MANCHESTER SCHOOL OF ARCHITECTURE

Power to Youth

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MANCHESTER 1824 The University of Manchester

Manchester Metropolitan University

POWERHOUSE

Corstorphine & Wright

MSA LIVE 24

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Partners

Our collaborators for this project are the Moss Side Millenium Powerhouse and Corstorphine & Wright Architects.

The Moss Side Millenium Powerhouse is a registered charity based in Moss Side, Manchester who has been in existence since the year 2000. They provide a range of services for local children and young people with a focus on mental health, careers advice and guidance as well as specialist programmes for young people aged 16-19 who are NEET.

We are also working with Corstorphine & Wright Architects who are working on retrofitting the Powerhouse and improving the building performance of the building.

Introduction

Power to Youth

Our student-led team worked in collaboration with the client and the architect to propose sustainable interventions to improve the Moss Side Millenium Powerhouse, a youth hub in the heart of Moss Side. The Powerhouse provides arts, mental health, physical and educational services to hundreds of young people each year.

We particularly explored how the performance and sustainability of the Powerhouse can be enhanced in order to promote its usage and help to keep its services running at the quality the community deserves, with a long-term cost they can manage through engaging a fabric-first approach. We also looked at how the internal spaces and layout of the Powerhouse could be improved in order to further improve community life, foster cohesion and empower the youth of Moss Side through creative problem solving.

Through this project, students were also able to hone their technical and design development skills, where the Masters' students supported the development of their skills in Adobe Creative Suite, both digital and physical modelling and CAD software through holding smaller focus groups and workshops. Our final outputs included a set of illustrative visualisations, technical bay sections and a physical model of a bay elevation/section, which were then presented and handed over to the client and architect at the end of the two action weeks.

Site Introduction

The Site

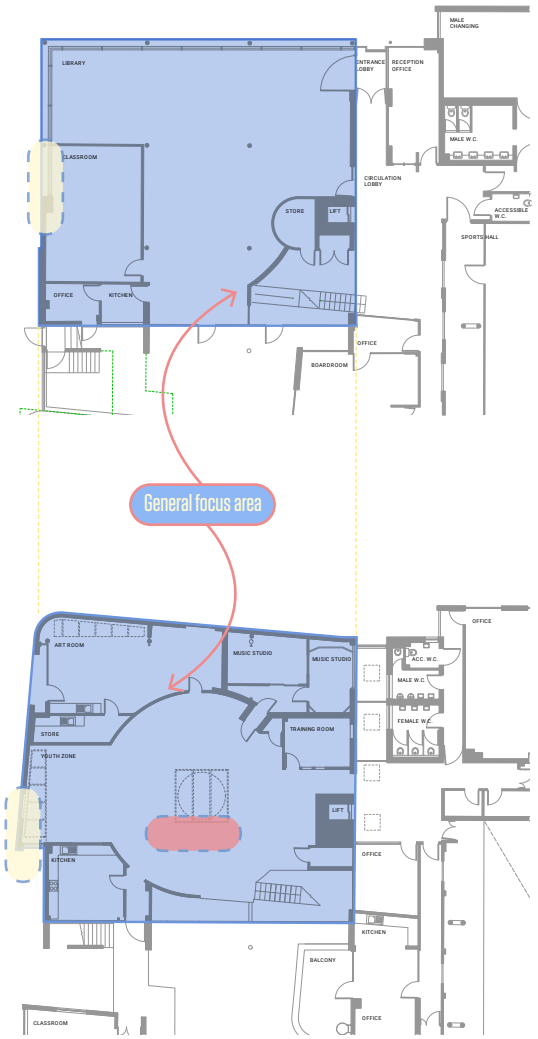
The Moss Side Millenium Powerhouse was built in the late 90's for the turn of the new millennium. Situated in Moss Side, it's a very well-loved and well-used building, **thus refurbishment is needed to 'future proof' the facility and provide the local community with an enhanced facility that operates at a higher standard.**

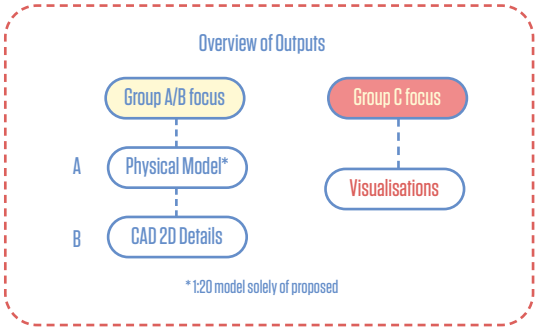
Focus Area

An idea that emerged from our initial discussion with the students on the brief and building was to have **all of the three outputs focusing on the same area in order to build a more comprehensive and coherent design proposal**, rather than focusing on three different spaces. We decided to centre our study around the Youth Zone for the following reasons:

1. The Youth Zone is an area of high traffic and use, making it an ideal area to study how the internal layout can be improve to further foster a sense of community and suit the current and future needs of the Powerhouse.

2. The glazing on the Ground Floor library experiences increased heat loss and thermal bridging. A study into alternative fabric enhancement could help cultivate a more comfortable and habitable environment for the intended users.





Visit to the Powerhouse

We were given a tour of the Powerhouse by the youth and community manager, Michelle, on Wednesday morning.

Originally we had planned the site visit for Tuesday afternoon, but had to shift it to the next day to suit the schedule of the Powerhouse. This worked out for the better, as we could spent the first day of the project (Tuesday) briefing the students on the building and the information that was shared by the architects. This also allowed the students to pick up potential focus areas of the building more easily as they walked through the building.

Meeting the Architects

On the last day of the first action week, we presented our progress to the architects, Joe and Kim, at the Corstorphine & Wright office. They were very enthusiastic about our outputs and happy with the direction of our project. The Senior Architectural Technician, Phil, also very kindly shared some existing detail drawings of the Sports Hall which the students were interested with.

Group A

Physical 1:20 Bay Model

Group A have been working on creating a sectional bay model of the existing building.

We started by mapping out where the bay section would be taken from using the existing plans and elevations provided by Corstorphine & Wright, before creating a digital 3D model using Revit in order to visualise how the physical model would be constructed.

We then divided up the different components of the model so that each member was responsible for creating the laser cutting drawings for a specific area. After cutting and organising the model components, the group worked collaboratively to assemble the model.

It would have also been advantageous to have models of other areas of the building to further study the different and bespoke build-ups of the Powerhouse if we had more time, but we were overall very pleased with how the model turned out.

Image Top (Left):
Students assembling model

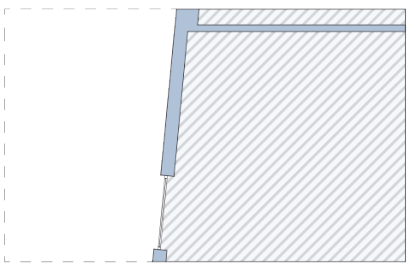
Image Middle (Left):
Students assembling model

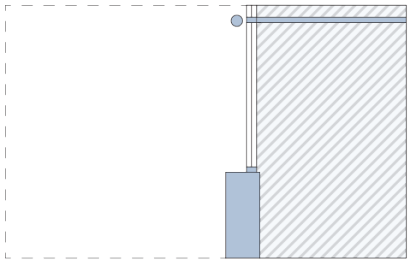
Image Bottom (Left):
Students assembling model

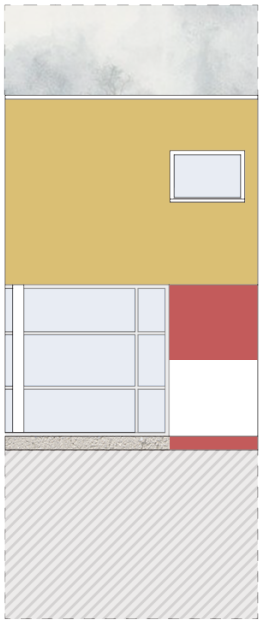
Image Top-Left (Right):
Ground/first floor of bay section

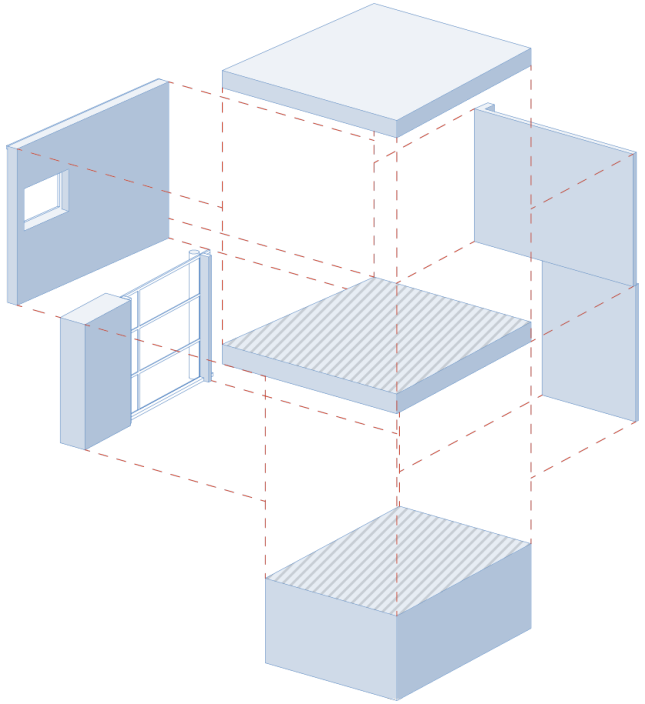
Image Top-Right (Right):
Elevation view of the bay section

Image Bottom (Right):
Exploded axonometric of bay section model pieces









Group B

2D CAD Envelope Details

Group B were tasked with producing an existing detail of a particular bay section of the building.

Using the details sent over by the architects, we then looked and researched how the building fabric could be improved by reducing the existing heat loss experienced by the building. bring character to Moss Side and also represent the community through the new facade proposed by the students.

It would have been very useful to do some thermal studies on the proposed facades to check how successful it is at reducing thermal bridging, but this proved difficult to do due to the time, skills and resources constraints of the action weeks.

Image Top (Left):
Aluminium chain cladding precedent - **Milan Expo 2015 by Zorrozua y Asociados**

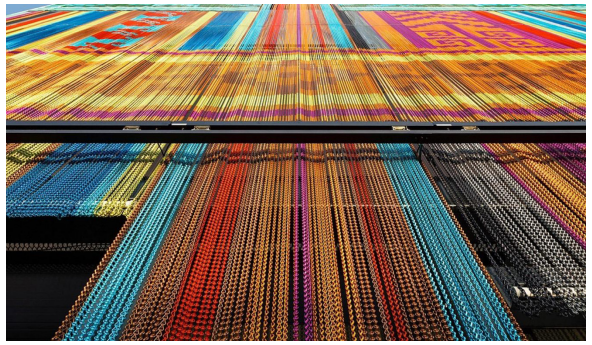
Image Middle (Left):
Perforated aluminium panel cladding precedent - **Euronews by Jakob + Macfarlane Architects**

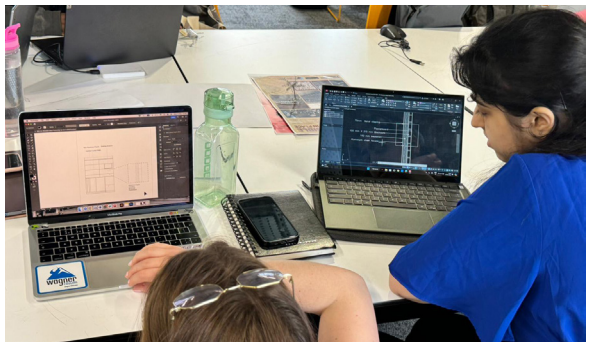
Image Bottom (Left):
Timber panel cladding precedent - **Wallan Veterinary Hospital by Crosshatch**

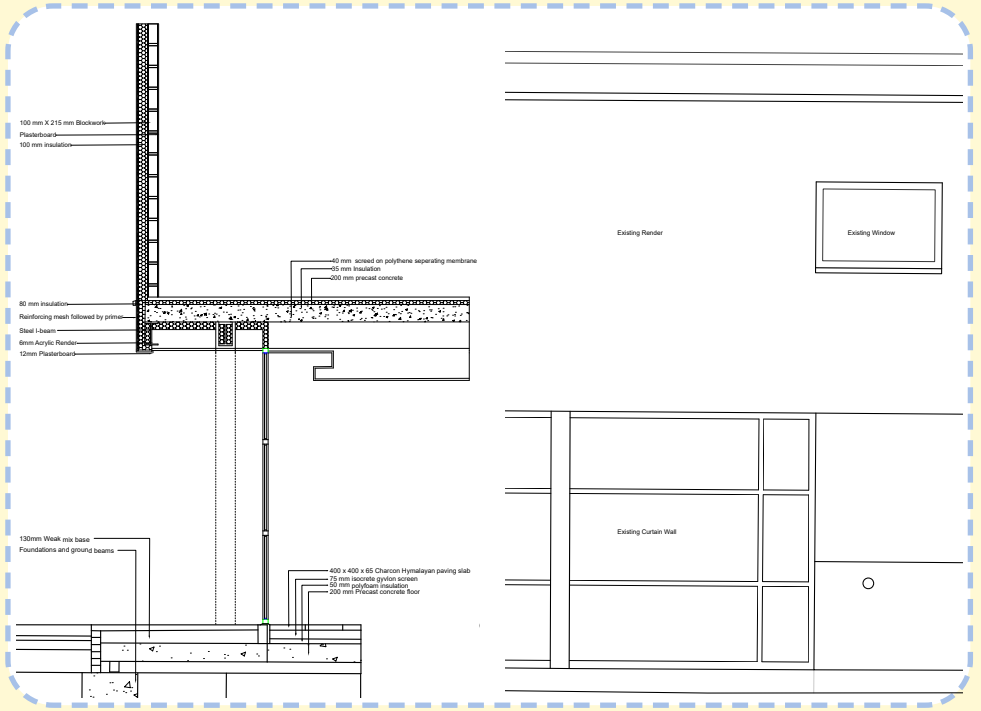
Image Bottom (Left):
Students working on the facade

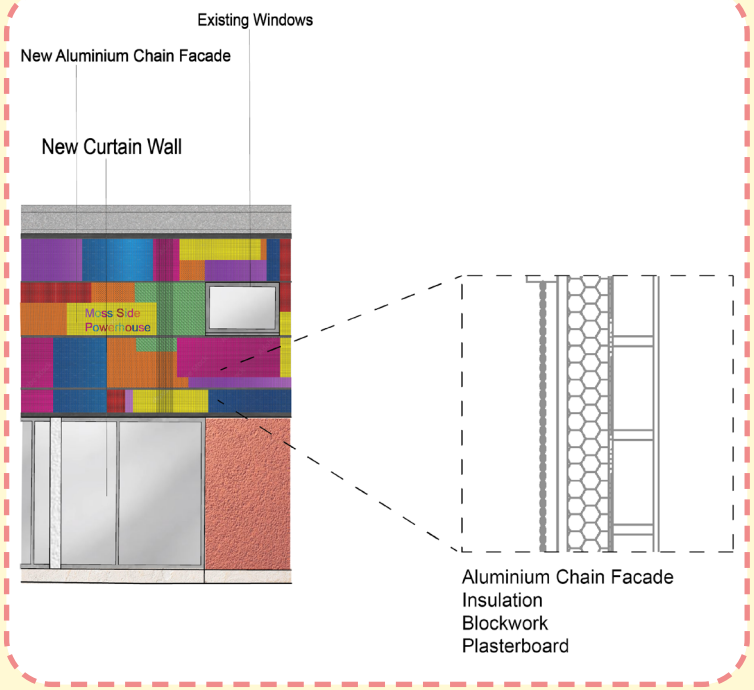
Image Top (Right):
Existing section and elevation build up details of the Powerhouse

Image Bottom (Right):
Elevation iteration #1 of the proposal aluminium chain cladding









Proposed Aluminium Chain Facade

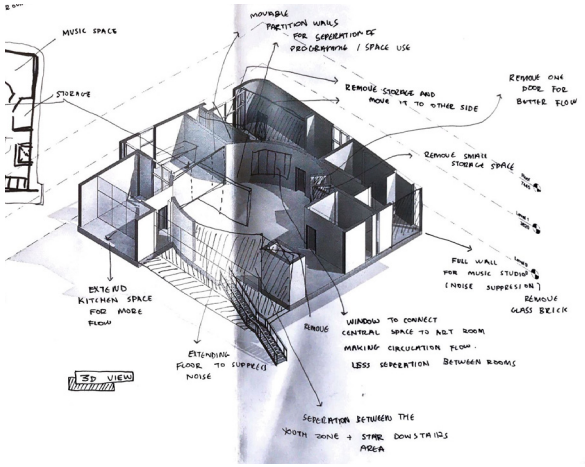
This aluminium chanel cladding proposal was produced by Ishmeen.

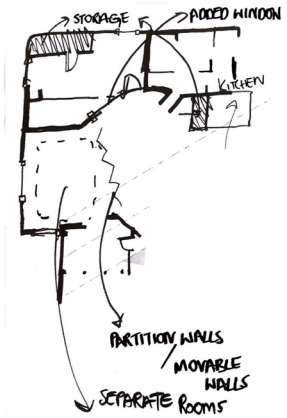
Group C

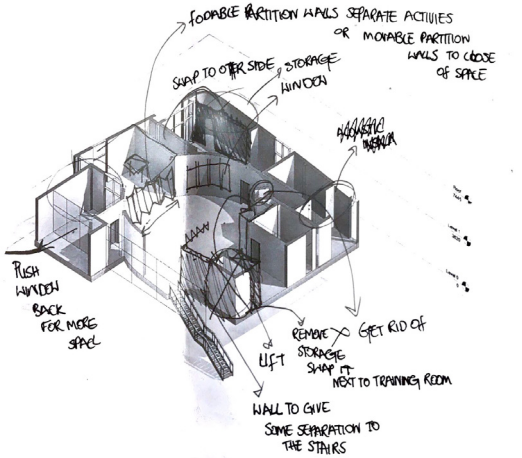
Digital Model & Visualisation

Group C have been working on developing Revit models of a key area focusing on the existing vs proposed options of the Youth Zone. Additionally, the group have been developing realistic internal visuals using rendering engines.

We started by modelling the existing key area of the Powerhouse building using the CAD drawing provided by the architects from Corstorphine & Wright. Based on axonometries of the existing area, the group sketched out suggestions for changing internal elements such as the poorly placed partition walls and balconies. Afterwards, following a combination of these alterations, a new digital model of the proposed key areas have been developed. The group then used this model as a base for producing various internal visuals using Lumion as the main rendering engine. The focus of this exercise was on materiality, transparency and occupation.







Images (Left):
Students initial proposal ideas

Image A, B (Right):
Proposed internal renders of the Youth Zone by Aniyanni

Image C, D (Right):
Proposed internal renders of the Youth Zone by Uyiosa

Image E, F (Right):
Proposed internal renders of the Youth Zone by Dieu

Collaging Workshop

During the group meeting with Corstorphine & Wright, the team discussed their plans for providing the community centre with a new mural and explained they have been working on drafting proposed murals to show to the client.

Following our site visit where we were shown the eixsting mural from a collaboration with Nike, as well as our conversation with Corstorphine & Wright, **we gathered a collection of images depicting key landmarks, historical events and cultural representations of Moss Side. We then had the students create collages as a wind-down and creative exercise in hopes to inspire potential mural designs**, and the students seemed to really enjoy the activity. We were very impressed with the quality of the collages that emerged from them!

Handover

The two action weeks came to a close on Friday morning with a handover of all the outputs to the client and the architects at the Moss Side Millenium Powerhouse. Each group presented their outputs, and talked briefly about their process and how they found the project.

Images Top:
Collage by Yumiko,
Ishmeen and Regine

Image Middle:
The collaging session

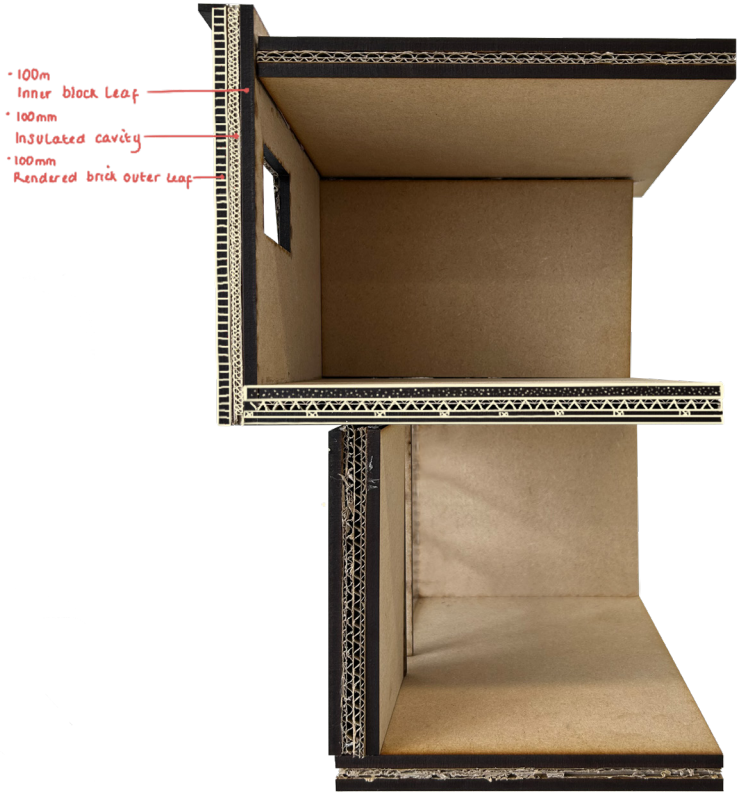
Image Bottom:
Collage by Freya and
Rafiqah

Reflection

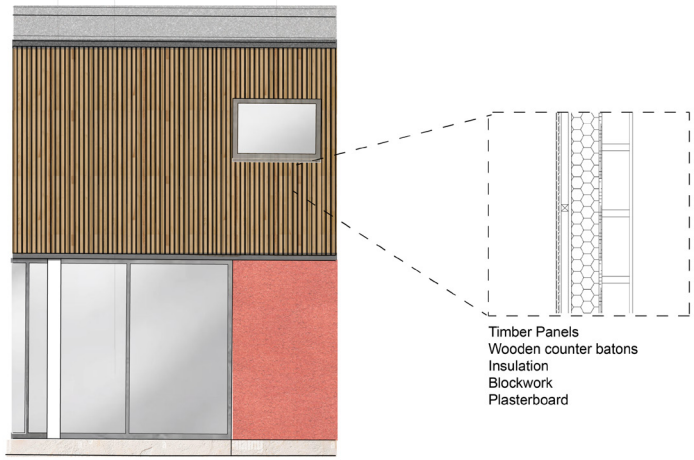
Overall, the students and groups showed great and successful collaboration and we managed to get all of the outputs completed within the 2 action weeks. The collaborators were really happy with the outputs, and we were really honoured to be a part of the project and hope that the outputs we've created play a role in driving positive changes to the Powerhouse. Ultimately, we hope the outputs will assist them in securing more funding in the future, to maximise the potential of the building and allow them to continue serving the youth of Moss Side and Manchester.

The students were very engaged, positive and enthuasiatic throughout the project and they also said that they have learnt a lot. We hope that they apply the skills they've gained beyond MSALive and in their future work.

Final Outputs

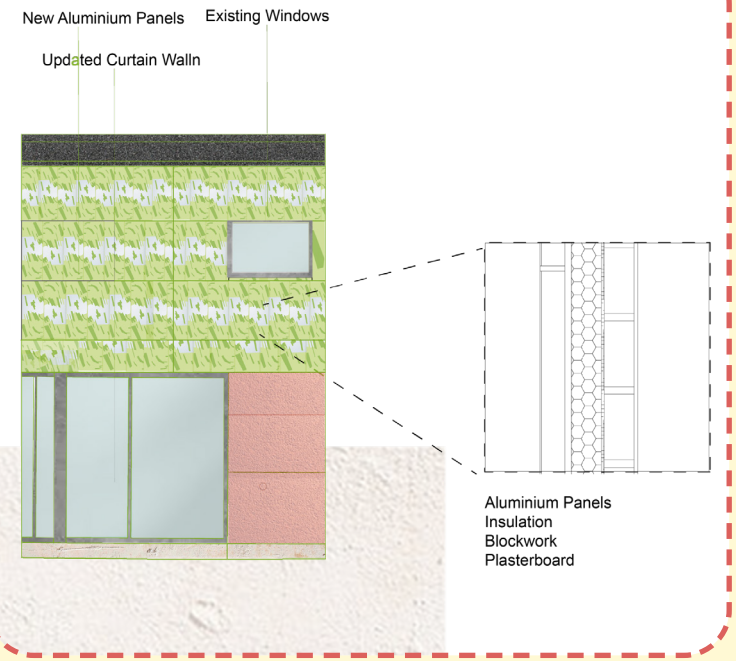


1:20 Physical Model



Proposed Timber Facade

This timber cladding proposal was done by Ishmeen and Daisy.



Proposed Aluminium Facade

This perforated aluminium panel cladding proposal was produced by Freya.

ABOUT

Each year the MSA LIVE programme unites Masters Architecture year 1 and Masters of Architecture & Adaptive Resuse students with those in BA foundation, year 1 and year 2 and Masters Landscape Architecture 1 in mixed-year teams to undertake live projects with external partners to create social impact.

LIVE PROJECTS

All MSA LIVE projects are live. A live project is where an educational organisation and an external partner develop a brief, timescale, and outcome for their mutual benefit.

SOCIAL IMPACT

All MSA LIVE projects are for community benefit or have social impact. Social impact is the effect an organization's actions have on the well-being of a community. Our agendas are set by our external collaborators.

EXTERNAL PARTNERS

MSA LIVE projects work with many organisations: charities, community groups, social enterprises, community interest companies, researchers, practitioners and educators.

STUDENT-LED

Our MSA masters students take the lead in the project conception, brief development, delivery and co-ordination of a small project. Other cohorts joined for an eventful 2 weeks of activities at the end of the academic year.

KNOWLEDGE TRANSFER

Working in teams within and across year groups and courses; MSA students participate in peer to peer learning. In addition, collaborators, participants and students engage in the transfer of tangible and intellectual property, expertise, learning and skills.

LARGE SCALE

This year approximately 600 students from 6 cohorts in MSA have worked on 40 projects with partners.

QUESTIONS

For questions about MSA LIVE please contact the MSA LIVE team:
msalive@mmu.ac.uk

BLOG

live.msa.ac.uk/2024

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