electricity and other annual bills.
- Rainwater collection capacity of 11,000 Litres of which will be used to support the function and users

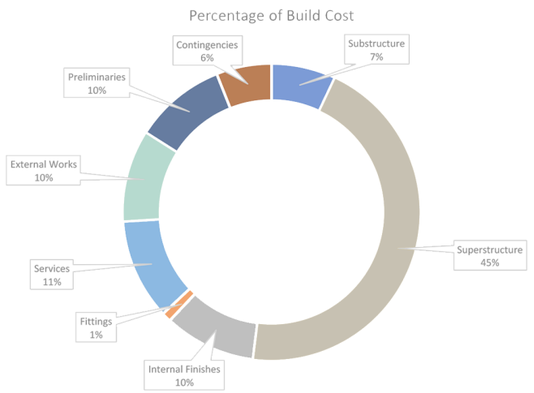


Figure 1a. Chart showing the breakdown of build cost of the Mayville Community Centre.

The Deakin Learning Centre (Concrete Structure)

Date of Completion - 2010
Location - Addenbrooke's Hospital, Hills Road, Cambridge
Floor Area – 2,606m2

Cambridge

Total Cost - £5,058,690
Total Cost (Inflation) - £6,318,878.86
Cost Per m2 - £1,941
Annual Energy Cost (2010) - £9250
Inflated Energy Costs – £9056.07

Cardiff

Total Cost (-2%) - £5,159,863.80
Inflated Cost - £6,445,256.43
Cost per m2 (2018) - £2,473
Annual Energy Cost (-12.88%) – £6,316.20
Inflation Energy Cost (-12.88%) - £7,889.65

Explanation of Analysis

- Concrete new build structure provides a base thermal insulation for building
- Larger figure of Internal Finishes due to the money saved on no sustainability constraints
- Service cost high due to the maintenance and fundimental need of the building.
- Requires large amounts of energy power to run the building due to lack of sustainable measures in structure.

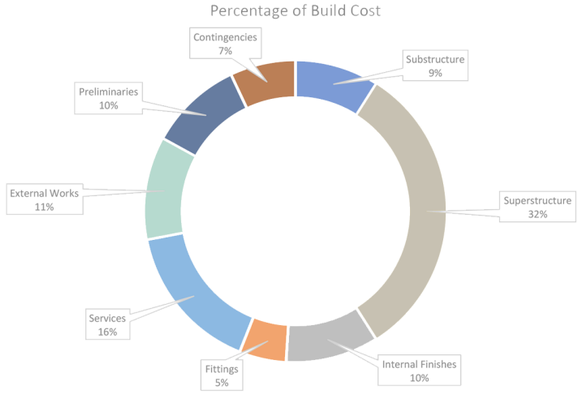


Figure 1b. Chart showing the breakdown of build cost of the Deakin Learning Centre.

The Point (Timber Structure)

Date of Completion – 2016
Location – Newchurch Road, Tadley, Hampshire. RG26 4HN
Floor Area – 410m2

Hampshire

Total Cost – £860,000
Total Cost (Inflation) - £912,951.99
Cost per m2 – £2,097.56
Annual Energy Cost – £8146.80
Inflated Energy Cost – £8648.42

Cardiff

Total Cost (-7%) - £799,800
Inflated Cost – £849,045.35
Cost per m2 (2018) – £2,070.84
Annual Energy Cost (+39.33%) - £11,350.94
Inflated Energy Cost - £12,049.84

Explanation of Analysis

- The materiality of the external cladding is responsible for a large portion of the budget, the Copper finished Parplex panels completely cover the surfaces of the building,
- Panels are maintenance free, and also act as a thermal barrier and weather-proofing barrier.
- Reduced responsibility for the internal finishes to produce an insulating barrier.The project was supported in funding by the Tadley District and Community Association.
- Secured an additional £2.88 in grants or donations towards the project for every £1 the taxpayer donated towards the project.
- Internal finishes leave the roof structure visible, and the timber wall panels, and flooring were constructed off site to speed up the construction time and save on the cost of and installation of equipment on site.

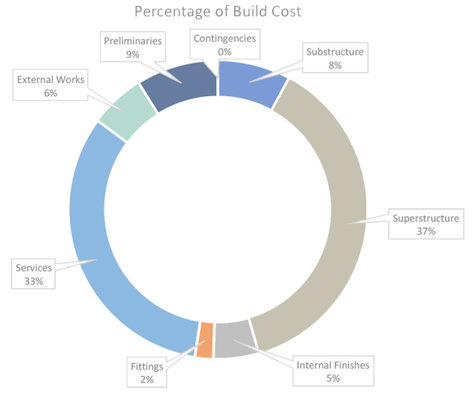


Figure 2a. Char t showing the breakdown of build cost of the The Point.

Herne Community Centre (Sustainable Timber Structure)

Date of Completion – 2016
Location – Herne, Kent, Canterbury
Floor Area – 436m2

Kent

Total Cost – £1,567,385
Total Cost (Inflation) - £1,663,892.16
Cost per m2 – £3,595
Annual Energy Cost – £5780
Inflated Energy Cost – £6,135.89

Cardiff

Total Cost (-10%) - £1,410,646.50
Inflated Cost – £1,497,502.94
Cost per m2 (2018) – £3,434
Annual Energy Cost (+47.76%) - £8,540.52
Inflated Energy Cost - £9,066.30

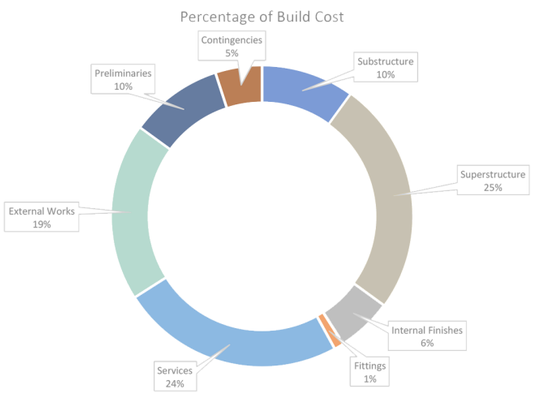


Figure 2b. Chart showing the breakdown of build cost of the Herne Community Centre.

9.0 Our House - Cost Management

9.2 Elemental Cost Breakdown

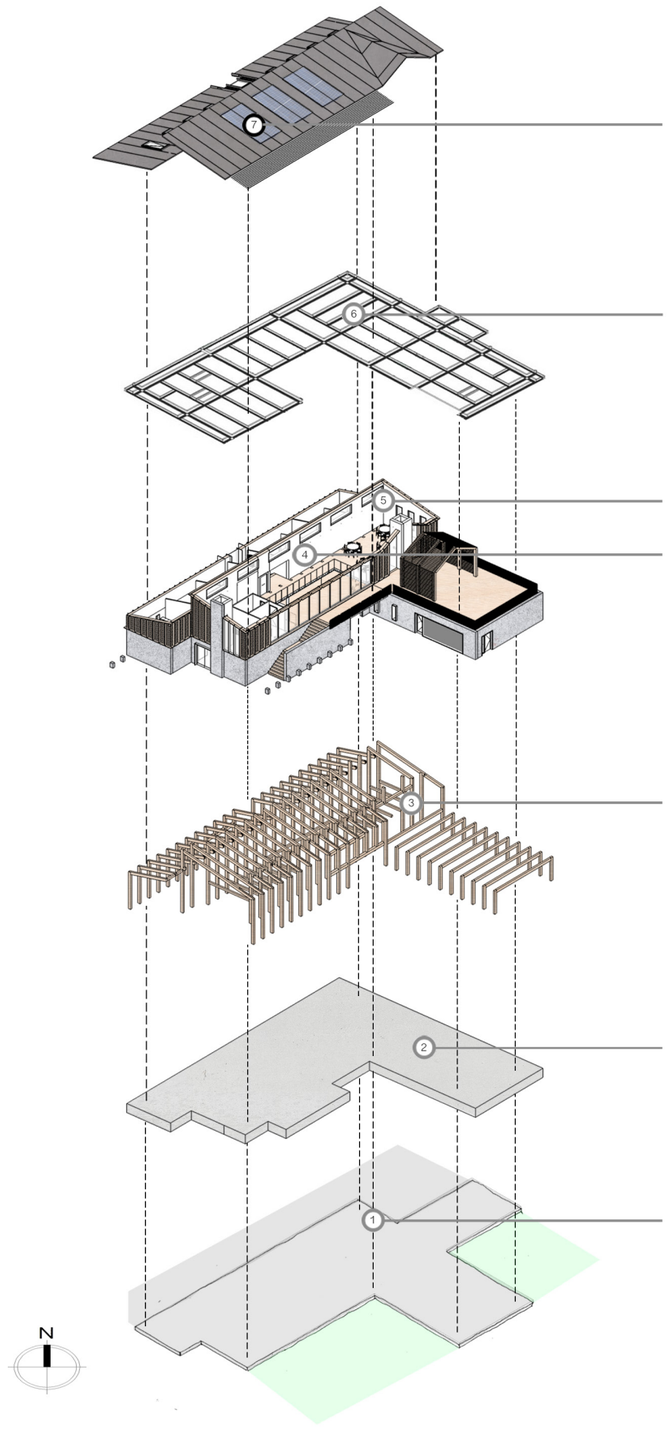


Figure 3: Cost Breakdown of the Building.

PRELIMINARIES	£ 125,000
CONTINGENCIES	£ 75,000
SERVICES	£ 355,063
Ventilation and Heating	£ 151,147
Heat Recovery System	£ 25,818
Electrical	£ 109,534
Services Equipment	£ 41,832
Sustainability Measures	£ 23,482
Builders Work	£ 3,528
FITTINGS	£ 6,400
INTERNAL FINISH	£ 42,748
3A Floor Finsh	£ 37,240
3B Ceiling and Wall Finish	£ 5,508
SUPERSTRUCTURE	£ 424,495
Frame and Roof Structure	£ 257,569
Roof Furnishing and Solar Panels	£ 19,036
External Cladding (Stone/Timber)	£ 59,220
Stairs and Lifts	£ 33,435
Windows and Doors	£ 29,851
Balcony Detailing	£ 6,838
Internal Walls	£ 12,096
Green Roof	£ 6,450
SUBSTRUCTURE	£ 87,758
EXTERNAL WORKS	£195,141
Surface Treatment	£ 4,999
Furnishing and Maintenance	£ 6,985
Drainage	£ 42,234
Site Works	£ 117,388
External Services	£ 11,238
Minor Building Works	£ 7,560
TOTAL CONTRACT SUM	£ 1,306,838
COST P/M2	£ 2,593

The main expendeture of the budget went towards the sustainability of the structure, harnessing the potential of Heat Pumps, Photovoltaic instruments as well as introducing water storage methods and ventillation methods. This will reduce the running costs over an extended timeframe in hope, that this, along with lower maintenance costs, will slowly allow the structure to pay the capital cost over time. This sustainability concept redeuced a significant percentage of the superstructure component, due to the reduced insulation levels and lightweight timber frame, allowing for a reduction in the cost of foundations due to weight and for a smother and quicker implementation of the project into site.

There also remains some risks when predicting cost prices, including:

Urban Planning - Entry to site may have to be adapted to improve transport links, and parking areas will need to be revisited and this could potentially effect budget restraints.
Landscaping and Heritage - Problems with excavation in terms of a risk of finding any items of archaeological importance would delay, and cause significant implications for the cost.
Environmental and Services - The implementation of a higher rated sustainable structure will cause initial costs to rise.
Structure, Operations Manager - Site would require new transport methods to be surveyed and thought about before the project starts.
Facilities Manager / Community Engagement Representative - Both the Bowling Green, and Nursery would have to be relocated elsewhere to support the needs of the community.
Architect - Due to the restrictions that we wanted to achieve through managing the budget, there was a risk that a complex design, or a poorly planned out structure could cause the spending to increase and overflow the budget.

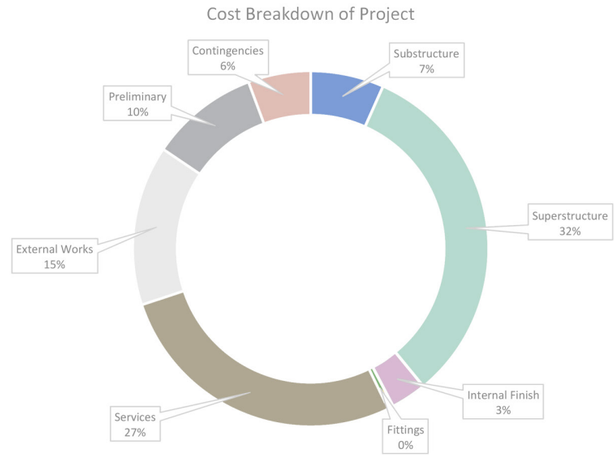


Figure 4: Pie Chart showing the percentage breakdown of cost.

Currently it is calculated that the annual profit of the program is estimated at £83,754. This would be mainly from 4 areas: Nursery income, the Nest, Teaching Programs and the Cafe. This figure would indicate a profit margin of around 33%.

At present, it would roughly take around 15.6 years for the scheme to pay back the capital build cost. However, as proposed, the extention has been calculated to cost around £141,197. This could mean that the income of the program could solely pay for the extension within two years of it being in operation. This would then push back the payback time to around 17.3 years.

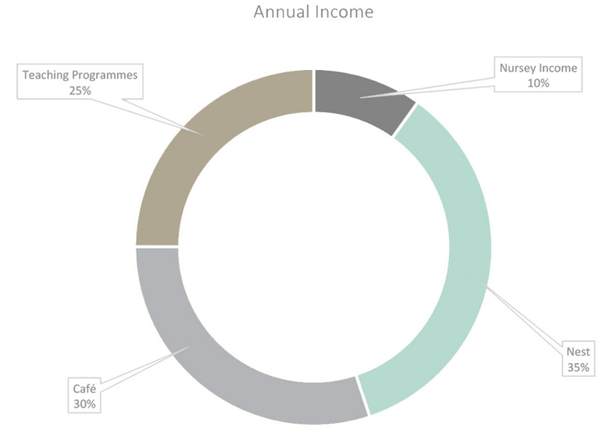
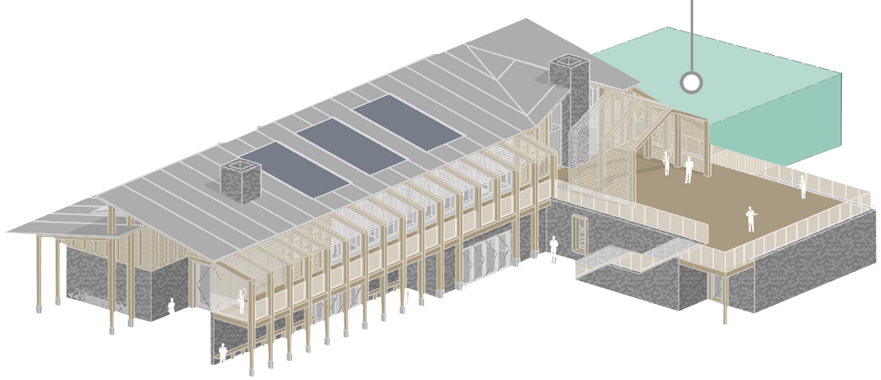


Figure 5: Pie Chart showing the percentage proposed annual income.

9.0 Our House - Cost Management

9.3 Phase 2 and Future Finances



SUPERSTRUCTURE	£ N/A
SUBSTRUCTURE	£ 52,212
FITTINGS	£ 889
SERVICES	£ 43,754
INTERNAL FINISH	£ 4,195
EXTERNAL WORKS	£ 8,184
PRELIMINARIES	£ 19,977
CONTINGENCIES	£ 11,986

Figure 6. Elemental Cost Breakdown of Extension

This shows the breakdown of costing for the future proposal of the final phase of the design, should the client chose to go ahead with the scheme. This would allow for the expansion of the building to allow for more occupants and users, increasing the annual income as a result. The substructure and some of the external works have already been calculated and priced for in the proposal of the initial scheme, this would allow for the extension to be constructed faster and allow it to be built with minimal disruption to the existing building, as ground-works and site works already being constructed. Limiting costs as a result. (Right) Are shown some extra funding opportunities if they wanted to implement the extension sooner.

Funding Opportunities (£175,000 - £950,000)

Welsh Nursery Grant - £10,000+

Trusthouse Charitable Foundation - £25,000 - £60,000

The Andrew Wainwright Reform Trust - £1,500 - £10,000

Scurrah Wainright Charity - £1,000 - £5,000

The Bupa UK Foundation – Up to £20,000

National Lottery Community Fund - £100,000 - £500,000

People and Places: Large grants £100,001–£500,000

Community Facilities Programme – Gov.Wales (up to £250,000)

Trusthouse Charitable Foundation

The Andrew Wainwright Reform Trust

The Scurrah Wainwright Charity

Bupa UK Foundation

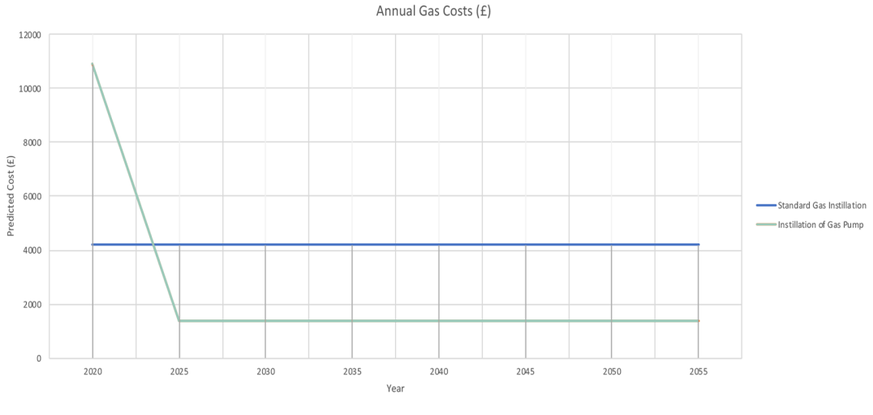
Cynnig GOFAL PLANT CYMRU The CHILDCARE Offer for WALES

Addysg gynnar a gofal • Early education and care

PEOPLE & PLACES

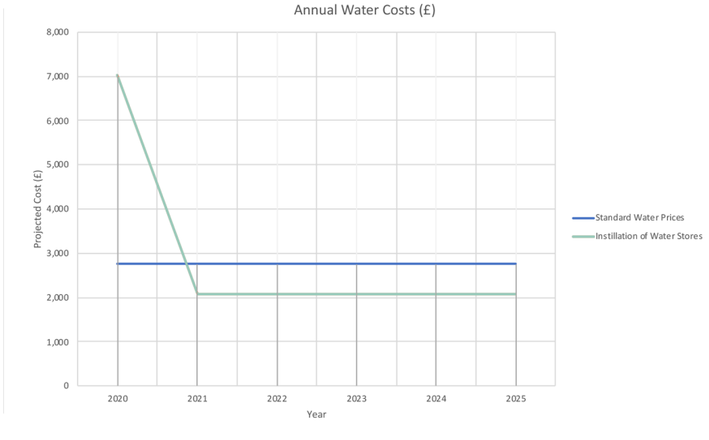
Gas Price Analysis

Instillation costs for Heat Pumps to improve the sustainability and efficiency of the building are around £9,500. It provides a 75% annual saving on gas prices, meaning that the instilation cost of the pump, will be paid back in around 3 years. It will then allow for an average estimated annual saving of £2,818. Allowing for this saving to be allocated elsewhwere in the scheme.



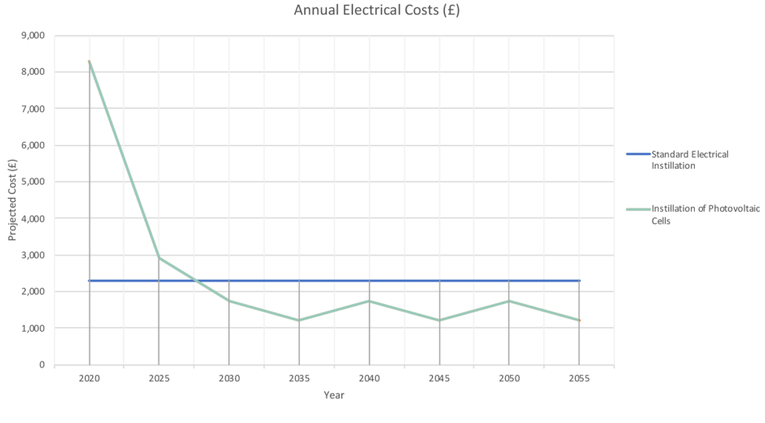
Water Price Analysis

Instillation costs for Water Storage Tanks to harvest rain water to be reused in aspects of the building are around £4,285. It provides a 25% annual saving on the water bill, meaning that the instilation cost of the tanks, will be paid back in around 6.2 years. It will then allow for an average estimated annual saving of £687.5. Allowing for this saving to be allocated elsewhwere in the scheme.



Electrical Price Analysis

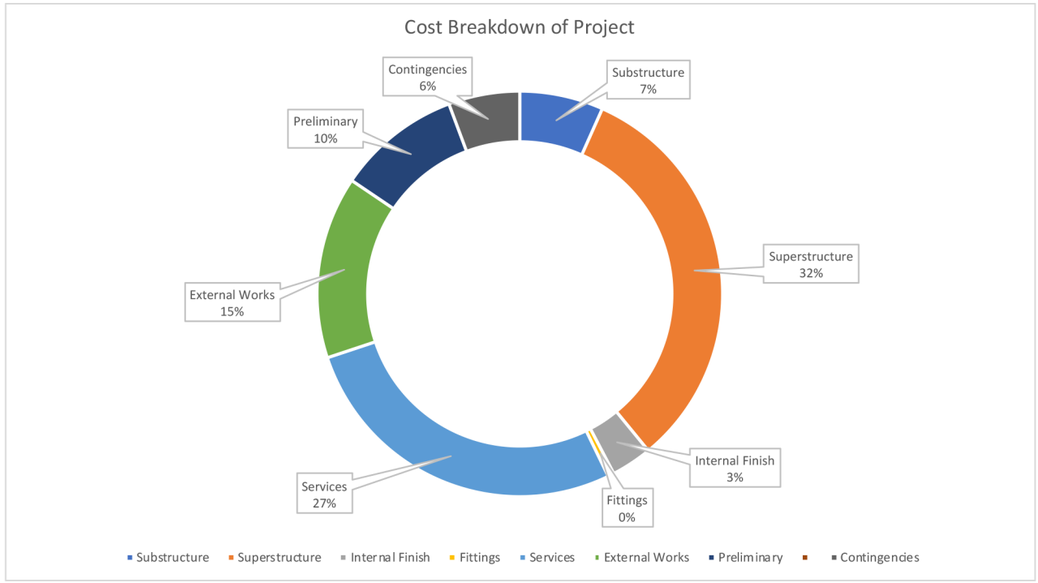
Instillation costs for the Photovoltaic Cells to improve efficiency of the building are around £6,000. It provides a 53% annual saving on gas prices, meaning that the instilation cost of the cells, will be paid back in around 7.5 years. It will then allow for an average estimated annual saving of £824.6, this is due to the maintenance costs needed to be paid every 10 years.



10.0 Our House: Appendix

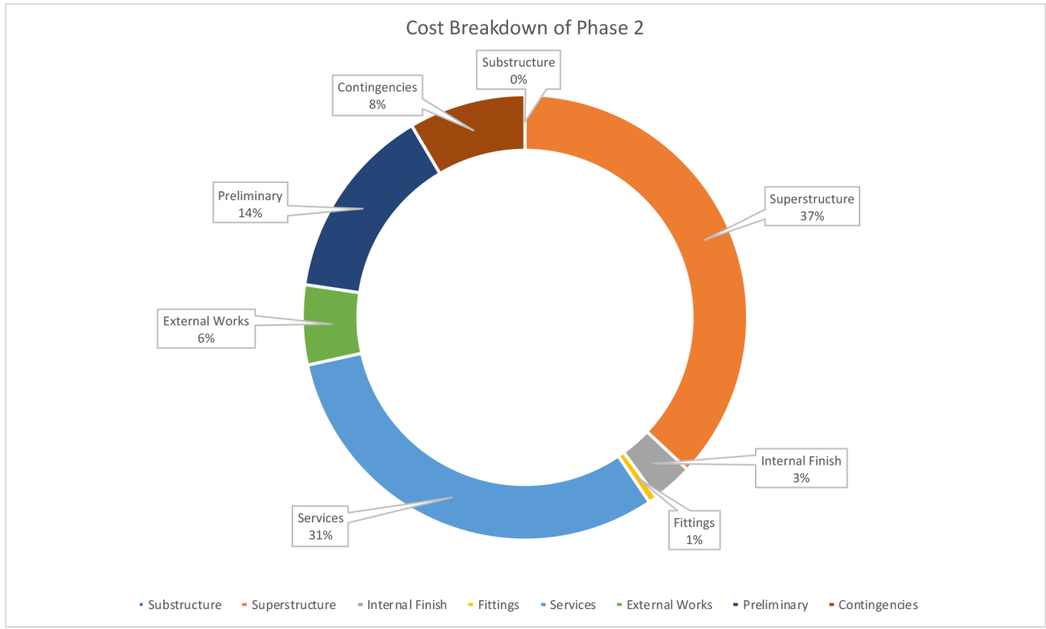
Element	Total Cost (£)	Cost per m^2 (£)	Percentage of Cost
Substructure	**87,758**	**152.89**	**6.7**
2A Frame and Roof Structure	257,569	511.05	19.7
2B Roof Furnishing and Solar Panels	19,036	37.77	1.46
2C External Cladding (Stone and Timber)	59,220	117.5	4.53
2D Stairs and Lifts	33,435	66.34	2.56
2E Windows and Doors	29,851	59.23	2.28
2F Balcony Detailing	6,838	71.57	0.52
2G Internal Walls	12,096	24	0.92
2H Green Roof	6,450	25	0.49
2 Superstructure	**424,495**	**842.25**	**32.5**
3A Floor Finsh	37,240	73.88	2.84
3B Ceiling and Wall Finish	5,508	10.93	0.42
3 Internal Finish	**42,748**	**85.77**	**3.27**
4 Fittings	**6,400**	**12.7**	**0.49**
5A Ventilation and Heating	151,147	317.73	11.57
5A Ventilation and Heating (Heat Recovery System)	25,818	51.23	1.98
5B Electrical	109,534	217.33	8.38
5C Services Equipment	41,832	83	3.2
5D Heat Pumps, Photovoltaic Cells and Water Storage	23,204	46.04	1.78
5F Builders Work	3,528	7	0.27
5 Services	**355,063**	**704.5**	**27.17**
Approximate Building Cost Subtotal	**916,464**	**1,818.38**	**70.1**
6A Surface Treatment	4,999	9.92	0.38
6B Furnishing and Maintenance	6,985.00	13.86	0.53
6C Drainage	42,234	73.58	3.23
6D Site Works	117,388	204.51	8.98
6E External Services	11,238	19.58	0.86
6F Minor Building Works	7,560	15	0.58
6 External Works	**190,404**	**336.45**	**14.6**
7 Preliminary	**125,000**	**285.39**	**9.6**
8 Contingencies	**75,000**	**171.23**	**5.7**
Total Contract Sum	**1,306,868**	**2,593**	**100**

Elemental Cost Breakdown of Building (Phase 1)



Element	Total Cost (£)	Cost per m^2 (£)	Percentage of Cost
Substructure	**N/A**	**N/A**	**N/A**
2A Frame and Roof Structure	35,773	511.05	20.77
2B Roof Furnishing and Solar Panels	2,644	37.77	1.53
2C External Cladding (Stone and Timber)	3,325	47.5	1.93
2D Stairs and Lifts	4,644	66.34	2.7
2E Windows and Doors	4,146	59.23	2.41
2G Internal Walls	1,680	24	0.98
2 Superstructure	**52,212**	**842.46**	**36.98**
3A Floor Finsh	3,430	49	1.99
3B Ceiling and Wall Finish	765	10.93	0.44
3 Internal Finish	**4,195**	**85.77**	**2.97**
4 Fittings	**889**	**12.7**	**0.62**
5A Ventilation and Heating	22,241	317.73	12.91
5B Electrical	15,213	217.33	8.83
5C Services Equipment	5,810	83	3.37
5D Builders Work	490	7	0.28
5 Services	**43,754**	**625.06**	**30.99**
Approximate Building Cost Subtotal	**101,050**	**1,814.60**	**71.57**
6A Surface Treatment	694	9.92	
6B Furnishing and Maintenance	970.20	13.86	
6C Drainage	5,150	73.58	
6D Site Works	N/A	204.51	
6E External Services	1,370	19.58	
6F Minor Building Works	N/A	15	
6 External Works	**8,184**	**336.45**	**5.8**
7 Preliminary	**19,977**	**285.39**	**14.15**
8 Contingencies	**11,986**	**171.23**	**8.49**
Total Contract Sum	**141,197**	**2,017**	**100**

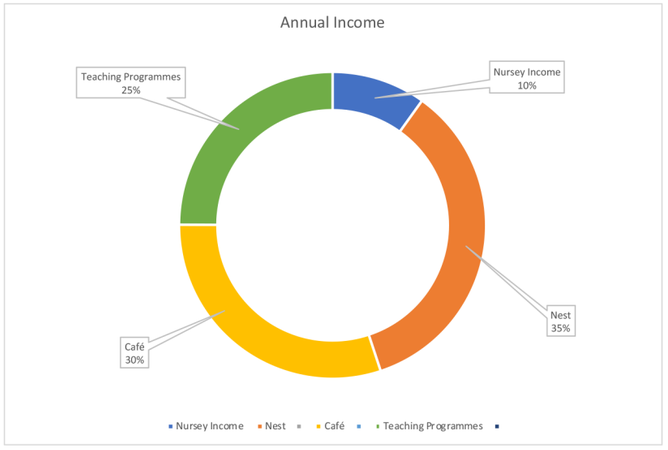
Elemental Cost Breakdown of Extension (Phase 2)



10.0 Our House: Appendix

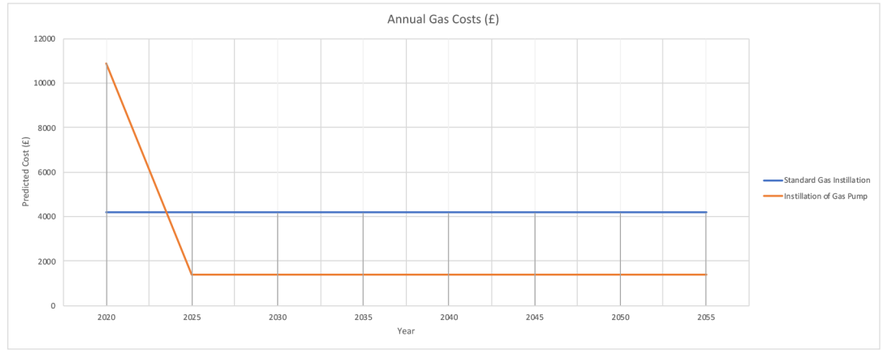
Income Calculations

Revenue Type	Singular Price	Annual Amount						
Nursey Income	242 per student	25000						
Nest	2 per person	88400						
Café	150 per day	76076						
Teaching Programmes	5.50 per hour	62,920						
Adult Learning Schemes		252396		168,642			profit	83,754
total								15.6 Years



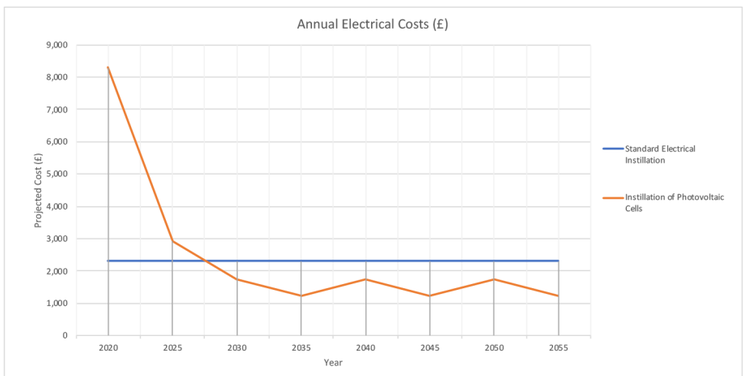
Gas Bill Calculations

instillation Type	2020	2025	2030	2035	2040	2045	2050	2055
Standard Gas Prices	4195	4195	4195	4195	4195	4195	4195	4195
Instillation of Heat Pumps	10895	£1,377.04	1377.04	1377.04	1377.04	1377.04	1377.04	1377.04



Electrical Bill Calculations

Annual Utility Costs (£) per annum (Excluding Inflation)								
Instillation Type	2020	2025	2030	2035	2040	2045	2050	2055
Standard Electric Prices	2,302	2,302	2,302	2,302	2,302	2,302	2,302	2,302
Instillation of Photovoltaic cells	8,302	2,928.75	1,727.40	1,227.40	1,727.40	1,227.40	1,727.40	1,227.40



Water Bill Calculations

Annual Utility Costs (£) per annum (Excluding Inflation)						
Instillation Type	2020	2021	2022	2023	2024	2025
Standard Water Prices	2,750	2,750	2,750	2,750	2,750	2,750
Instillation of Water Stores	7,035	2,062.50	2,062.50	2,062.50	2,062.50	2,062.50