

LIGHTING DESIGN - WEEKLY BLOG

31/01/23

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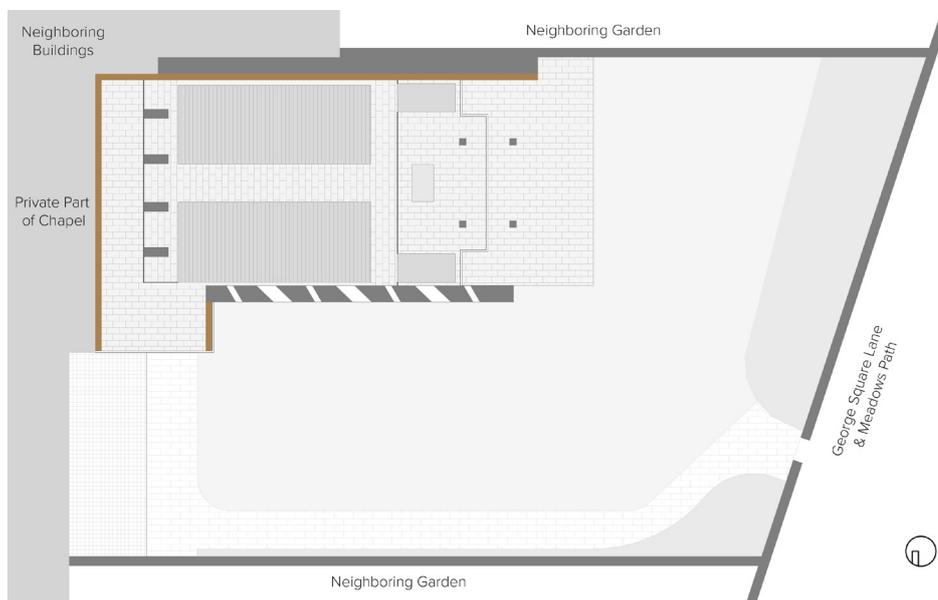
ST ALBERT'S CATHOLIC CHAPLAINCY

Daylighting and Light Levels

St Albert's Catholic Chaplaincy was completed by Simpson & Brown in 2012. It replaces the old chapel that was located in upper floors the joining Town House. It now sits in the garden with plenty of outdoor space, plants and trees, and access from the Middle Meadows Walk.

Much of the inspiration comes from nature and aims to create a peaceful setting. Materials like wood and masonry walls and floor help achieve this aura, as well as filling the space with homey and warm colours. Structural steel columns at the pew mimic trees and support the curved roof, which adds to the calming mindset.

The west wall is glazed to allow those sitting in the pews to look at the garden as a backdrop for the service. The roof extends over the internal space, furthering the feeling of being connected to nature.



The plethora of glazing and windows provide natural light that will change in the seasons. Moreover, it will change drastically throughout the day and create a dynamic space. Due to the overhang and orientation, it will be mostly in the form of diffused lighting.

The artificial lights are rather concentrated and soft, so not much light will travel. The curved roof and angles, non-reflective materials, and lack of overhead lighting allows for the light to spread without glare.

ENTRYWAY

Glass and Vertical Wood Interior Fins



DESCRIPTION

The entryway is on the north side of the building and filled with diffused natural light. It is slightly removed from the main chapel, creating a buffer of natural light before the occupant enters or exits the much darker main space. Fins on the walls and ceiling prevent glare.

RESULT

The space feels welcoming and immersed in nature. There is no glare and a comfortable amount of diffused light. As you move into the chapel, ceilings become much higher, light levels become darker and the occupant's attention is drawn towards the front near the pew.

ILLUMINANCE AND DAY LIGHT FACTOR

The lux levels range from 90 to 2000 lux (DF = 1.8-40%); a well-lit room with a change of unwanted heat flow, which is definitely plausible. While 2000 lux is greater than the other levels in the space, it is an intermediate area between the bright and dark, creating a gradual entry.

SOUTH WALL & CEILING

Glass and Vertical Wood Interior Fins



DESCRIPTION

The south wall and ceiling are a seemingly continuous wrap of wood with deep grooves incorporated with strip lights. The grooves and curvature allow the light to spread within its space to and highlight the room's shape. The skylight about three-quarters in from the from the back creates a separation between the curved roof and south wall, making the space feel as if it is floating and light.

RESULT

While the lights are from a concentrated source, the grooves protect from glare and help spread the light. They have a fire essence; similar to a candle. The way they are irregularly spaces and placed vertically adds to the candle theme of them being different height and flame strength. The skylight provides more diffused light and emphasises the gradient of moving through the room without taking away from the western focus towards the pew.

ILLUMINANCE AND DAY LIGHT FACTOR

Standing directly in front of the wall, the light levels range from 15, 100, and 500 (DF = 0.3, 2, 10%) from standing out of the skylight, between the fixtures, and in front of the fixtures, respectively. This correlates to both under and well-lit spaces. This is an accurate representation because the darkest space did not provide sufficient light for task lighting, spaces between the lights were slightly lower than what might be preferable, and in front of the light was sufficient but not overwhelming.

NORTH WALL

Masonry Wall and Angled Openings



DESCRIPTION

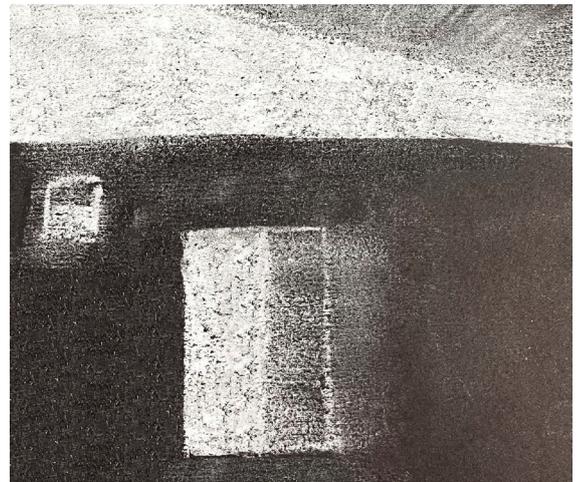
The north wall is composed of masonry blocks with angled glazed openings that are regularly spaced. All of the openings are angled towards the front of the pew, directing the occupant's attention to the front. The natural light entering the space is diffused due to the northern orientation of the wall. Masonry is not a reflective material, so the light does not spread very far.

RESULT

The views are of the garden, emphasizing the occupant's connection to nature. The view and amount of glazing seen varies by location in the church, adding to the dynamic and ever-changing conditions of the space. The diffused light is much dimmer than other areas, and glaze

ILLUMINANCE AND DAY LIGHT FACTOR

In front and below the windows, the lux levels are 250; between the windows they drop to 15 (DF = 5, 0.3%). Even in the brightest parts of the wall, the levels are relatively low. This suggests that the purpose of the wall is less of a light source and more of an architectural statement.



WEST WALL

Glazing

DESCRIPTION

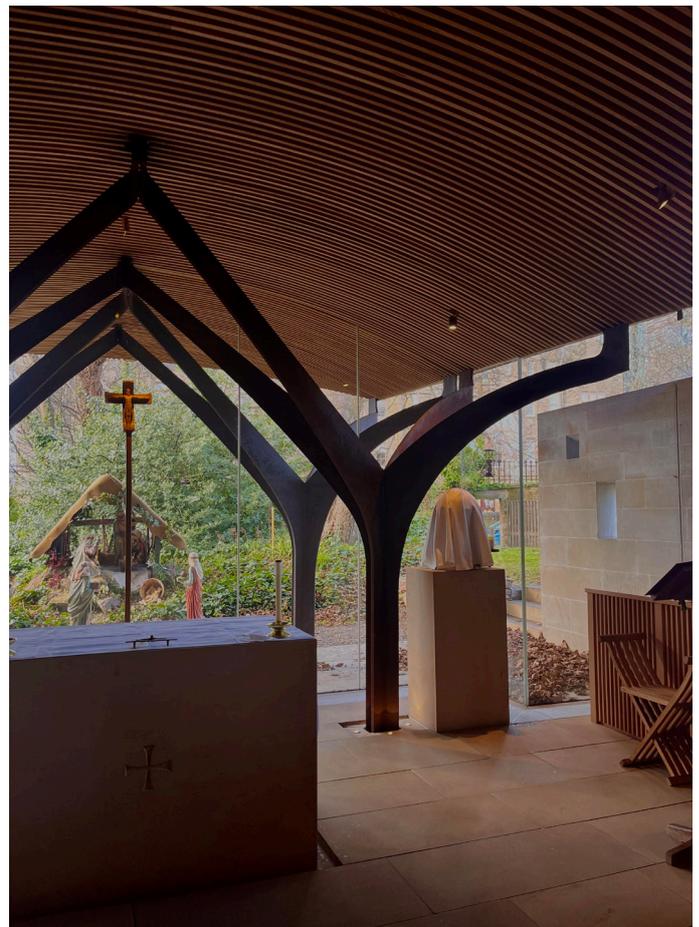
The west wall is a glazed facade that provides a garden backdrop for the pew and service. The wall juts out towards the garden in front of the pew. This blurs the line between the indoors and outdoors. The roof overhang and duplicated steel trusses also adds to this effect.

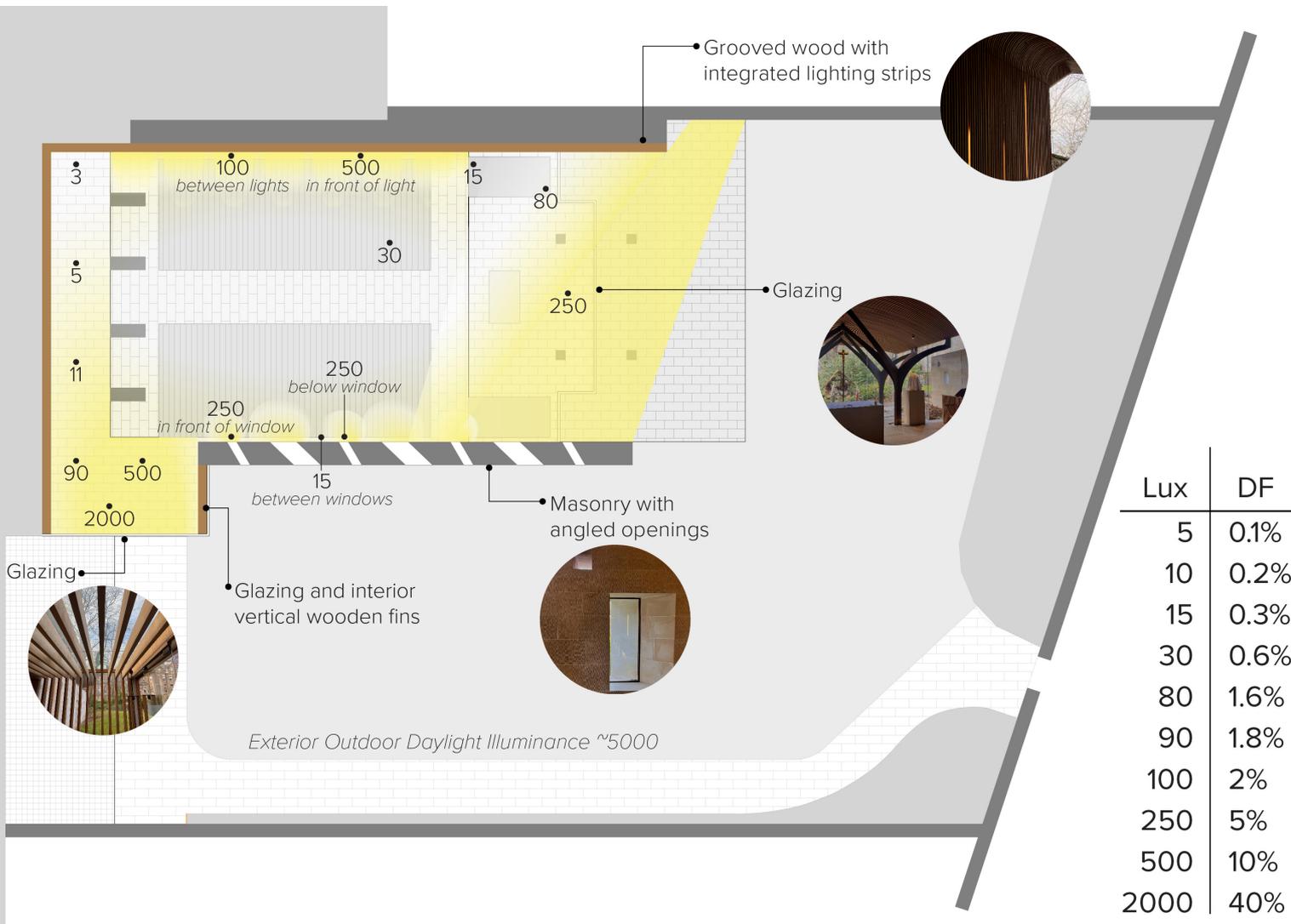
RESULT

Due to the wall's western orientation, it will receive direct light in the afternoon, particularly in the summer. The light will only reach the front area, which will cast shadows on the northern wall and direct the occupant's attention towards the pew. Overall, the wall aims to connect the occupant to nature, serenity, and peace.

ILLUMINANCE AND DAY LIGHT FACTOR

The light levels in this area range from 15 to 250 (DF = 5, 0.3%). It is important to note that this will change throughout the day and year. These recordings were taken midday in January. In the summer or late afternoon when the sun can penetrate the space, these levels will likely be higher.





NIGHT TIME CONDITIONS

Review of Space, Night



I went back to visit the space at night, but the evening service prevented me from entering to take photos and light level measurements. From the outside and pictures online, the space is much more bright. Overhead lights that are the same fixtures as the southern wall produce the result of a warm, candle-like effect that emphasises the curvature. There are overhead lights on the northern wall, which are more directed than the former.

The impact is a bright and inviting space. From the exterior, it stands out in a row of dark townhouses. The service is spotlighted for the viewer to see, which mitigates interruptions. It is different than the daylight conditions, which are darker and more solace. It could be that these conditions are kept when service is not in session, with brighter conditions in the afternoon session.



southern wall floor lighting on grooves

