

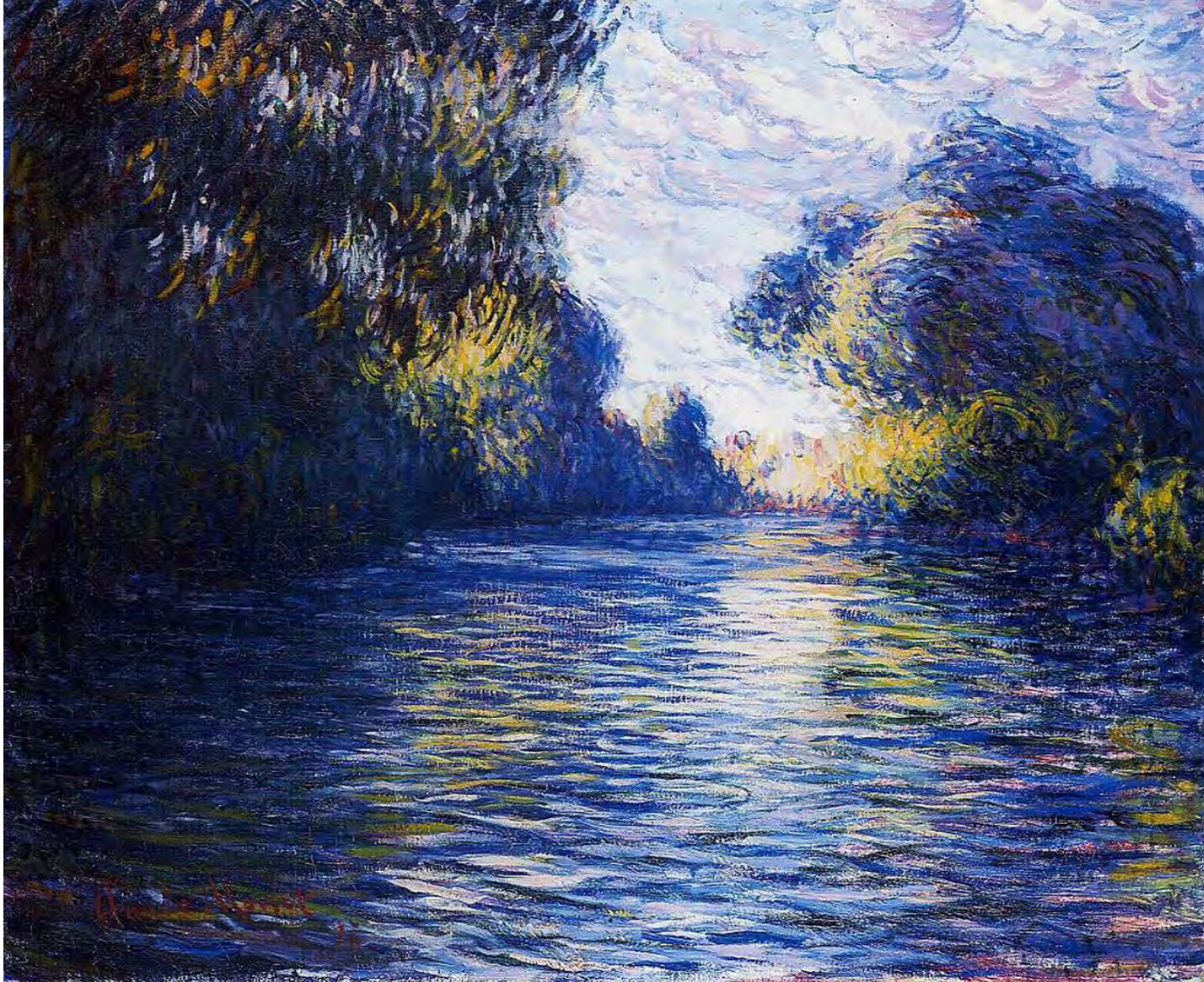


| ARCH 570 | NATURAL LIGHTNING- PORTFOLIO |

| Andrew | Luja | Tyler |

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The quality of light

Morning on the Siene

- *Monet*

- Softly colored
- Hushed
- Delicate
- Muffled early morning light
- Solid form from mist
- Equal importance of reality and its reflection
- Reinforces mood of stability and calm

The quality of light

Late Summer VS Early Fall

9/12/23 6:16 AM



9/11/23 11:38 AM



9/2/23 1:45 PM



9/11/23 4:31 PM



9/11/23 5:39 PM



10/24/23 7:34 AM



10/17/23 11:34 AM



10/18/23 1:18PM



10/17/23 4:06 PM



9/18/23 5:31 PM



September 8th, 5:32 P.M.



September 12th, 7:20 A.M



September 12th, 7:00 P.M.



October 8th, 1:03 P.M



October 10th, 7:00 A.M



October 16th, 5:040 P.M

Morning



Sep 11, 023 | 6:32 a.m. |

Day



Sep 5, 023 | 1:04 p.m. |

Evening



Sep 6, 023 | 5:57 p.m. |

Late summer



Oct 6, 023 | 10:34 a.m. |



Oct 10, 023 | 12:35 p.m. |



Oct 13, 023 | 6:06 p.m. |

Early Fall

10/24/23 7:34 AM



10/17/23 11:34 AM



10/18/23 1:18PM



10/17/23 4:06 PM



11/30/23 7:28 AM



11/16/23 11:20 AM



11/12/23 2:30 PM



11/29/23 4:08 PM

Early fall VS late fall | Tyler |



October 8th, 1:03 P.M



October 10th, 7:00 A.M



October 16th, 5:40 P.M



November 28th, 4:00 P.M



November 4th, 11:00 A.M



November 9th, 4:00 P.M



Oct 6, 023 | 10:34 a.m. |

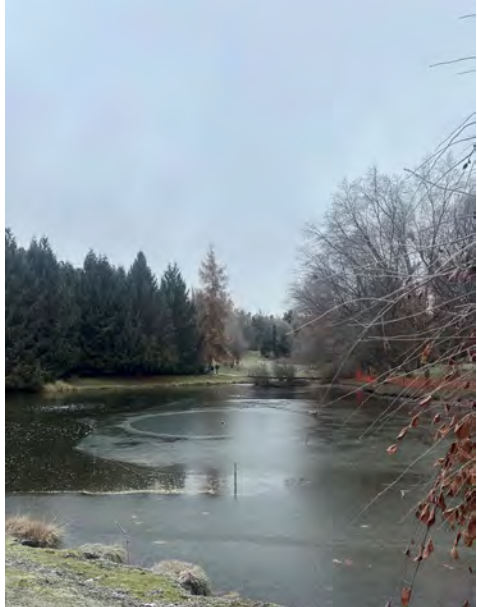


Oct 10, 023 | 12:35 p.m. |



Oct 13, 023 | 6:06 p.m. |

Early Fall



Nov 26, 023 | 8:45 a.m. |



Nov 27, 023 | 12:45 p.m. |



Nov 24, 023 | 4:12 p.m. |

Late Fall



9/12/23 6:16 AM



9/11/23 11:38 AM



9/2/23 1:45 PM



9/11/23 4:31 PM



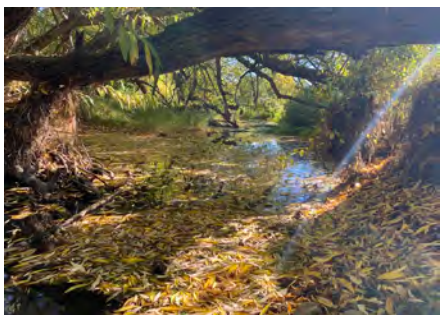
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September 8th, 5:32 P.M.



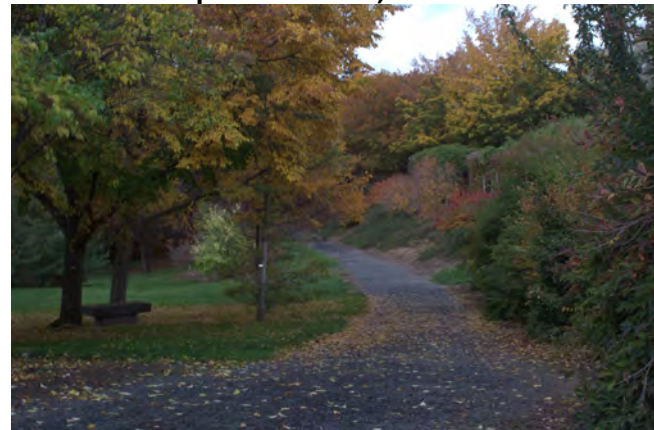
September 12th, 7:20 A.M



September 12th, 7:00 P.M.



October 8th, 1:03 P.M



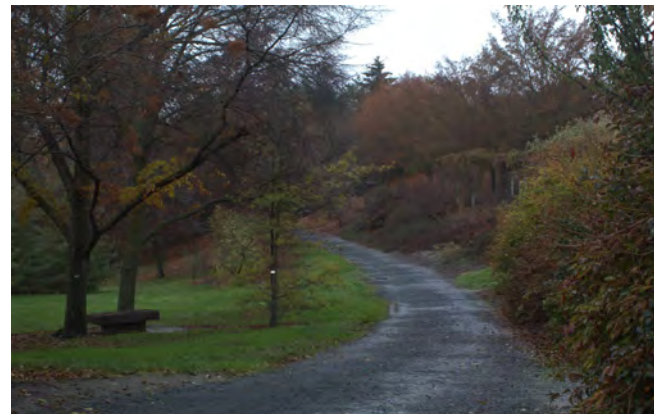
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Late summer

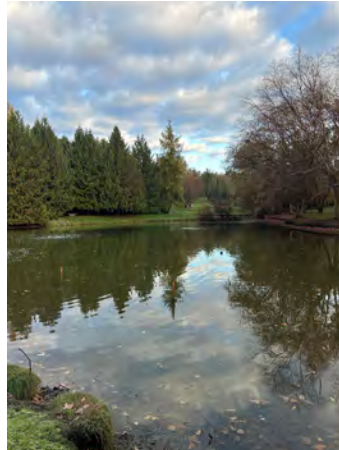
Early Fall

Late Fall

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Morning

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Day

Sep 6, 023 | 5:57 p.m. |



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Nov 24, 023 | 4:12 p.m. |



Evening

SITE

- **City:**
 - Framlingham
- **Building orientation:**
 - NW-SE
- **Where:**
 - located on Church Street
- **Position:**
 - Elevated above the town

Apsey Green

Framlingham College

Framlingham

The Church of
Saint Michael

Framlingham Skatepark

The Granary
Nursery School

Framlingham
Town Council



SURROUNDING CONDITIONS

- Surrounding buildings:
 - St. Michaels church and Framlingham castle
- Site context:
 - located in sensitive archaeology area; old and mature trees covers large area of the site; church car parking in southeast; small road in the north façade
- Across the street:
 - Framlingham village hall and common room café
- Transit:
 - Within walking distance



St. Michael Church



Framlingham Castle



Castle Street Bus Stop



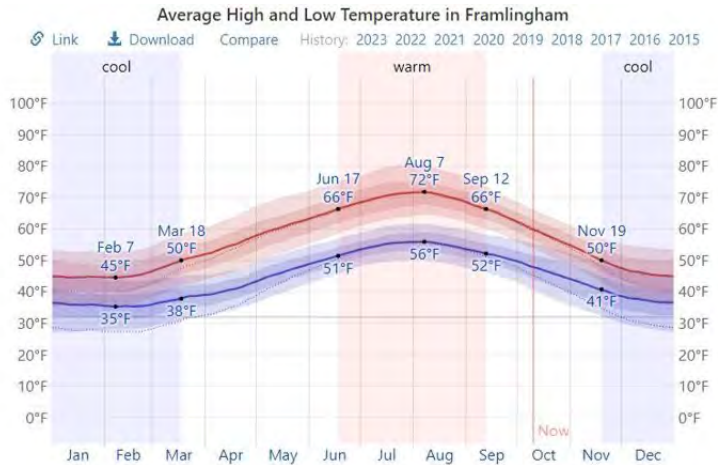
- **Construction phase**



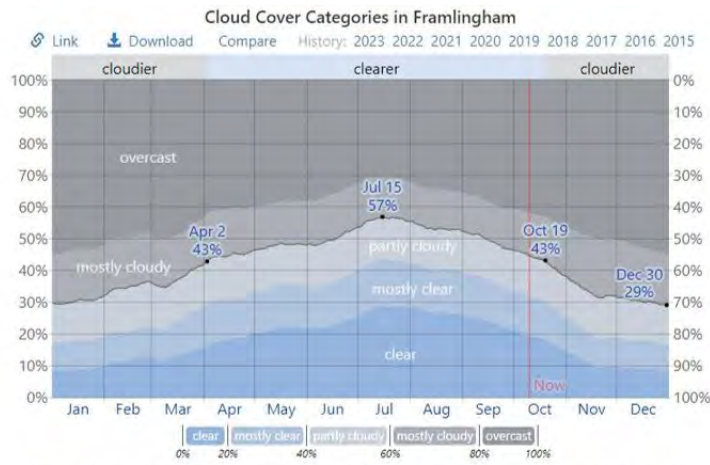
- Site surrounding



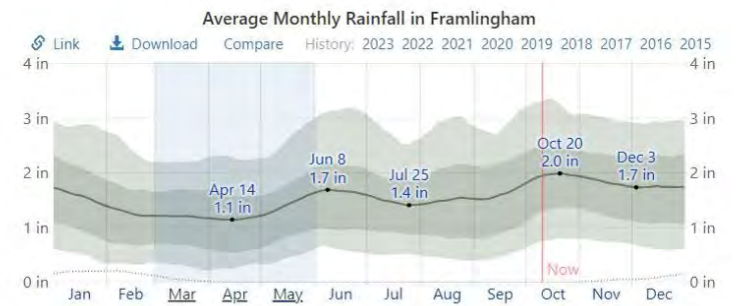
CLIMATE



The daily average high (red line) and low (blue line) temperature, with 25th to 75th and 10th to 90th percentile bands. The thin dotted lines are the corresponding average perceived temperatures.



The percentage of time spent in each cloud cover band, categorized by the percentage of the sky covered by clouds.

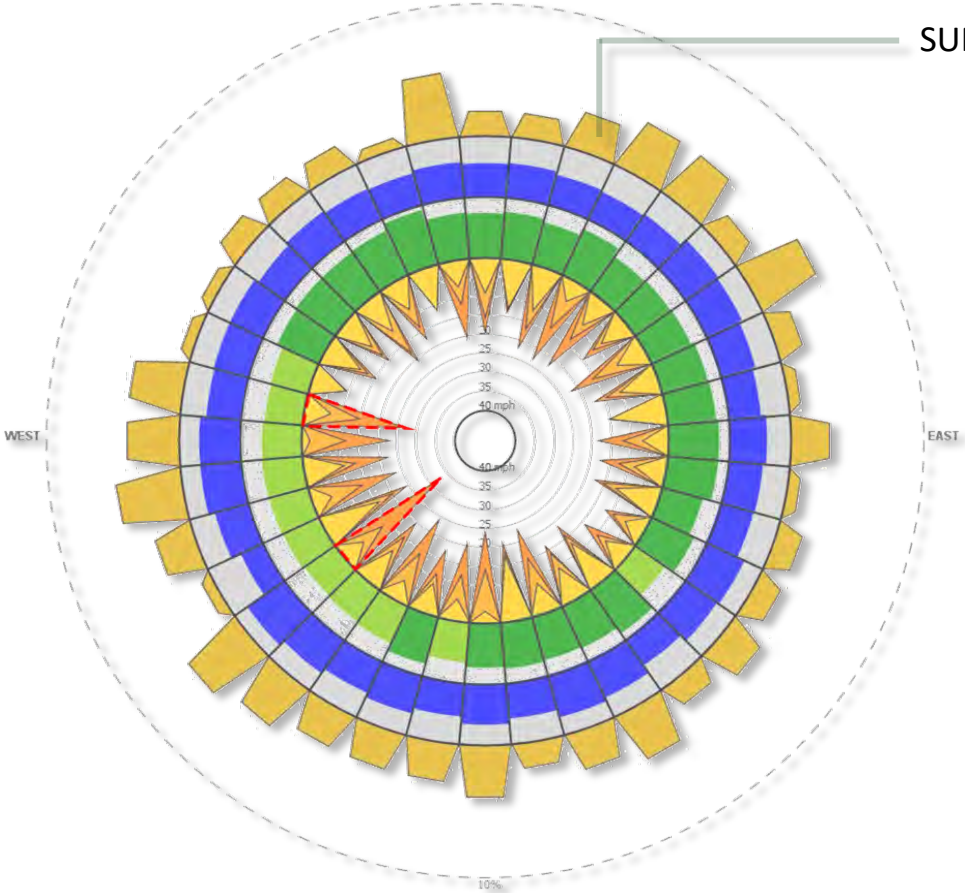


The average rainfall (solid line) accumulated over the course of a sliding 31-day period centered on the day in question, with 25th to 75th and 10th to 90th percentile bands. The thin dotted line is the corresponding average snowfall.

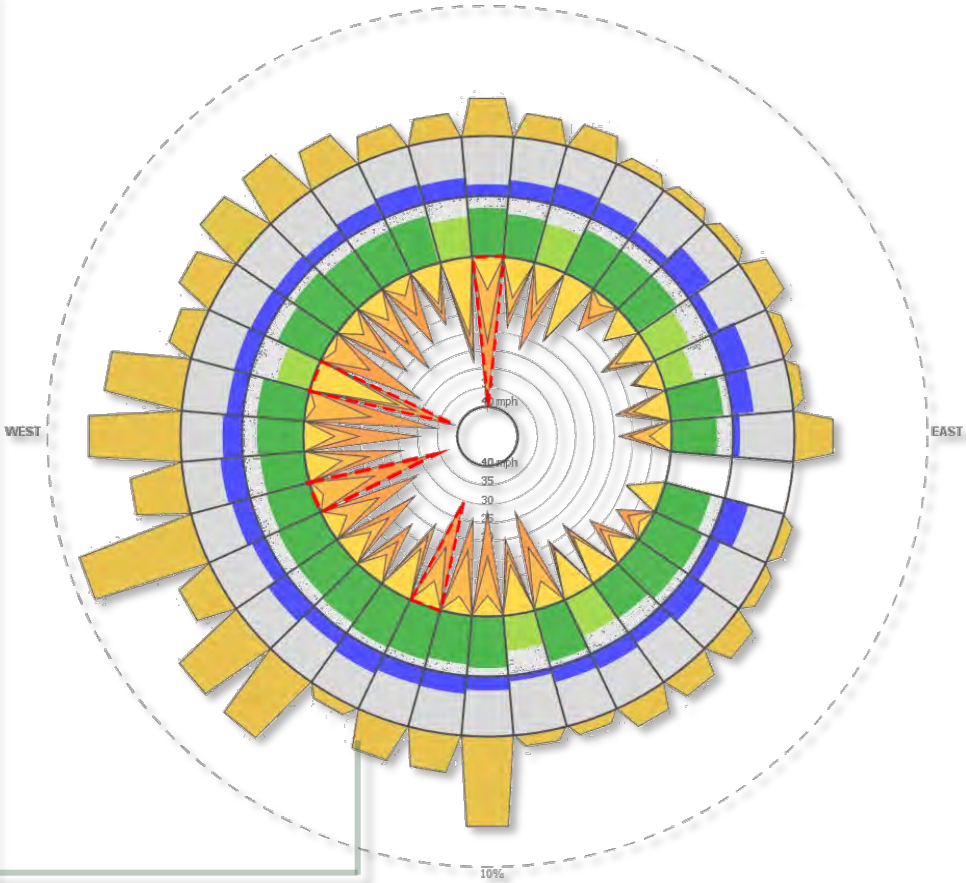
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rainfall 1.6"	1.3"	1.2"	1.1"	1.4"	1.7"	1.5"	1.5"	1.6"	2.0"	1.8"	1.8"

CLIMATE

SUMMER

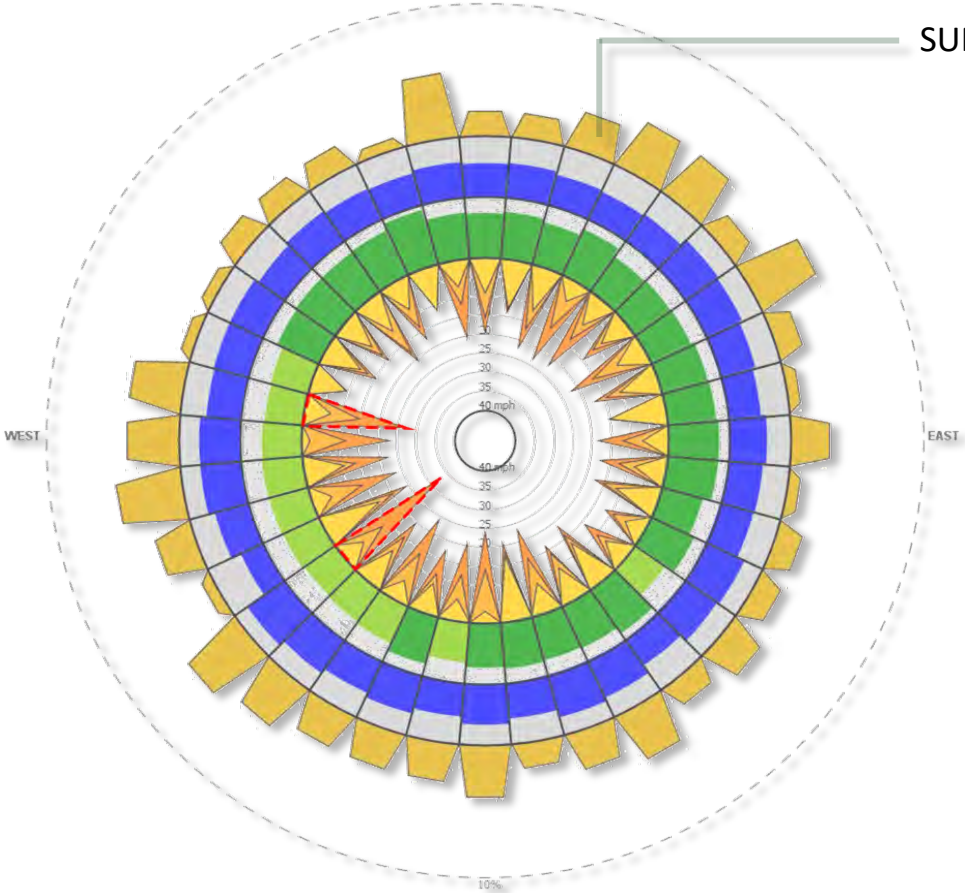


WINTER

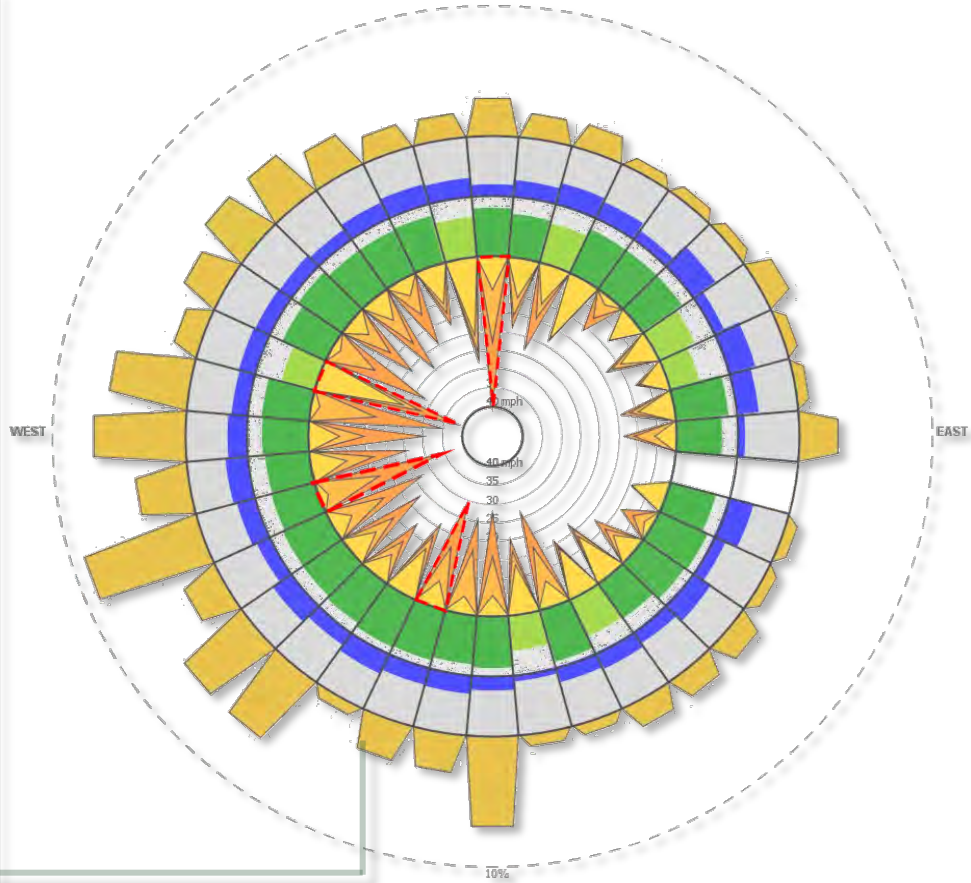


CLIMATE

SUMMER

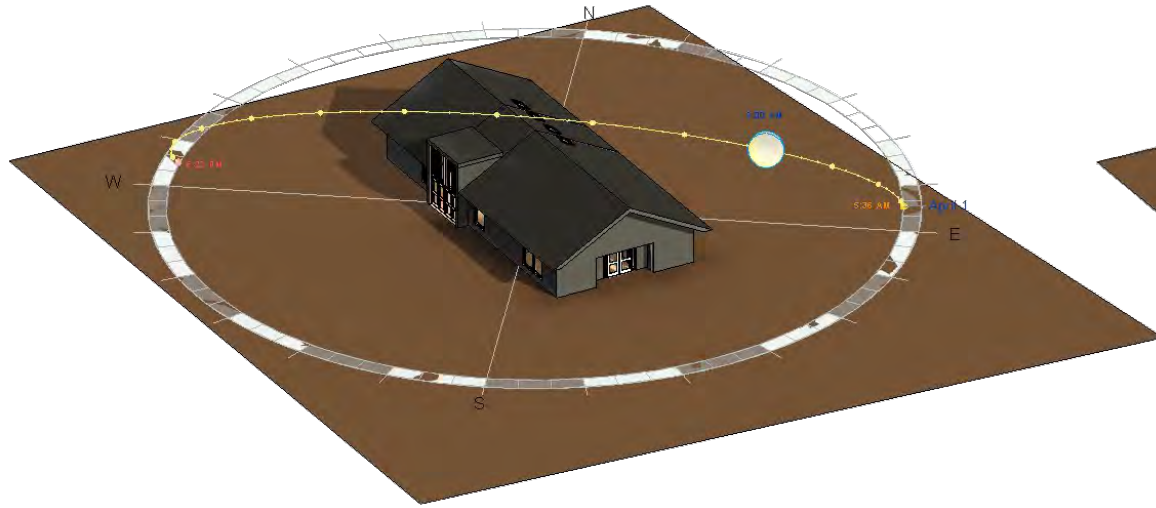


WINTER

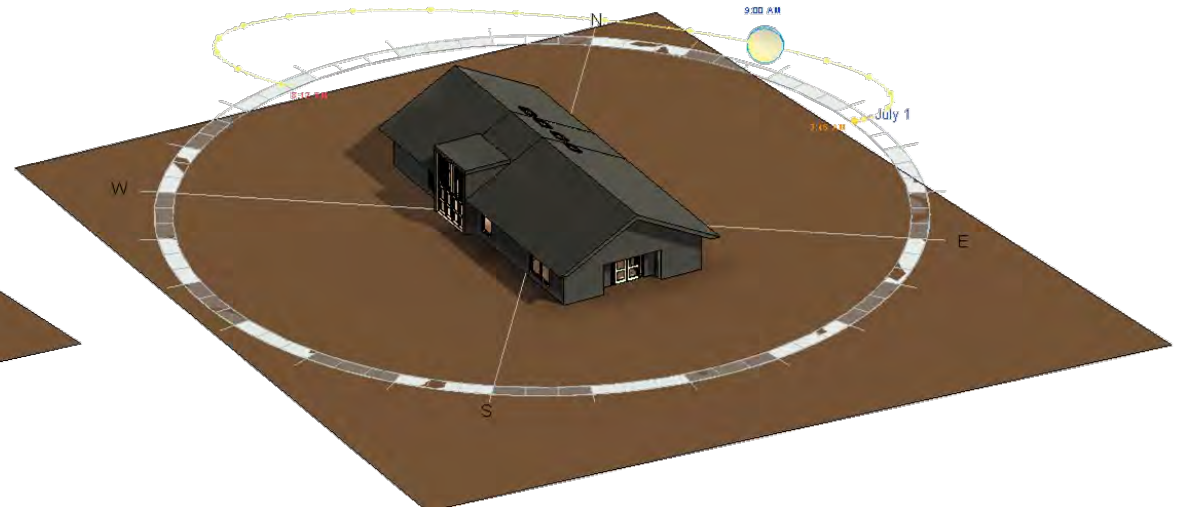


SUN PATTERNS (Spring/ Summer)

April

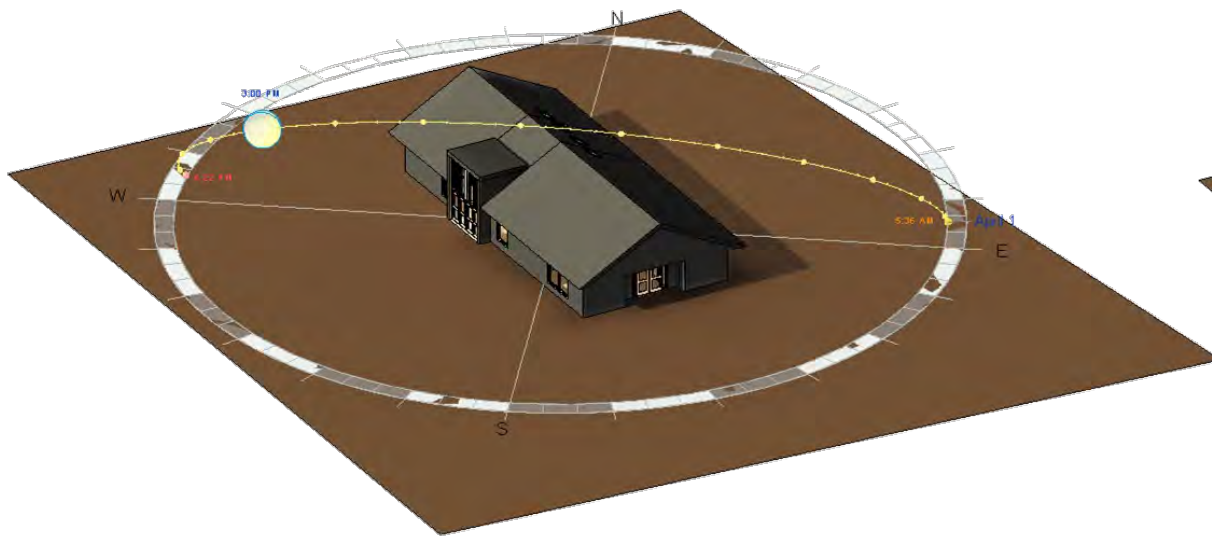


July

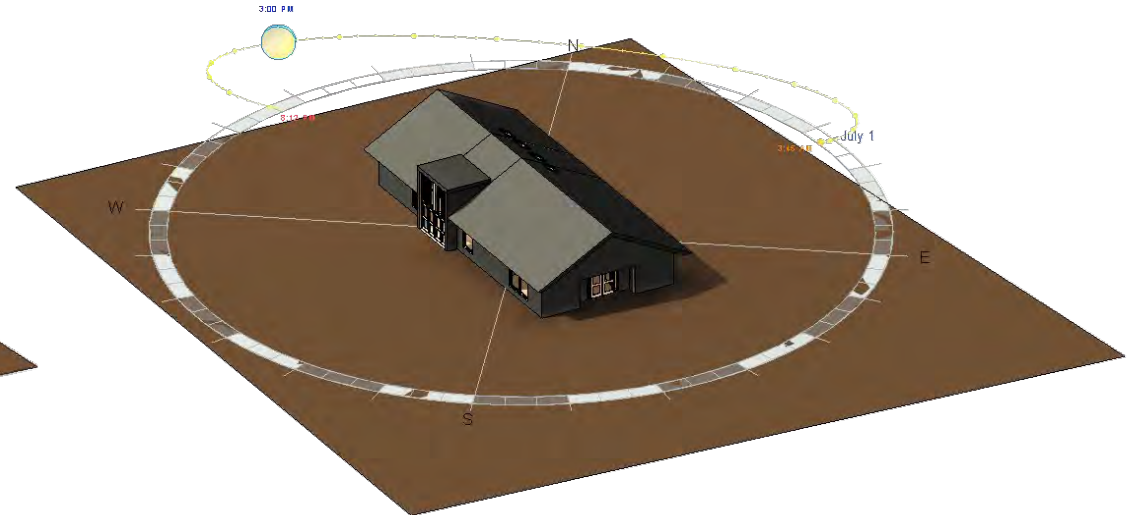


9:00 AM

April



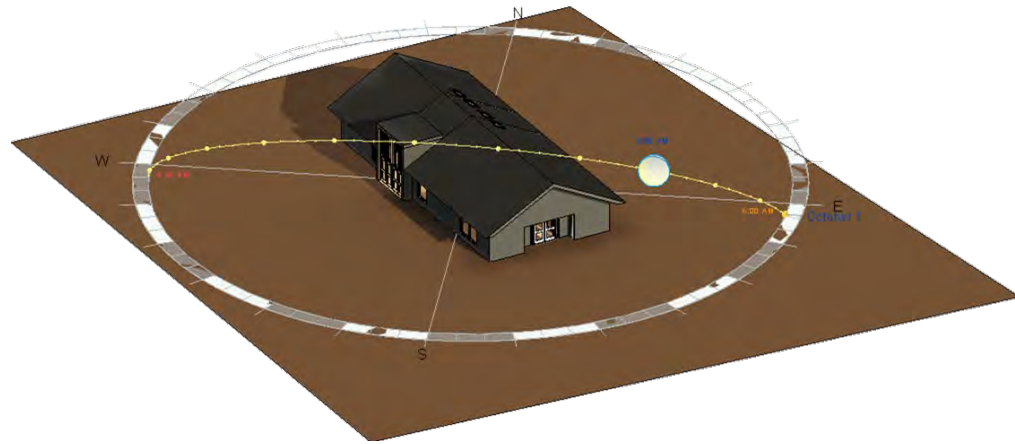
July



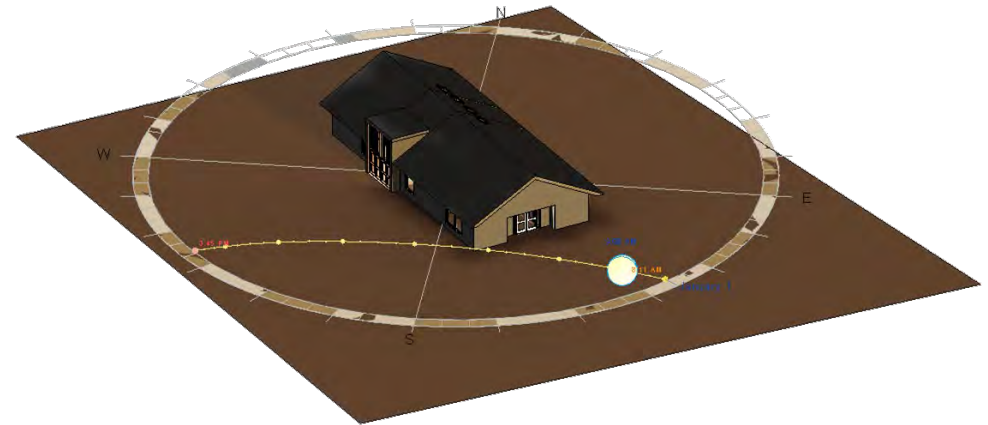
3:00 PM

SUN PATTERNS (Fall/ Winter)

October

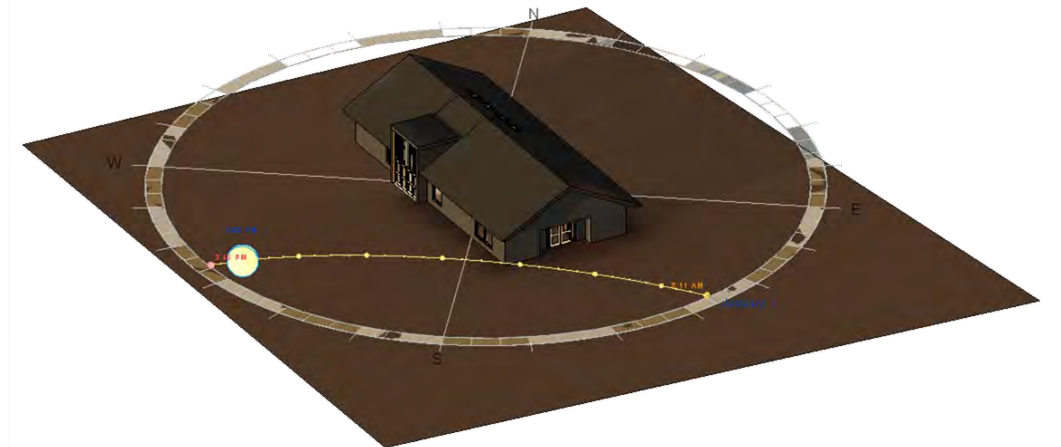
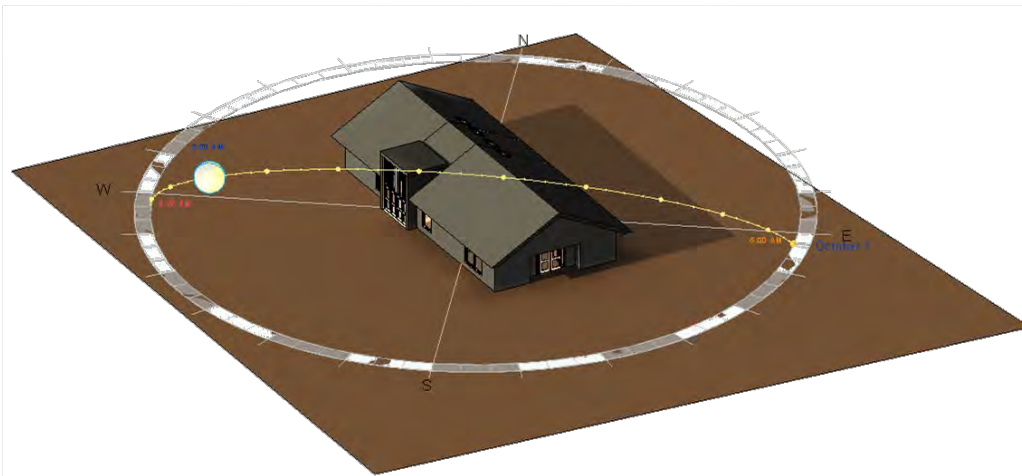


January



9:00 AM

3:00 PM



CULTURAL CONTEXT

Celebrates local craftsman and workmanship

Designed as a quiet and respectful counterpoint to the church and the surrounding trees

Used for:

Social events (*performances, classes, clubs, societies and celebrations*)- *RECREATIONAL PURPOSES*

Users:

Local people of all age (basically local community; the hall has success-fully attracted new organizations too)

The church opens towards the south

Connecting to the market and inviting the people in





Existing Building

Suffolk Community Hall

Inspiration





PROJECT INFORMATION

Location: **Framlingham, Suffolk,
United Kingdom**

Architect: **James Gorst Architects**

Area: **292 sq.m**

Type: **Community Center**

Use: **Social Events**

Capacity: **120 people**

Lightning measures: **uses high efficiency
lightning measures**

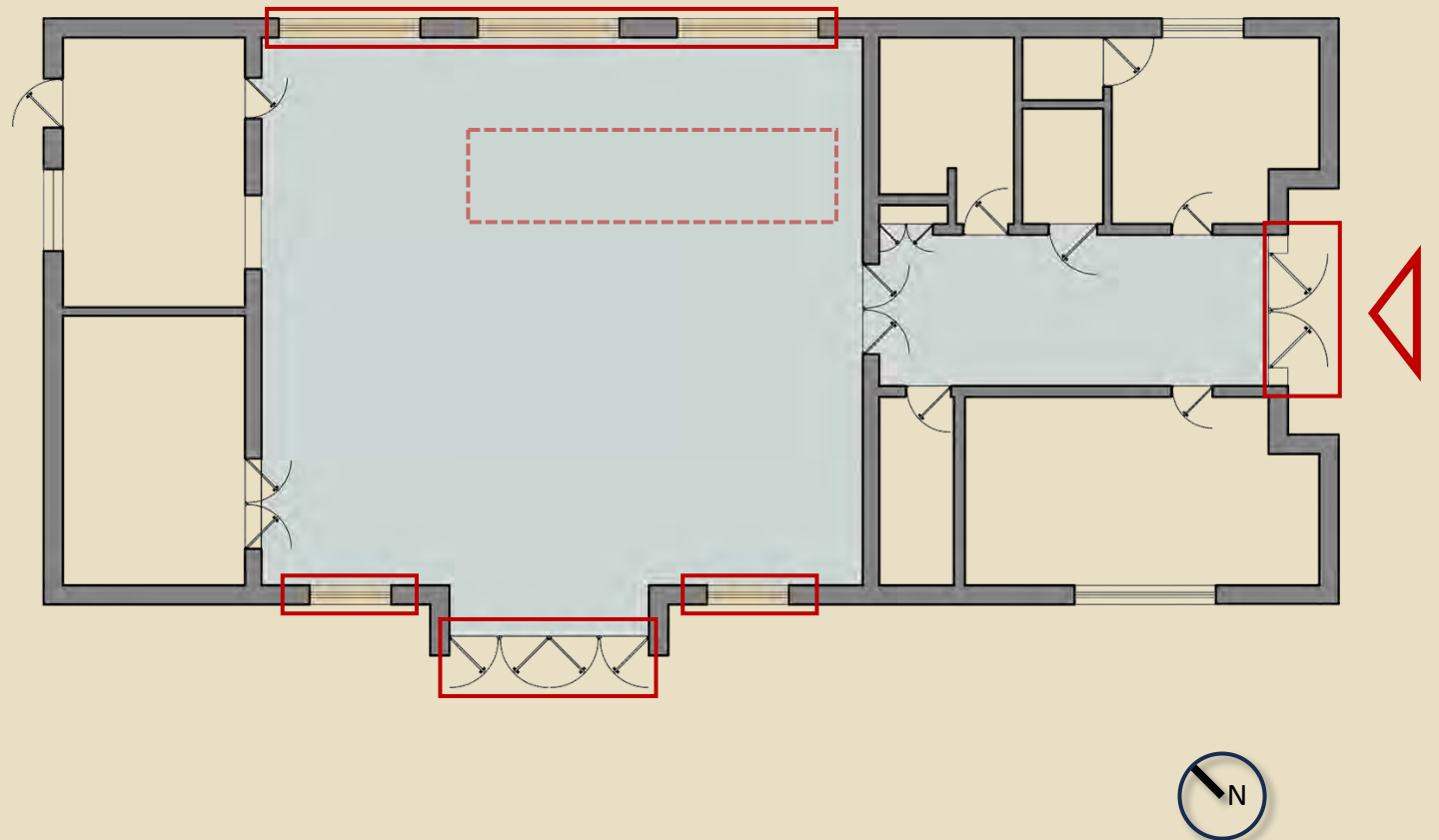
Floor Plan

- Areas of Focus:

- Community Room, Entrance Hall...

- Natural Lighting Elements:

- North and South glazing
- North Oriented Skylights
- Main entrance door is glass
- All windows and doors are double glazed



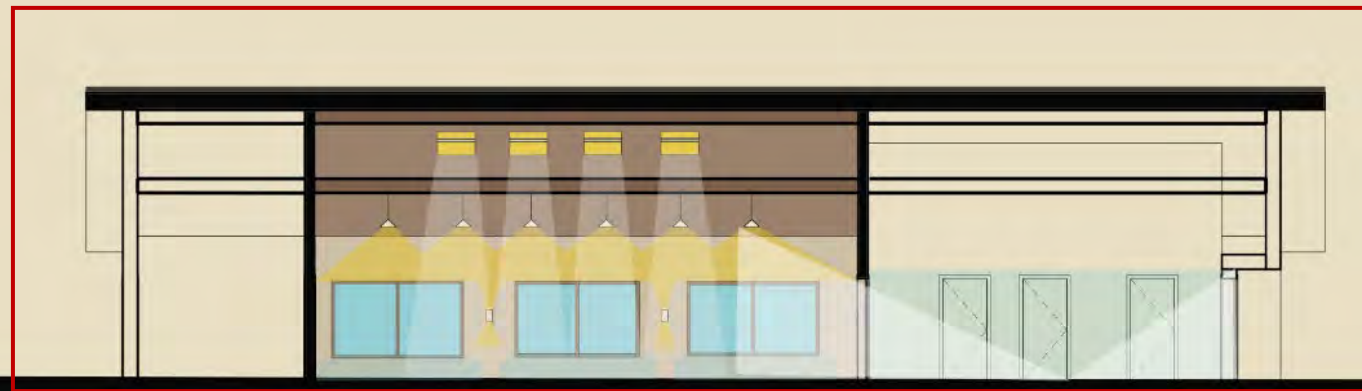
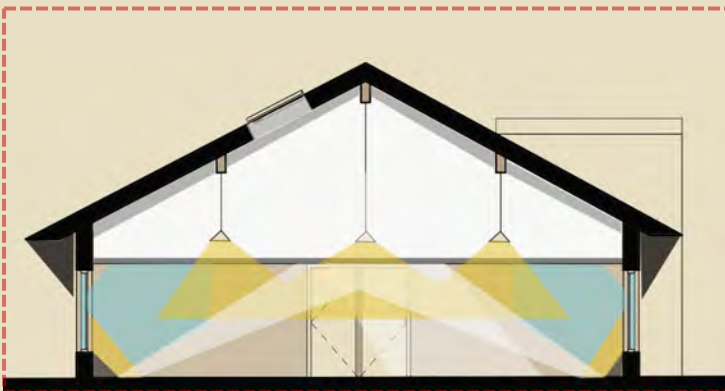
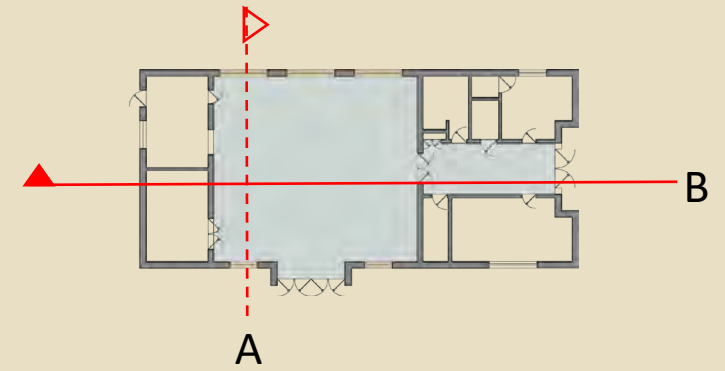
Lighting in Section

- Section A

- Glare off floor from the NW and SE Glazing
- Shading from roof overhang on NW and SE

- Section B

- Glare going down SE hallway from glazing on doors
- Overuse of electric lighting fixtures hanging from beams causing a well-lit space to become too bright



Elevations

Material and Light

- Outdoor material: Black zinc clad around walls and roofs
- Indoor Material: Poplar plywood panel walls and wood fiber ceilings.



KEY
1. Glass Panel
2. Porcelain
3. Black zinc cladding
4. Oak wood siding

0 20' 40'

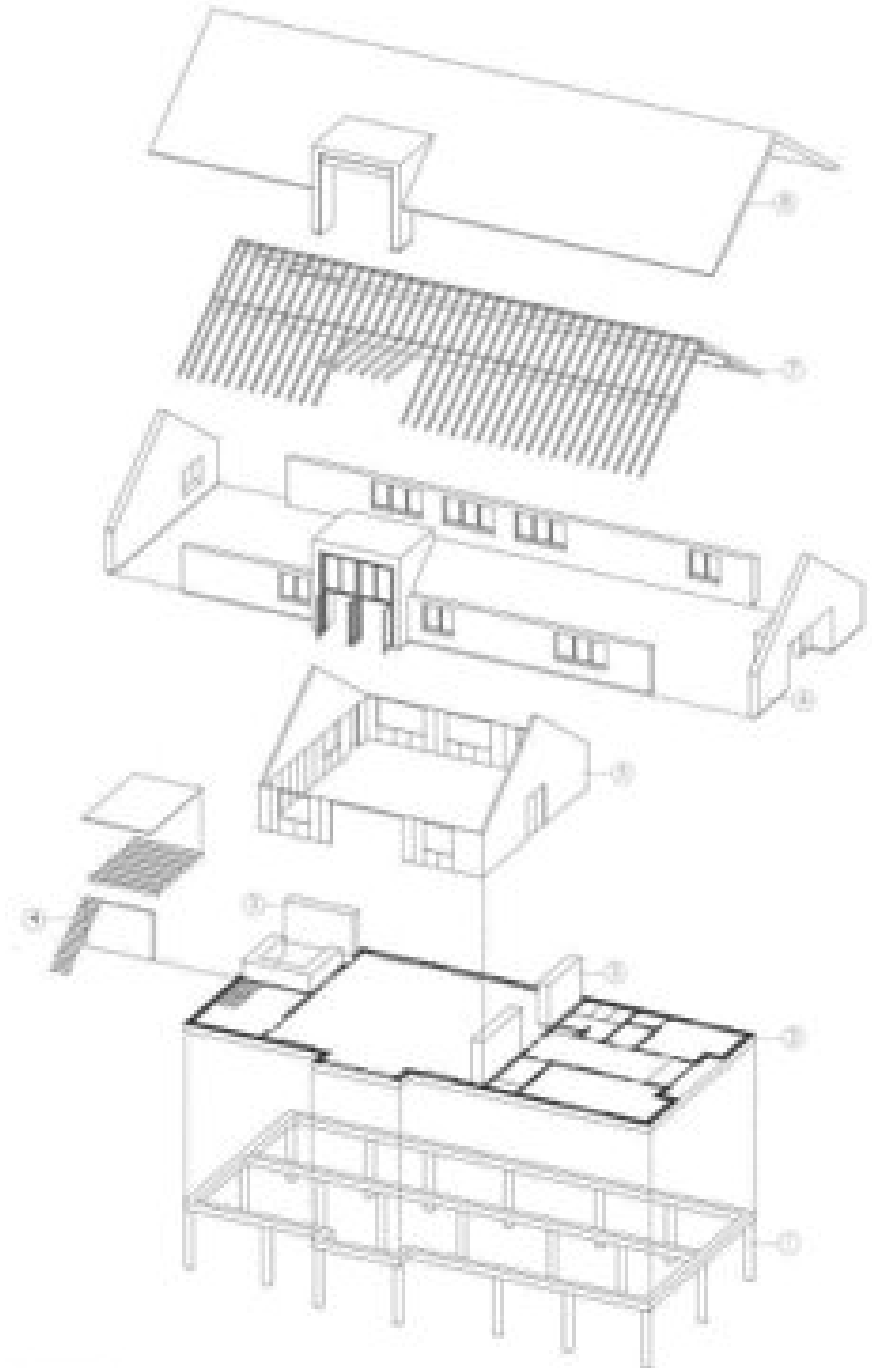
www.architect.com



KEY
1. Glass Panel
2. Porcelain
3. Black zinc cladding
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0 20' 40'

www.architect.com



- KEY
- 1 Wall foundation
 - 2 Concrete slab
 - 3 Joists
 - 4 Slab for insulation
 - 5 Thermal protection
 - 6 Timber frame walls
 - 7 Timber roof structure
 - 8 Work into roof decking



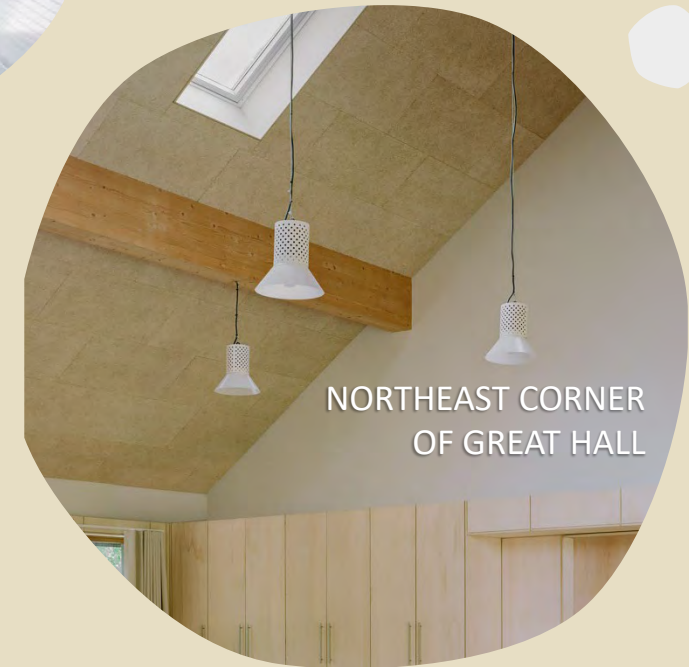
Natural Lighting in the Building

Pros:

- Significant natural light
 - North opening gives soft light throughout the area (not too harsh)
 - South window provides natural lightning (may be shading to reduce brightness and harshness in the space or reducing the window size to some extent)
- Building orientation (NW & SE)
- Material choices

Cons:

- Glare is prevalent
- Window Sizes
- Exterior too Dark underneath overhang on NE and SW



Electrical Lighting in the Building

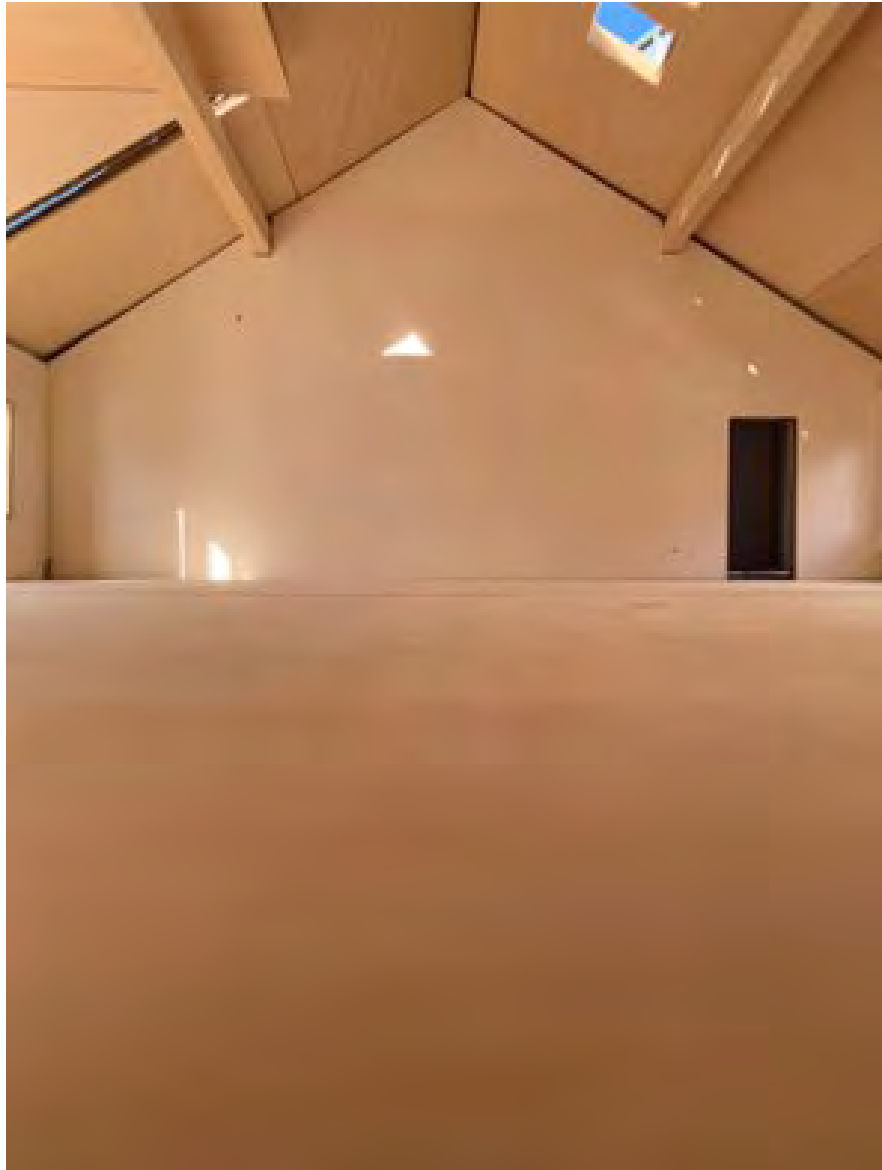
Pros

- Lighting is there
- ...could work smarter

Cons

- It works harder...
- Distracting
- Non expressive





Initial Physical model





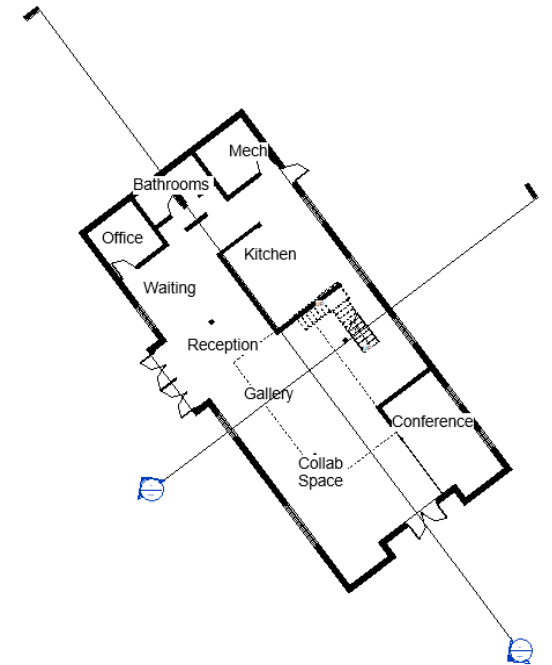
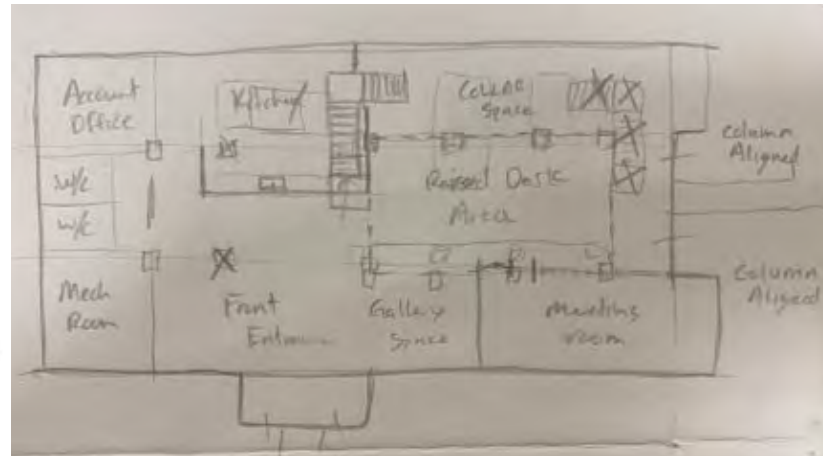
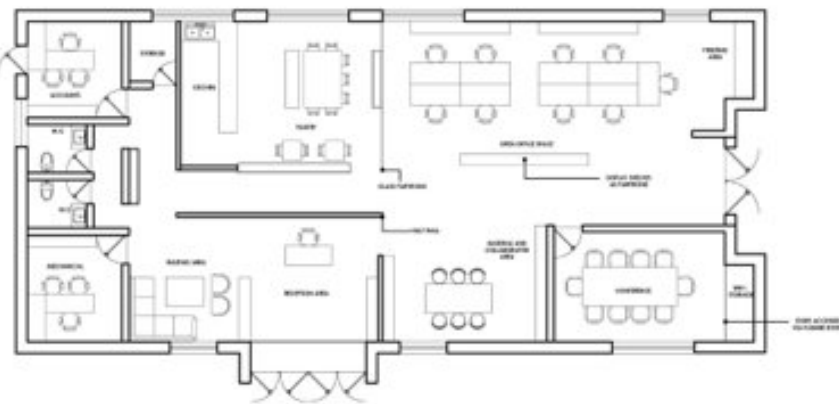
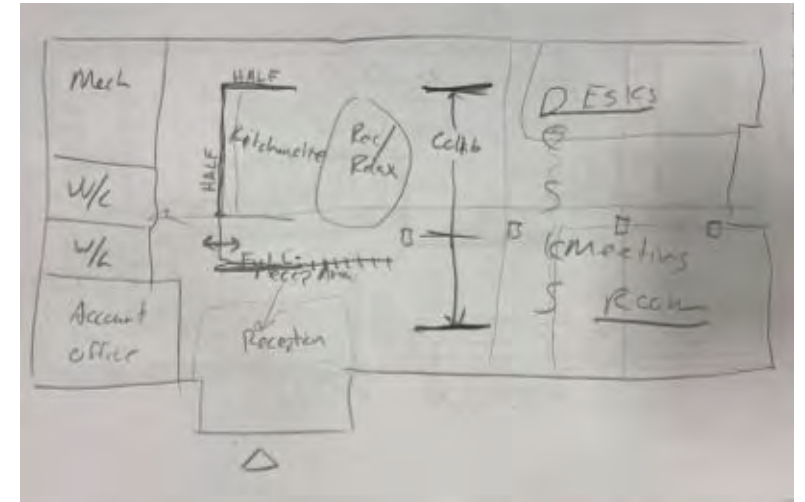
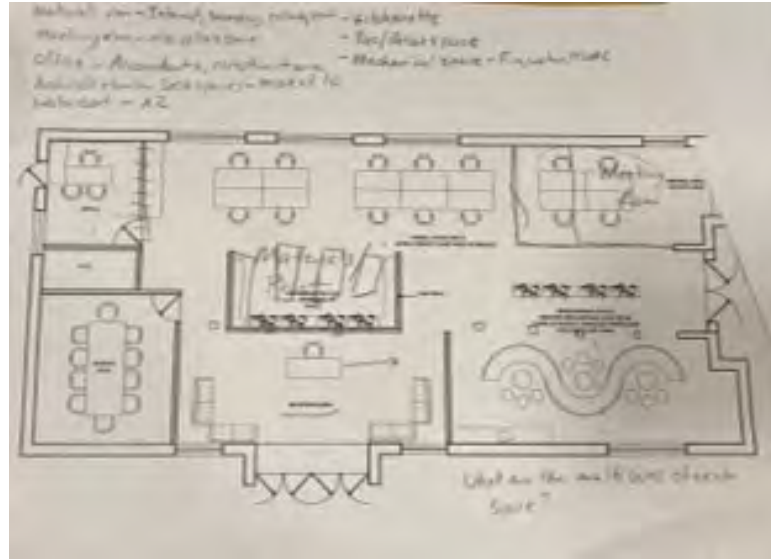
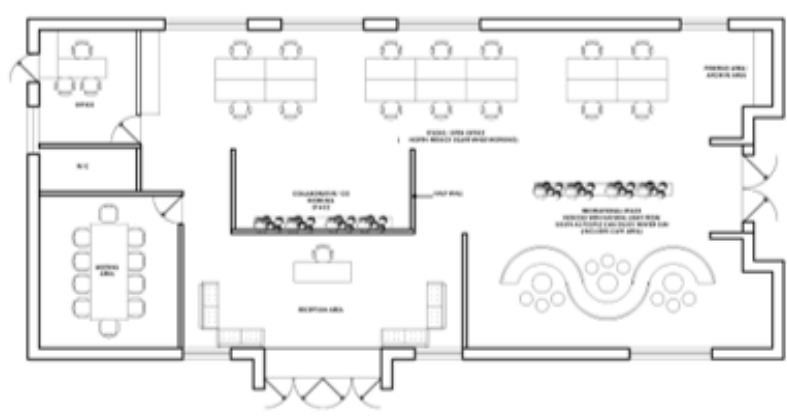
Digital Model



Digital Model



Program Redesign Plans



Sections





Physical Model

Deconstruction





FINAL DESIGN

Testing New Clerestories



FINAL DESIGN



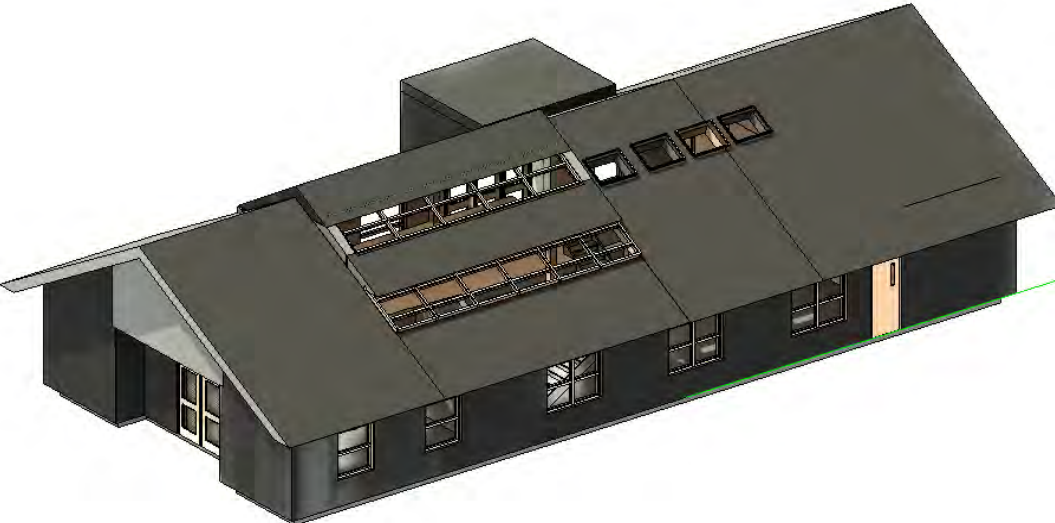




Digital Iteration 1



Digital Iteration 2



Final Design



