

The methodology of



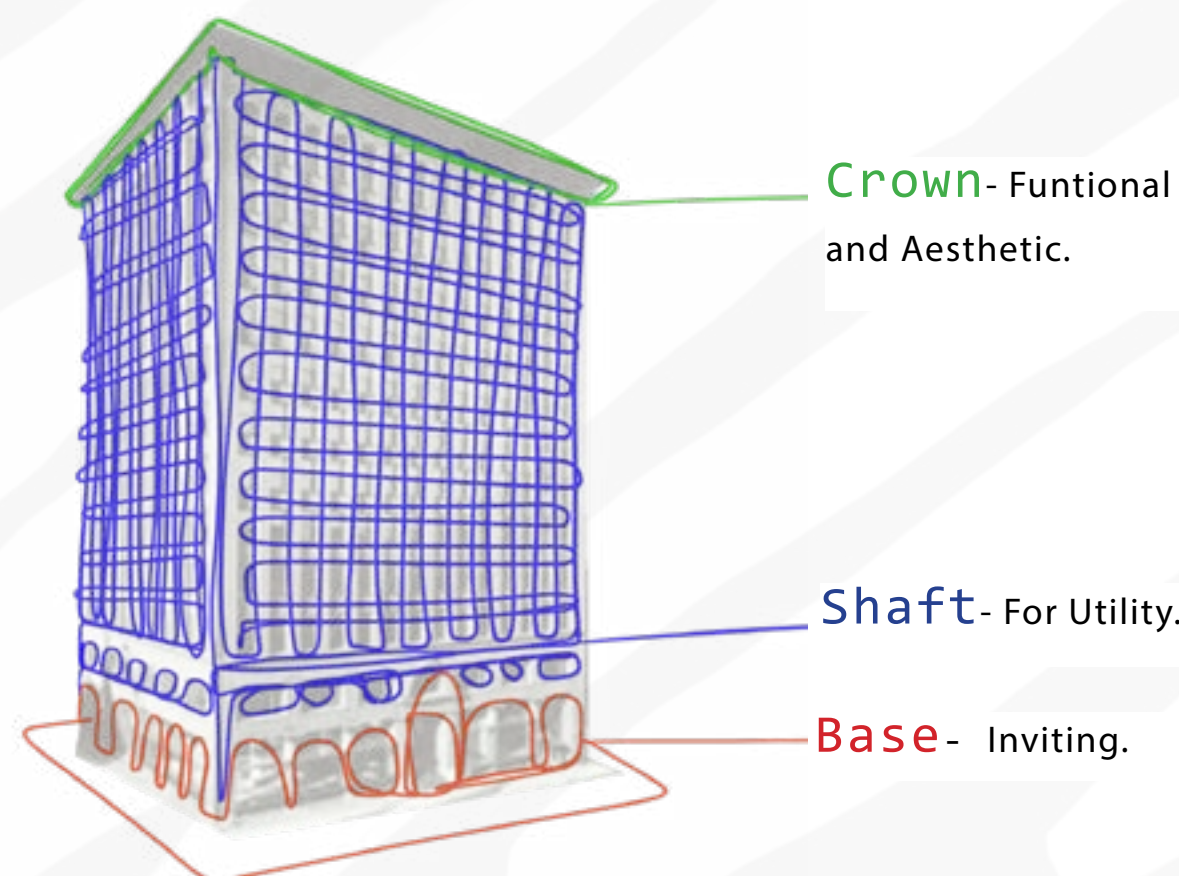
“ Form ever Follows Function ”

-Louis Henry Sullivan, 1896

AKA- “Form Follows Function”

The Function of a building should be the starting point for the desired design.

Coined in the “tall office building artistically considered” (1896) artical which breaks down his methodology of the words.

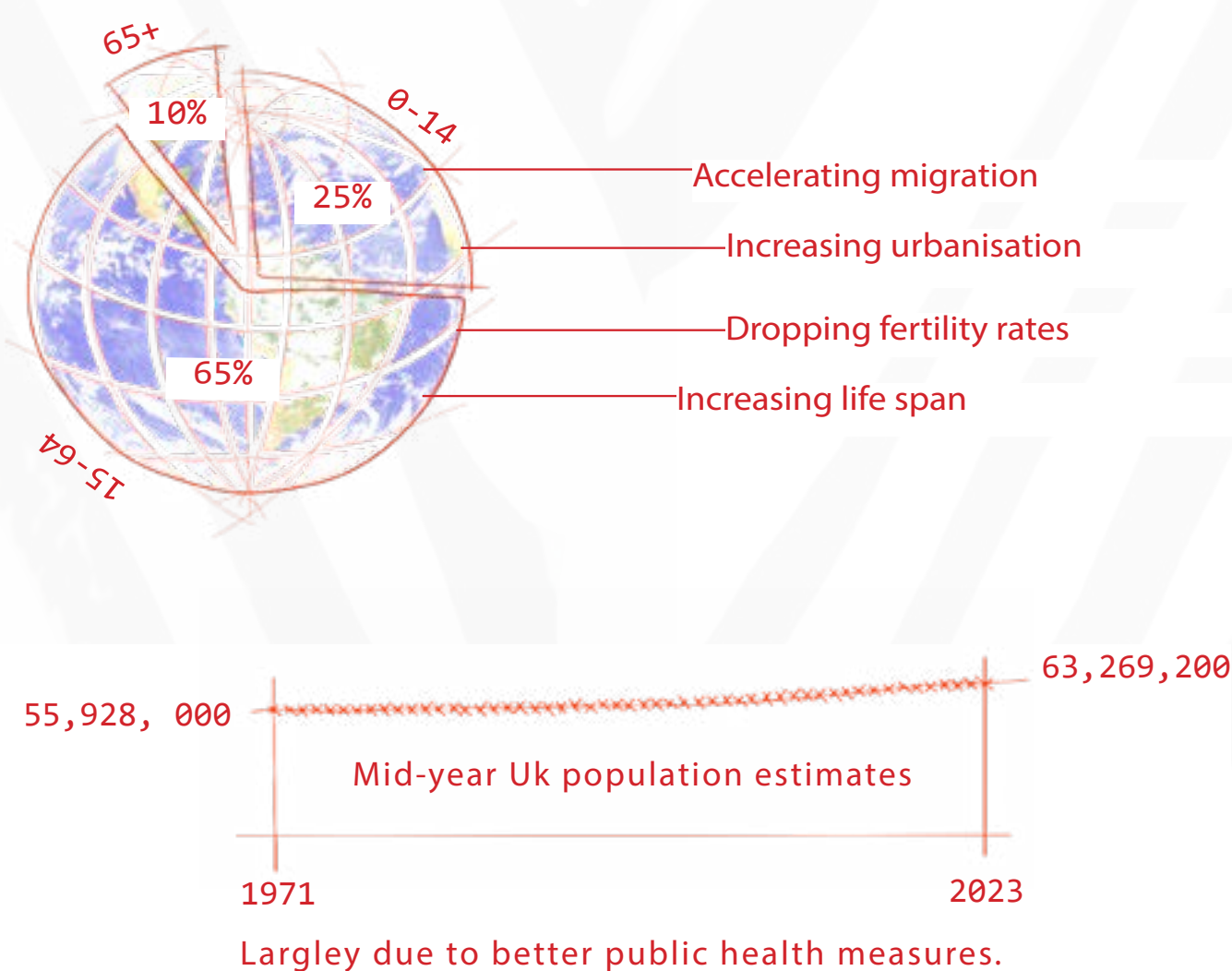


These chractristics become domanent in 20th century design which aswered to the needs of the time as part of the modernisum “supercycle ” where a prominent need for fuction over aesthetic design came as a result of the WW1 aftermath & the Bauhaus movement.

Give the upadted methodoly ago...

“Form Follows Occupation”

“Form follows occupation” (FFO) a notion personally identified with the exploration into "Form follows Function" (FFF). It builds on Sullivan’s methodology of designs solely constructed for their intended use whereas occupation can manipulate the canvas of the previous functions for a new use by developing previous functions for the needs that come with the new occupations of society. These needs can be found through the identification of current and speculative critical issues which stem from a growing society with demographic economic trends not limited to life expectancy, migration, and urbanisation. Some of the current trends and speculations...



In the Uk today a 65 yaer old is expected to live 87 years for females & 85 years for males.



Furthermore, a 1 year old today can expect to live 91 years for females & 87 years for males.

Critical issue -More time is spent in good health up to 65 years of age but... more time is also spent in poor health over 65 years of age with the increasing number of people exhibiting this effect.

for a new Supercycle.

“ Form Follows Occupation ”

-Imogen Millroy, 2024

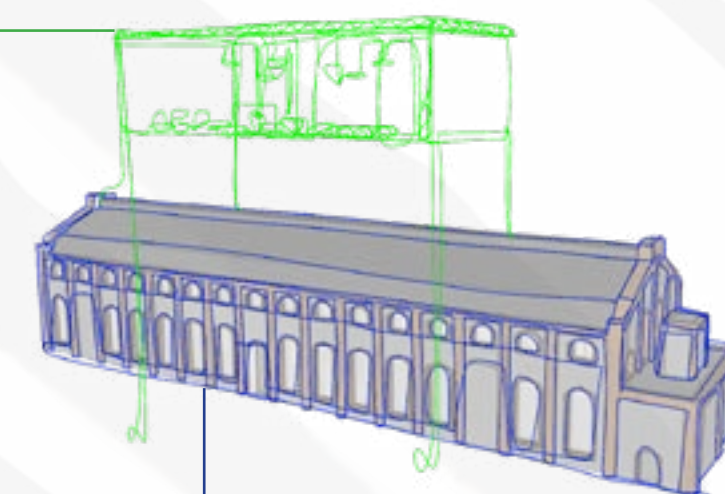


The Occupancy of a building should be the starting point of its desired design.

The Colliery reconsidered is a break down of the FFO methodology using the Penallta Colliery as the Canvas for the new occupation and can be manefested using adaptive reuse design.

Design Output

design solution from the input - providing for the needs of the contemparry and/or speculative future as a result of the target occupation (e.g. enhancement center).



Previous Function

Design Canvus for the insertion of the new function determined by the design input and relizeed as the design output (e.g. the obselite Penallta Colliery site).



Design Input

Research-based needs of the occupation- the occupation is the society being designed for making the input the analysis of past and present societal trends/critical issues providing the new needs of the design solutions (e.g. growing population of the over 65+ age group alongside the increasing time spent in poor health across this demographic.

Design Input

Chosen site analysis and needs identification

Former engineering workshop
now adaptive reuse site of
apartments.

General
storage

Bath building

Lamp room

Pit top office

No. 1 Pit

No. 2 Pit

Chosen site- Penallta Colliery,
Engine Hall and Fan House.
Located near Hengoed in the Rhymney Val-
ley, Caerphilly

Built between 1905 and 1909

Engine Hall and Fan House is **grade 2 listed**.

Efficient focused design- power needs answered
within one building.

Social site analysis - Identifying the occupation
alneeds

The **population of Wales** has increased by
1.4%, from 2011 to 3,107,000 in 2021.

Although the **population in Caerphilly** fell
by **1.6%**, from 2011 to around 176,000 in
2021.

The number of **people aged 65 to 74 years**
rose by 19.1%.

While the **number of residents**
between 35 and 49 years fell by
around 13.0%.



Caerphilly- The **4th most densely populated local**
authority out of all 22 across Wales.

Key findings influncing the design output: -

- Rising older age demogaphic (relating to more time spent in poor health).
- Community focused.
- Efficiency focused.
- Identified need for reuse.
- Rare remaing example of the coal industry.

Survival rates of colliery are low- acts as a **rare example**

Largest outputs in the world till 1925 and described as
the the **'super-pit'** of its day

Influenced the growth of urban **communities** along the
coast of Swansea and Cardiff.



Former Engineering workshop now adap-
tive reuse site of Apartments.

Engine Hall, Fan House and
head frames.

Past

Present

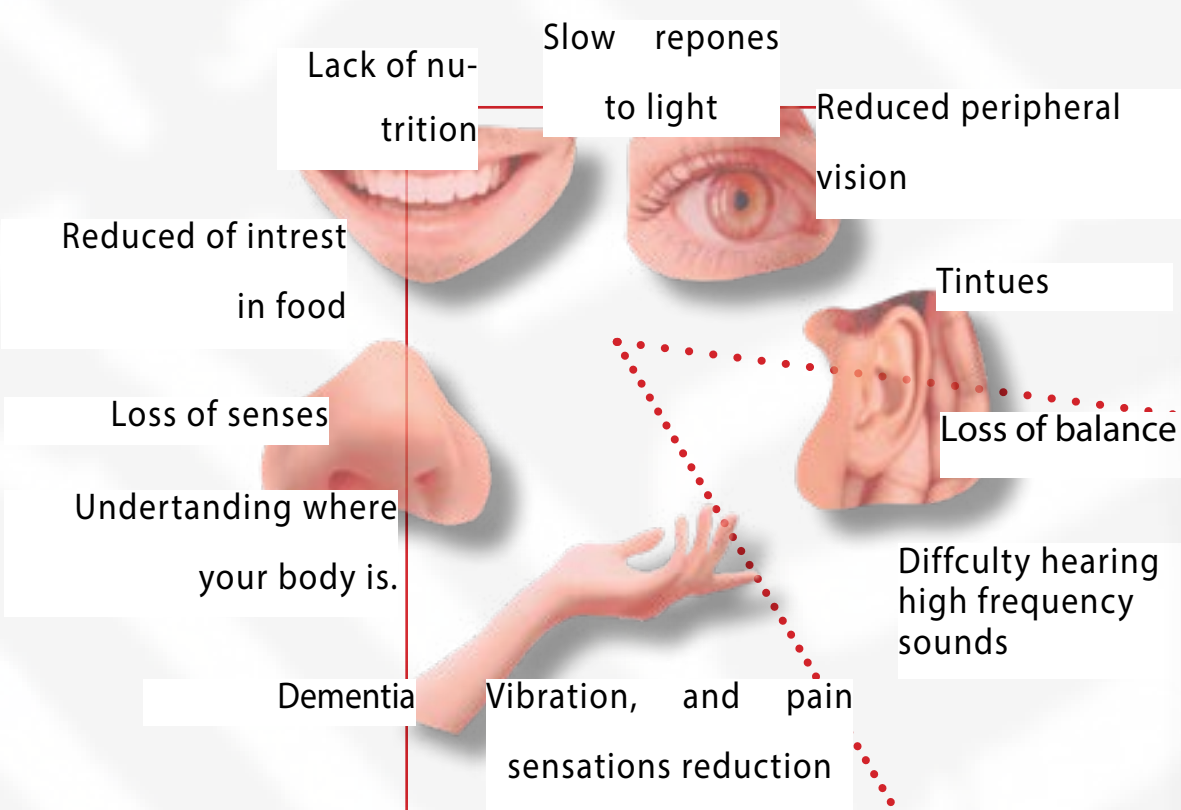
Future

Buildings at Risk
Strategy 2023 - 2028
Identifys
Capable of reuse.
Holistic approach preferred.

The Penallta Colliery Enhancement Centre

A speculation of what society and the community of Caerphilly might need today and in the future. The centre supports the sense lost from the increasing time spent in poor health within the growing population of the over 65 age group.

The senses affected by poor health:



Health professional that participated in my questionnaire felt that COPD (lung condition) was the most common condition seen in practice and Dementia was also referred to. Both conditions can be effected and caused by the senses and life style factors...

(Meaning- Perseption of the body in spaces- location understanding, and perseption architectural forms and furnishings. may seem like obsticals).

Triangle forms suggest direction.

Grid design concept for truss, curtain and fabrics pattern.

Design Input

to Output...



2 point perspective- West activity zone A (NTS) Community kitchen, group activity tables, gardening planters.

Red light to enhance the body's natural circadian rhythm effected by sundowning a symptom seen in Dementia and neurological deterioration.

Food areas at the end of the journey -stimulation of appetite- Meals can improve social interaction...

Red light help stimulate appetite in people with Dementia.

BREEAM suggests that- Refurbishment + health and well-being standards = ventilation systems to reduce airborne infectious diseases

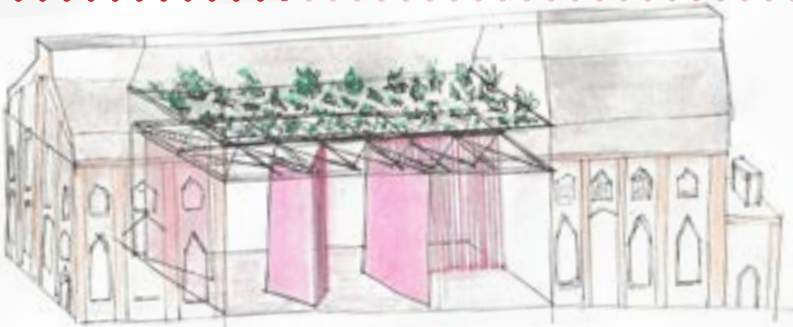
The use of plants to purify the air by generating negative ions.

Plant and natural fibre are most effective in reducing aerosols compared to mechanical methods

Added electrical ioniser and this device will emit up to a million times more ions compared to a plant without.

Negative ion plants in the design- Spider plant, Peace Lily, Aloe Vera, Monstera and Bamboo Palm.

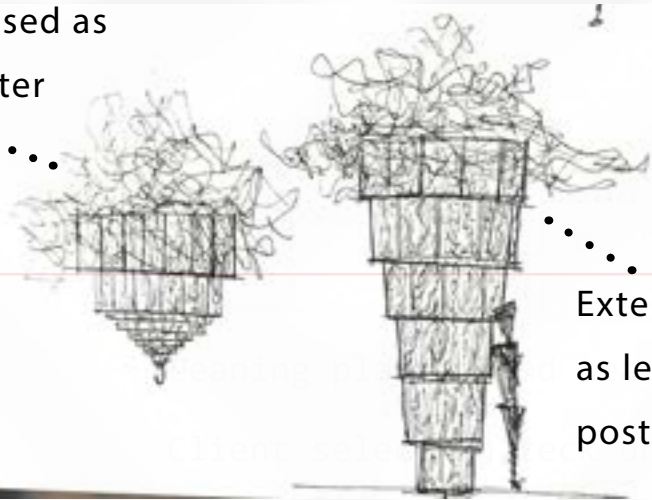
Future



Concept Iso water colour- NTS

Triangular grid system supports Curtains wall dividers allowing for less architectural obstacles. Door frames can disrupt the perspective of the body in space.

Decompressed as raised planter



Extended as leaning post

Bespoke planter

- Texture formed from lino prints.
 - Triangular patterns and shape- suggest direction and provide tactile surfaces. Support movement, balance and air quality.
 - Telescopic- the user can extend it to make a leaning post and when decompressed it forms a planter at ground or raised to overhead level.
 - Each edge measures 300mm- bench at ground level.
- See SD for construction drawings and details.

*(See supporting documents for extended research, referencing, design visualization and technical specifications).

Technical drawings - Penallta Colliery Enhancemnt Centre (Design output)

Client selection

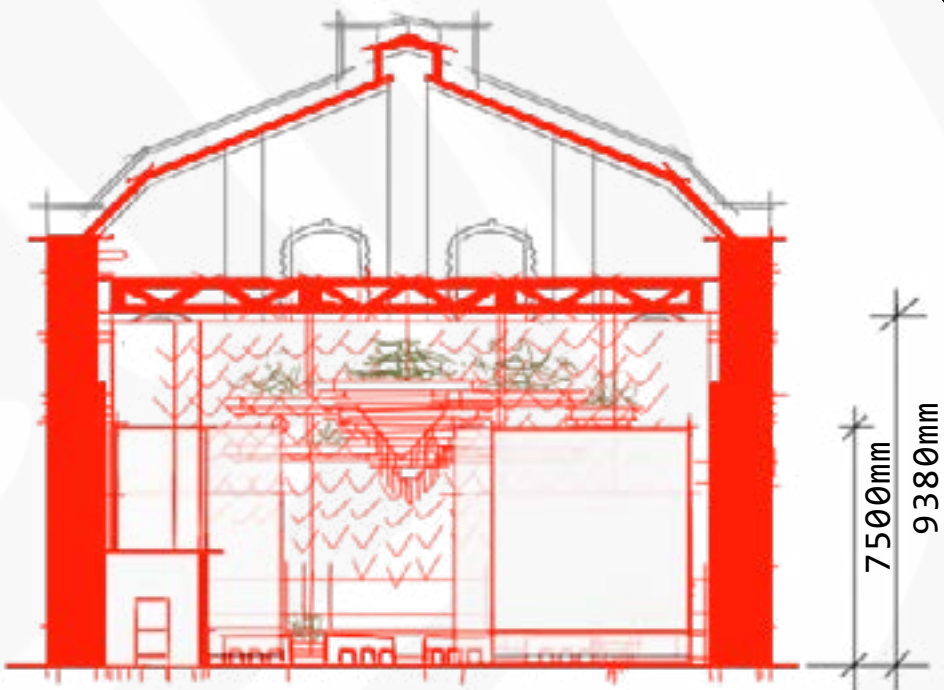
Activity zone 1

West from the reception, garden planter on the truss system follows through to 2 large triangular group tables which can divide into 4 small group tables for planned social activities. This zone is surrounded by an accoustic curtain on a triangular rail. Following is a community kitchen where activities can progress to meal prepration before leaving the center through exit A.

Activity zone 2

East from the reception moves stright into a dining area surrounded by acustic curtains on a triangular rail system. After this zone a cafe is located.

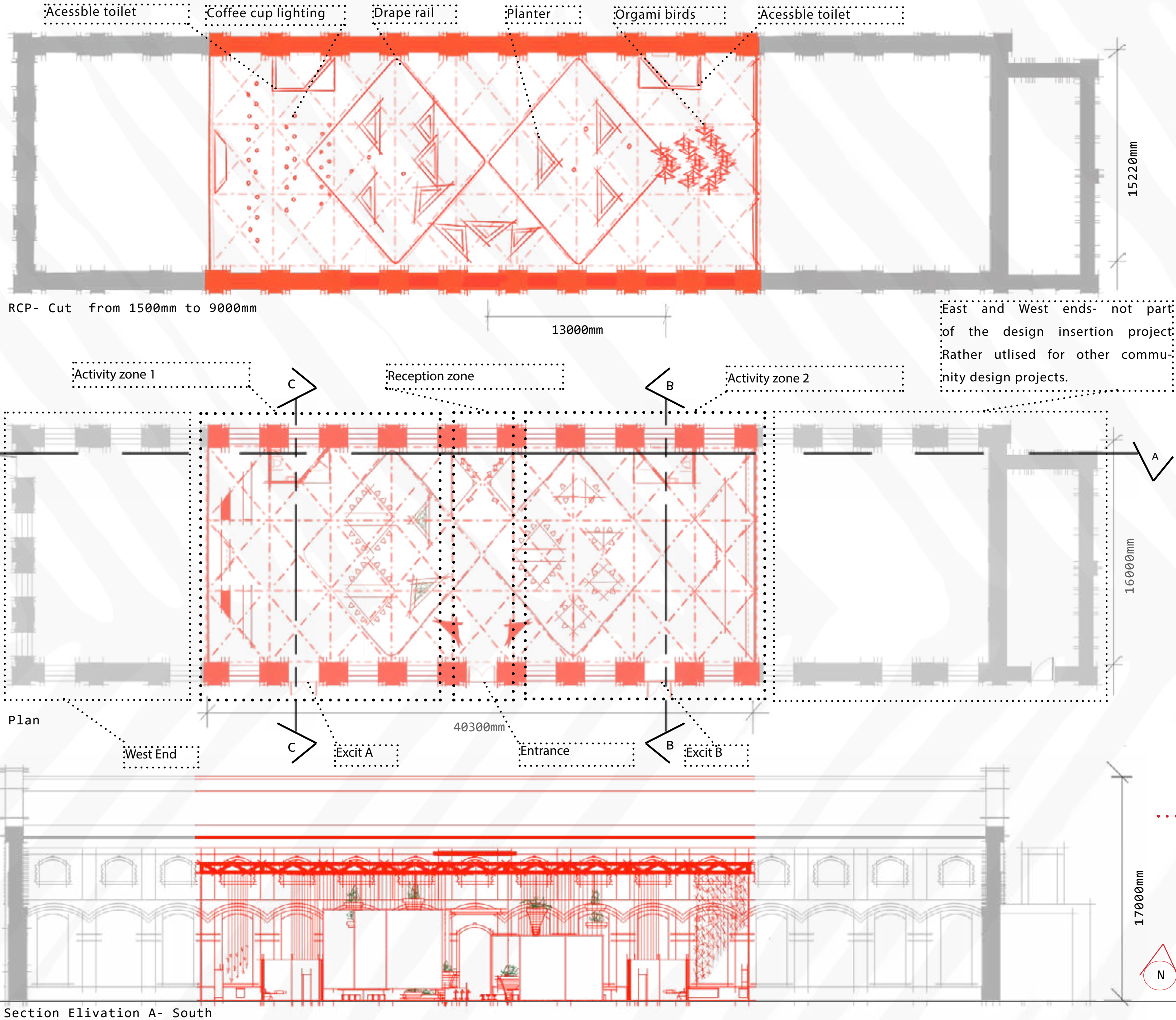
Zone B allows for spontanious use of activities where the user can acess the tables and planters without set activities. A cafe means the user has the option to have meals prepared and served to



Section Elivation C- East



Section Elivation B- West



East and West ends not part of the design insertion project. Rather utilised for other community design projects.

*(See supporting documnets for extended design visulization & technical specifications/detail drawings).



Design output

An eco plus social collbration of design inputs that uphold the herritage and community focus of the orginal site function. Via an efficient collec-tion of locally sourced, reused, human safe and hand crafted materials. This is to ultmitely ehance and protect the speculated trend of increasing time spent in poor health over the age of 65 years via the “form follows occupation methdology”. Reusing the site for current and future needs.

fold on dashed lines to form Brochure

Find more info at-



Imogen Milroy



designed_by_imi



Imogen Milroy

The Penallta Colliery Enhancemnt Centure.

A example and promotion of the “Form Follows Occupation” methodology- Founded by Imogen Milroy for today and the future.

Design matiral solutions :-

- Cardiff reclaimed timber (locally sourced).
- Purifying paint- white paper.
- Reclaimed crockery smashed (locally sourced).
- Community reclaimed coffee grounds (locally sourced).
- Reclaimed glass coffee mugs (locally sourced).
- Reclaimed paper from commnity project of origami birds (locallly sourced).
- Wool Serge (raw, locally sourced & quality air) red drapes.
- Air purifying plants (locally sourced).

Fold on dashed lines to form Brochure