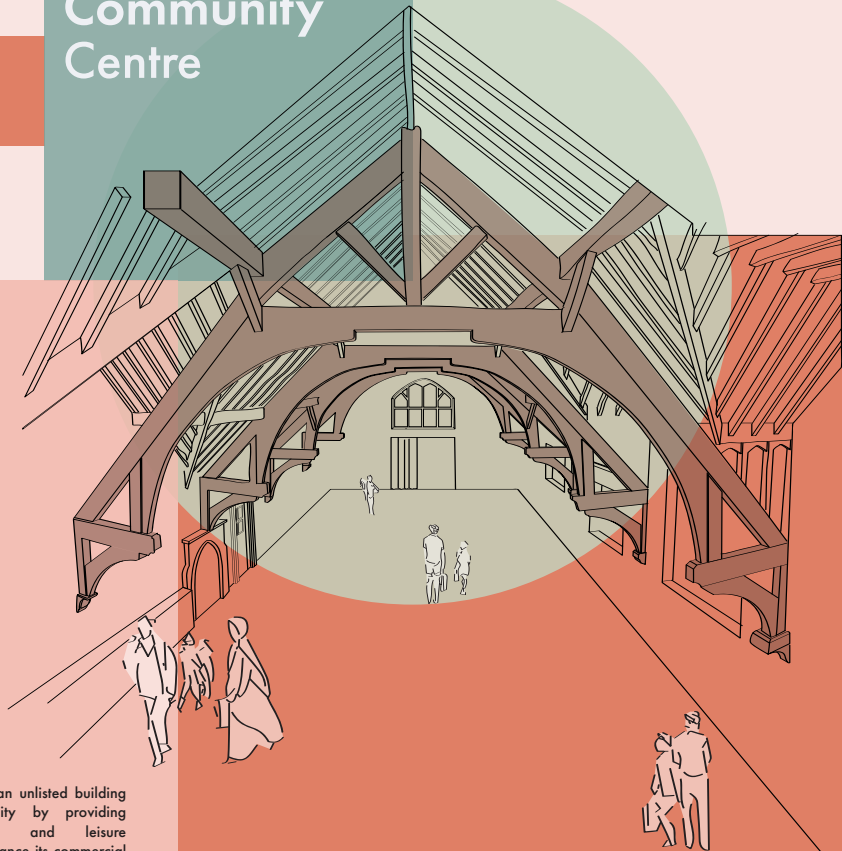


# MANCHESTER SCHOOL OF ARCHITECTURE

[UN]listed

## Birch Community Centre



Birch Community Centre is an unlisted building that serves the community by providing educational, recreational and leisure opportunities. To further enhance its commercial value and appeal, the Centre aspires to enhance its interior and exterior lighting and improve the buildings circulation and programming by providing access and utilization.

Visit [msa.ac.uk](http://msa.ac.uk) for more information



**MSA  
LIVE 23**

## Team

**Alisa Wang** (MArch1)

**Christopher Brierley** (MArch1)

**Janhavi Narayanaswamy** (MArch1)

**Jiawen Li** (MArch1)

**Lihong Xing** (MArch1)

**Mary Stoddart** (BA1)

**Yan Hei Lim** (BA1)

**Jasmine Johnson** (BA1)

**Saalim El-Haj** (BA1)

**Oliver Barrett** (BA1)

**Maria Pires Trevisan** (BA1)

**Florence Browse** (BA2)

**Leena Shandala** (BA2)

**Noor Bilal Faour** (BA2)

**Ellie-Marie Chesters** (BA2)

## Partners

"The object of Birch Community Association is to work with the local community and other voluntary and statutory organisations in a common effort to improve education, recreation and leisure opportunities for the local community".

Maintained by the Birch Community Association, the Birch Community Centre serves as the heart of the community, bringing people together through a variety of classes, events, youth work and exercise groups. Additionally, the large hall in the Centre facilitates as a venue for hire to enable people to host community events, family celebrations, parties and many more such activities.

The commercial hire of the Centre allows for the upkeep of this 100-year old building. The Birch Community Association is determined to serve the neighbourhood and celebrate the community for a further 100 years and more by constantly adapting to meet the changing needs of the community.

# Agenda

## Project : [Un]Listed

Previously designed as a Parish hall by local architect James Medland Taylor in 1897, Birch Community Centre is an unlisted building that serves the community by providing educational, recreational and leisure opportunities. Working with statutory and voluntary organisations, they host various activities such as yoga, martial arts, a shared reading group and a monthly pub-and-pizza night. To further expand its community outreach, the Centre is currently aiming to make improvements to its existing space.

## Lighting

The Centre offers its space for private hire at commercial rates to subsidise the cost of hosting socially beneficial events for the community. One of the most striking features of the community centre is its main hall, with a high vaulted, wooden hammer beam ceiling that can seat up to 120 people.

To further enhance its commercial value and appeal, the Centre aspires to enhance its interior and exterior lighting, with the former celebrating the architecture of the main hall's ceiling and the latter serving as a visual cue to direct visitors to the main entrance.

## Circulation and Programming

Behind the main hall rests an attic space, that is currently only accessible with a ladder. With only 1 of the 3 community rooms available to use during events in the main hall, by making the attic an accessible space, it provides an additional room for the Centre to host events or workshops for the community.

## Outputs

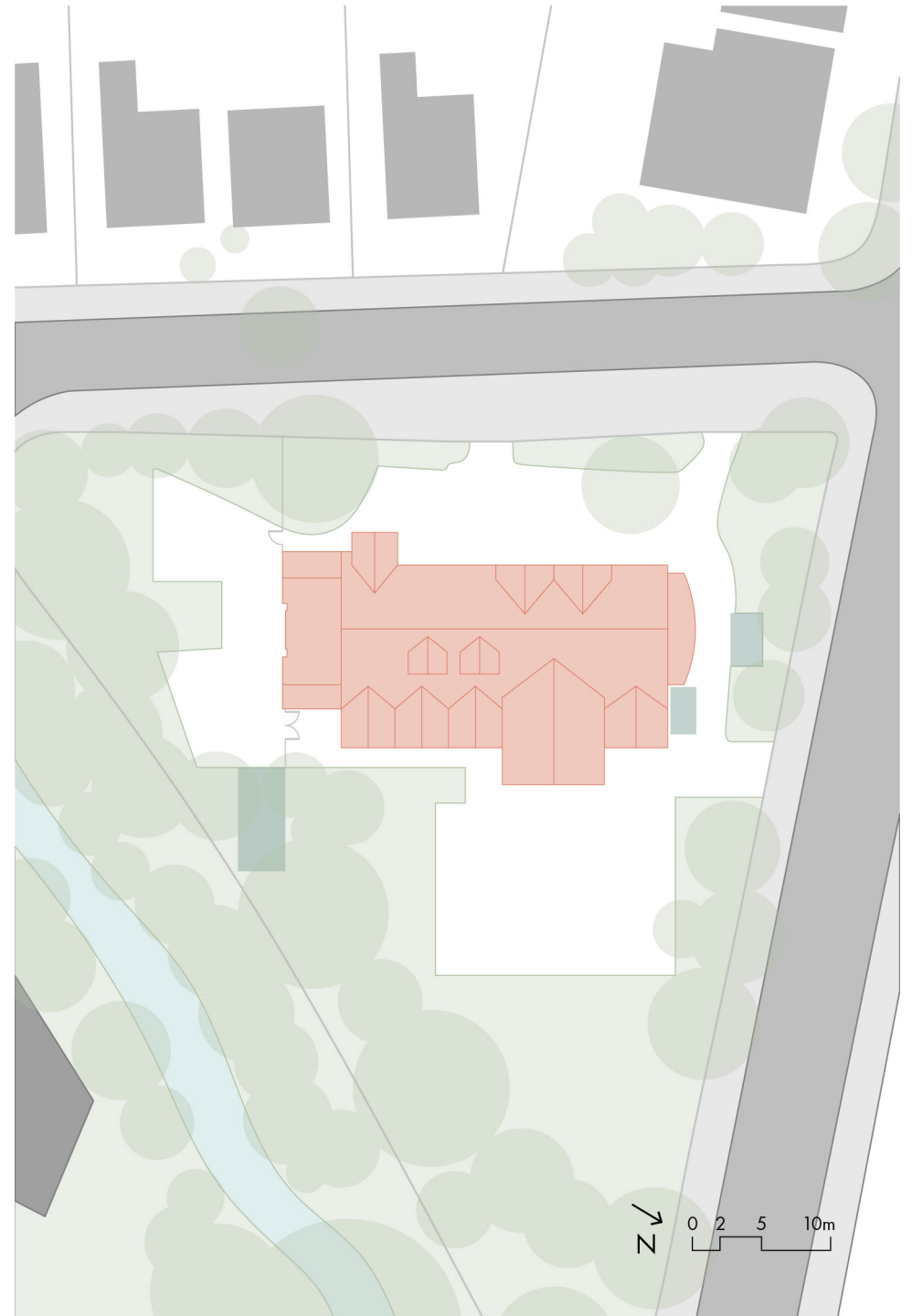
1. Physical model- Showcasing the intricate roof construction as well as displaying how natural light filters into the space.
2. Digital renders- Testing different interior lighting options that celebrate the roof while simultaneously providing functional lights to facilitate the main hall as a useable space.
3. Lighting plans- Shows the exterior lighting strategy employed to direct visitors into the main entrance.
4. Staircase plans and sections- Providing different configurations of the staircase placement to make the attic more accessible for use.

# Site Analysis

## Information

The Birch Community Centre is located in the heart of a residential area, which has a relatively quiet environment. Community centres are valuable spaces that bring together people from different walks of life. Their regular maintenance and upkeep are vital to address the changing needs of the communities they serve. The Birch Community Centre has been providing educational, recreational and leisure opportunities for the community to enjoy. One of the most striking features of the community centre is its main hall, with a high vaulted, wooden hammer beam ceiling that can seat up to 120. The Centre offers its space for private hire at commercial rates to subsidise the cost of hosting socially beneficial events for the community.

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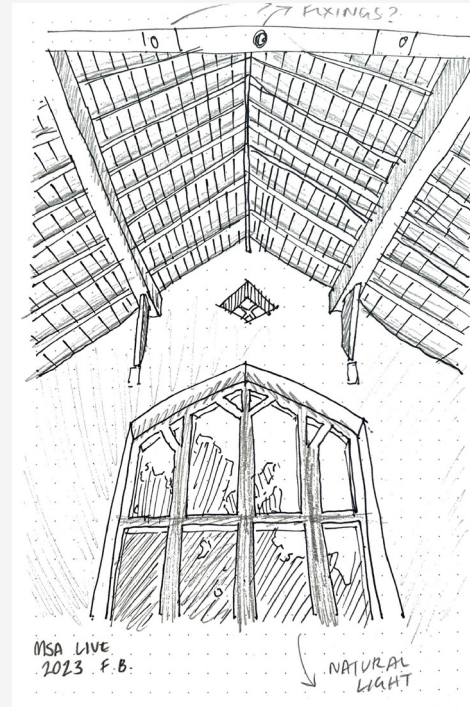
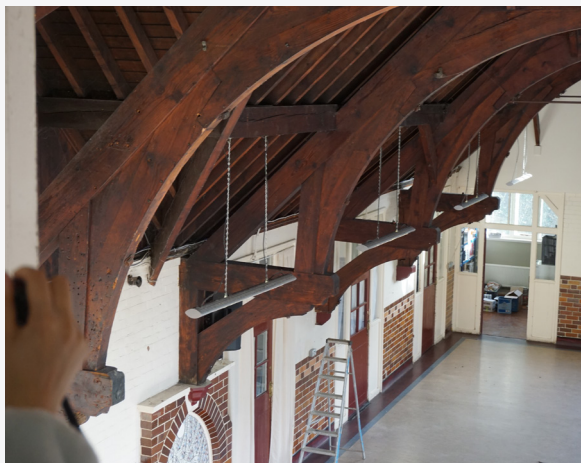
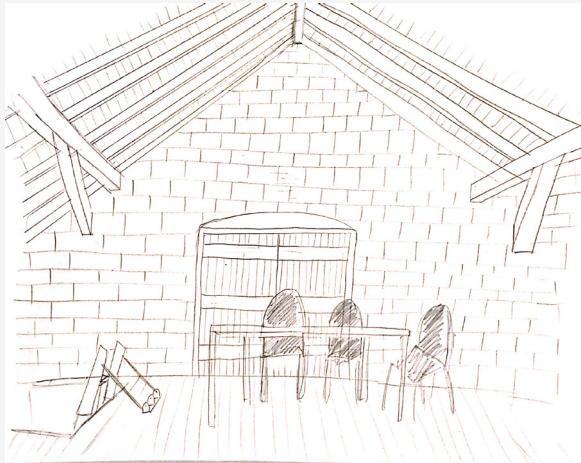
# Site Visit and Research

## Information

Jonathan Hodgkinson, chair of the trustees for Birch Community Centre, took the BA students through the history of the site, its community significance within North Manchester and its architectural merit from architect James Medland Taylor.

Jonathan took the students around the site and pointed out architectural moments and key details of the building. In addition, he included a tour of the building exterior and showing the various extensions. Jonathan also introduced their needs of lighting and the access to attic space.

After the tour each group focused on their outcome, group A started to record dimensions and material details for their physical model, while team B and C began sketch exercises to record key architectural moments which is significant to lighting and the circulation of space. After this team B and C stayed on site to keep developing their outcomes whilst Team A went into university and divided up the tasks of model making and agreed the section cuts, manufacturing techniques and material approaches.





## Process

### Getting to know each other

After a brief introduction of teammates, MArch students introduced the Birch Community Centre building, and the expectations for project outcomes. Then, our group embarked on a short icebreaker activity: sketching each other in pairs for 2 minutes, with the challenge of not lifting our pens from the page.

Following this, the BA students voted on their preferred outcome groups to join:

Group A - Physical Model-Making

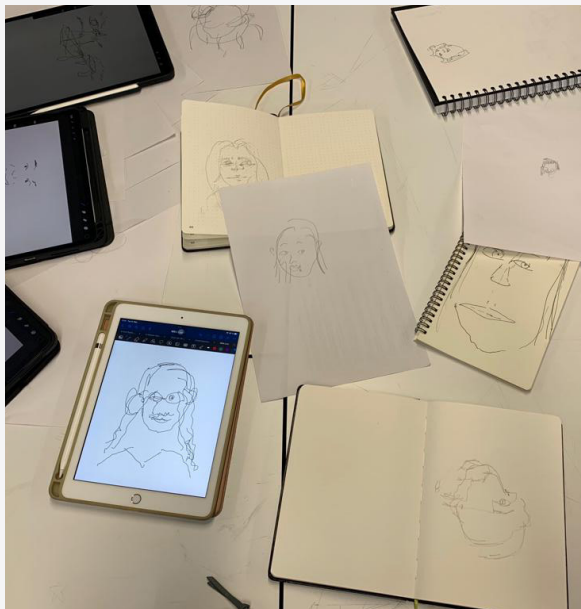
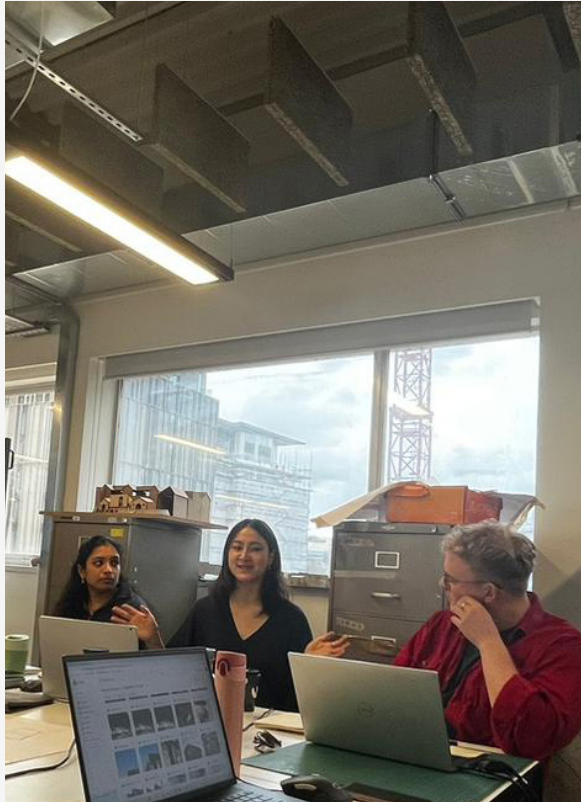
Group B - 3D Model and Rendering

Group C - Circulation & Programme.

Group A focused on budgeting for the physical model, exploring material options, and determining the appropriate scale for the final model.

Group B concentrated on preparing the rendering software for the Rhino and V-Ray workshops scheduled for Thursday and discussed initial individual research.

Group C examined the existing floor plans and discussed the desired drawing outcomes.



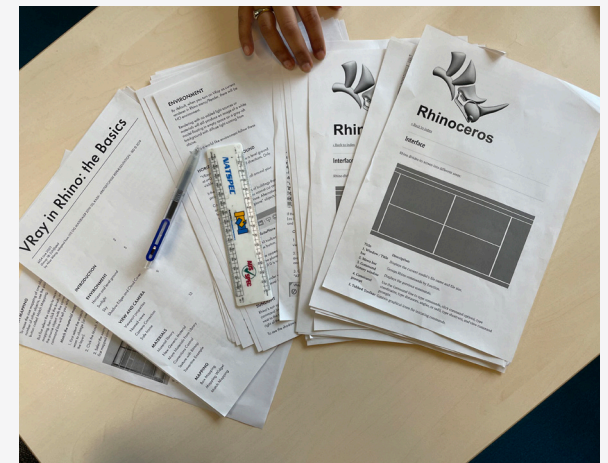
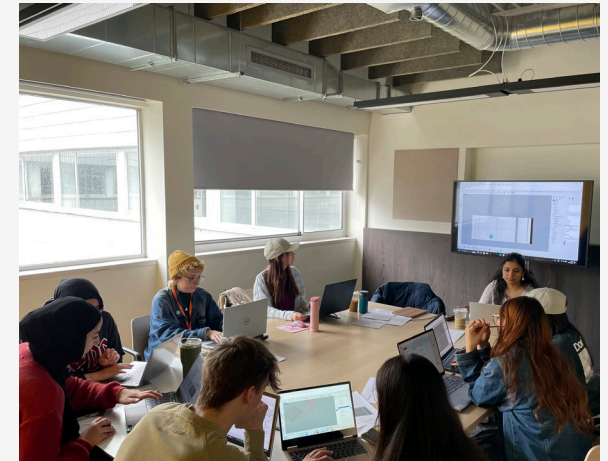
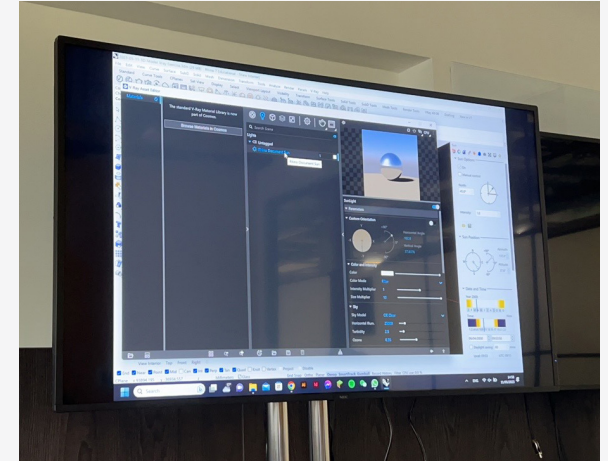
## Process

### Workshop: Software instruction

The BA students from Groups B and C participated in digital workshops conducted by the MArch students to better understand 3D modeling and rendering.

Starting off with Rhino, the BA students were introduced to the basic user interface, followed by essential commands for 3D modelings, such as Boolean difference, Extrude, and Offset Curve. Then, BA students were then tasked to use the existing floor plans of the site to model the building.

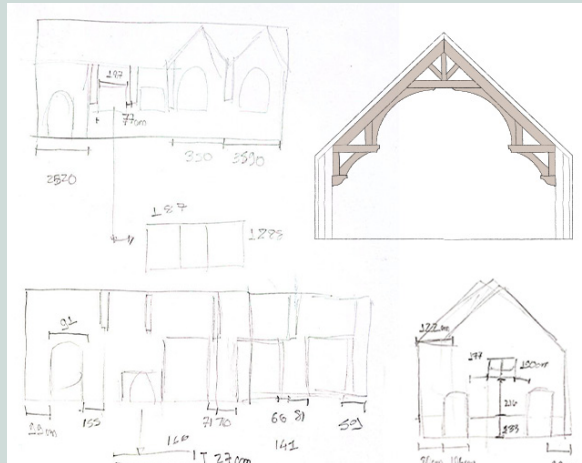
After breaking for lunch, the MArch students led a workshop on rendering using V-Ray. The BA students learned about framing views, adjusting light settings, and applying and scaling material textures on the models they were working with. After that, MArch students followed by a brief exploration of post-production work on Photoshop.





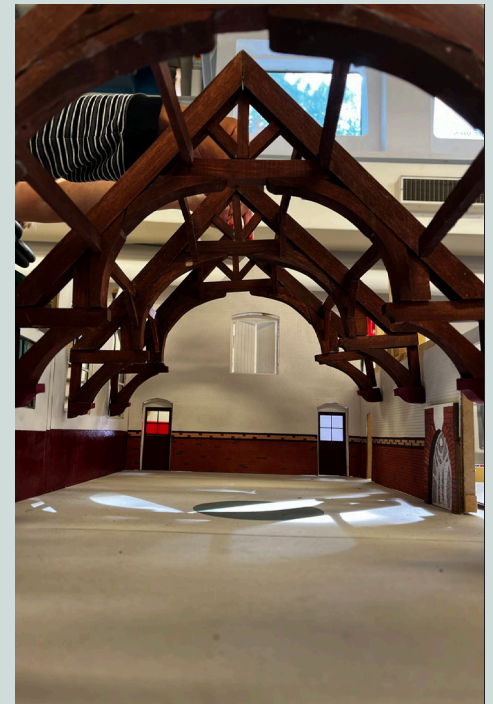
# Physical model

Throughout MSA live team A carefully planned and manufactured a 1:20 model, celebrating the beautiful timber trusses and internal brickwork of Birch Community Space. The manufacturing process was carefully planned to gain material accuracy, structural stability and showcase light entry from existing windows.



## Timeline

- DAY 1 Introduction of our project, ice breaker and initial budget and model planning
- DAY 2 Partners introduced the site and further model planning
- DAY 3 CAD elevation exercise for laser cut file
- DAY 4 Material testing of truss detail and laser cut file development
- DAY 5 Laser cut pieces and truss pieces cut
- DAY 6 Presenting initial results to partners, followed by truss varnishing, and assembly
- DAY 7 Exterior painting, base cut to shape and concealed structure built
- DAY 8 Trusses and internal walls stuck together, further roof structure developed
- DAY 9 External walls finished and stuck down, roof structure placed.



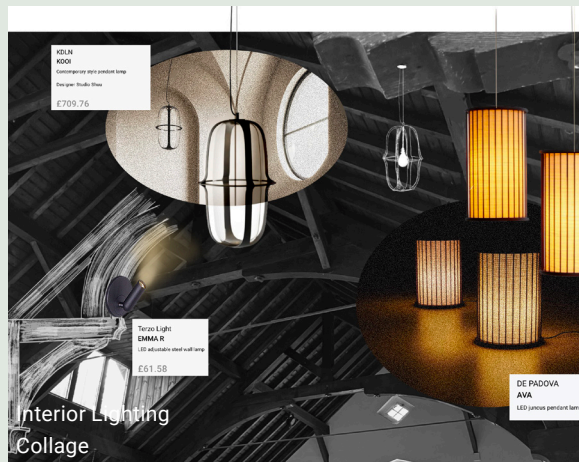
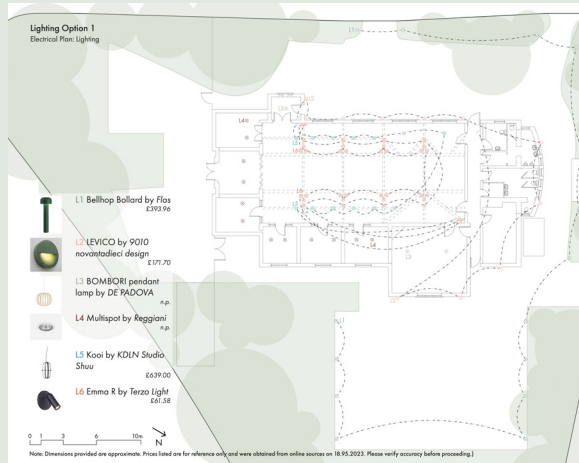


# Lighting

Team B undertook an exciting project creating four distinctive options for interior and exterior lighting for our collaborators. The project went beyond lighting design, as it also entailed an extensive workshop for BA1 and BA2 students on the essentials of Rhino and V-Ray within a limited time frame.

## Timeline

- DAY 1 Introduction of Team, Partners and Site
- DAY 2 Partners introduced the site and express their expectations
- DAY 3 Software instruction for Rhino and V-Ray
- DAY 4 Brainstorming and Research of Interior and Exterior Lighting Options
- DAY 5 Introduction of digital Planning & Producing 3D Model in CAD Lab
- DAY 6 Presenting initial results to partners. Then modifying the ideas.
- DAY 7 Production of exterior and interior visuals
- DAY 8 Finalising visuals of lighting strategies, collating all 4 Lighting Options into final document
- DAY 9 Present the final results to partners.



As a key component of the project was the creation of a comprehensive 3D model of the Birch Community Centre main hall, this task allowed the students to gain hands-on experience and develop a deep understanding of 3D modelling software and the art of rendering artificial light.

The team also covered the practical skill of electrical planning, emphasizing the use of official electrical symbols and drawings. This aspect, which holds greater significance in professional practice than in academia, provided the students with valuable insights into real-world applications.

Students additionally explored interior design concepts, such as understanding of materiality and colour, extending beyond the confines of purely academic pursuits. Exploring this through collages and other visualisation techniques, students created various expressions of their lighting concepts. By researching real-life products for our collaborators, it was necessary to also consider aspects such as budgeting and feasibility.

Overall, the project served as a platform for students to develop their digital skills, while fostering a deeper understanding of lighting and materiality.

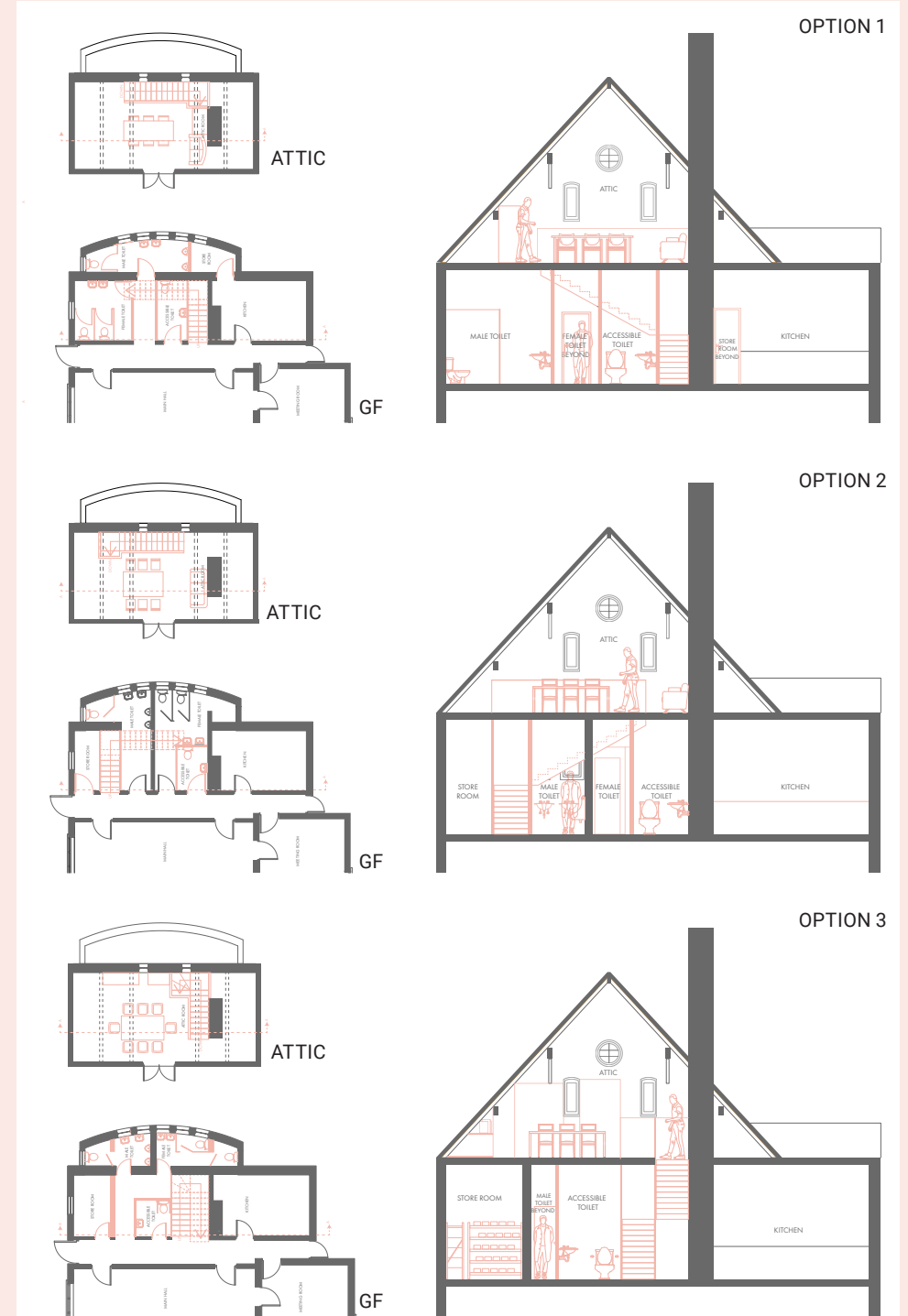
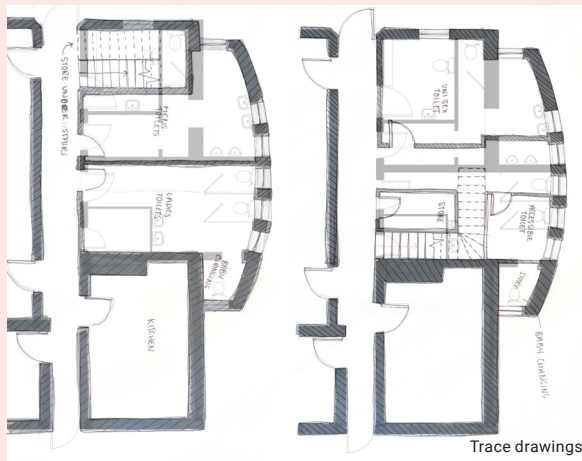
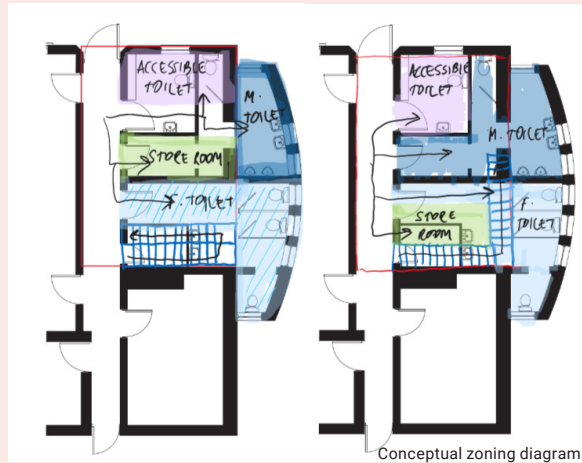


# Circulation and Programming

To make the attic space more accessible and usable, a staircase had to be introduced, requiring a reconfiguration of the toilets. The students explored their ideas by first tracing and zoning out different ways of reconfiguring the space which then led to more concrete results in the form of plans and sections.

## Timeline

- DAY 1** Introducing the project and each other
- DAY 2** Visiting the site with the collaborators expressing their expectations
- DAY 3** Software instruction for Rhino and Vray
- DAY 4** Brainstorming staircase placement and reconfiguring toilets
- DAY 5** Turning hand-drawn drafts into digital plans
- DAY 6** Presenting initial results to collaborators for feedback and modifications
- DAY 7** Modifying plans based on feedback and drafting sections to better convey ideas
- DAY 8** Formatting outputs for consistency
- DAY 9** Completing publication and presenting final outputs to collaborators





## ABOUT

Each year the MSA LIVE programme unites Masters Architecture year 1 students with those in BA 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 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 650 students from 4 cohorts in MSA have worked on 42 projects with partners.

## QUESTIONS

For questions about MSA LIVE please contact the MSA LIVE team:

**[msalive@mmu.ac.uk](mailto:msalive@mmu.ac.uk)**

## BLOG

**[live.msa.ac.uk/2023](http://live.msa.ac.uk/2023)**

## SOCIAL

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## WEBSITE

**[www.msa.ac.uk](http://www.msa.ac.uk)**