

BEACON UNITARIAN UNIVERSALIST CHURCH
695 SPRINGFIELD AVENUE
BLOCK No. 1702, LOT No. 47
CITY OF SUMMIT, UNION COUNTY, NEW JERSEY

CREATED BY: LOUIS CHERRY ARCHITECTURE
SUBMISSION DATE: MAY 05, 2025
REVISION DATE: JUNE 13, 2025
REVISION DATE: SEPTEMBER 25, 2025

GLARE STUDIES - REVISION NOTES

Please note that this document, which was initially submitted on May 5th, 2025, has been revised as of September 25, 2025 as follows:

1. Area "D" was split into two sections - D1 and D2 - because this area of glazing on the corner faces two different directions and only one side creates a glare.
2. The diagram on page 4 was modified to show only the area where the glare from D2 is visible instead of showing all of the areas where it is possible to see any of the identified areas of glazing.
3. Corrected and clarified descriptions of the period of time where the glare is visible.
4. Modified proposal and conclusion statement to include proposed modifications to the glazing for Area D2.
5. Included new page to outline Area D2 that will be specified as a different glazing with a lower reflectivity
6. Included new page to show bird safety film that will be applied to the East and South facades

Architect's Seal & Signature

Signature

Date

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GLARE STUDIES

These diagrams were created by the Architect in response to a request from community members and the City of Summit Council Members to demonstrate the likelihood of glare or excessive solar light reflection from street-facing glazing on the proposed building.

In order to determine the potential for glare, we completed the following steps:

1. Identify areas of glazing that are facing towards the public right-of-way
2. Identify the areas within the public right-of-way and properties across the street that would have a direct view to the glazing, accounting for wall protrusions and vegetation.
3. Using geo-located sun paths, determine if there are any points of day during the year when the sun's direct reflection creates glare or excessive solar reflection to that point of view
4. Measure the time duration for the glare
5. Identify the reflection rating of the proposed glazing in comparison to typical residential windows

Summary of potential glare from 4 different areas of glazing that face Springfield Ave. and the Public Right-of-Way: (refer to maps and images below)

- **Area A, B, and C, and D1** are will not cause direct glare due to the path of the sun
- **Area D2** directly reflects the sun to a viewer in the path of glare to the southeast of the property and looking back to the building or west along Springfield Avenue for a 15 minute interval for the whole month of June and about a week before and after. This 15 minute interval starts around 5:50am at the beginning of the month and starts at 6am towards the end of the month.

Summary of Glazing Exterior Visible Light Reflection:

- Proposed glazing for Area D2 has an exterior visible light reflection value of 10%.
- Proposed glazing for all other areas has an exterior visible light reflection value of 19%
- A typical residential window has an exterior visible light reflection value of approximately 14%

Conclusion

- The design team has identified the only potential area of glazing that could cause a glare. The glass specification for the area that has potential glare has been modified to be the lowest achievable reflectance. The proposed exterior reflectance value of 10% is below the norm for acceptable reflectance for buildings where exterior glare is regulated. Where regulated, the common threshold for allowable glass reflectivity is 15%. Additionally, a patterned film is being added to the glass on the east and south facades which will diffuse reflected light and partially mitigate reflected glare.

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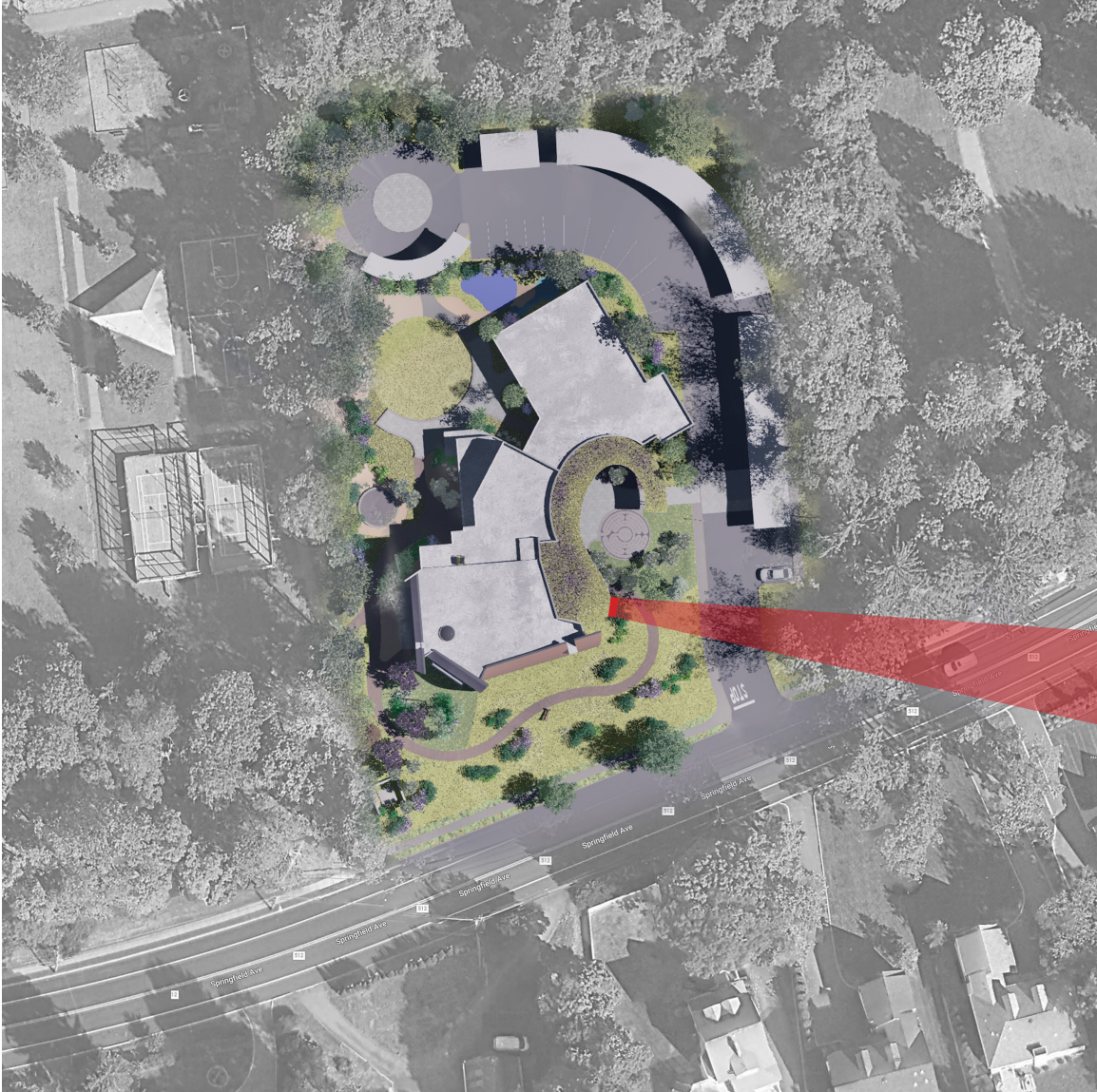
IDENTIFY AREAS OF CONCERN



This image identifies all of the glazing areas that are fully visible from Springfield Avenue and were included in the glare study

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IDENTIFY AREA OF EFFECT

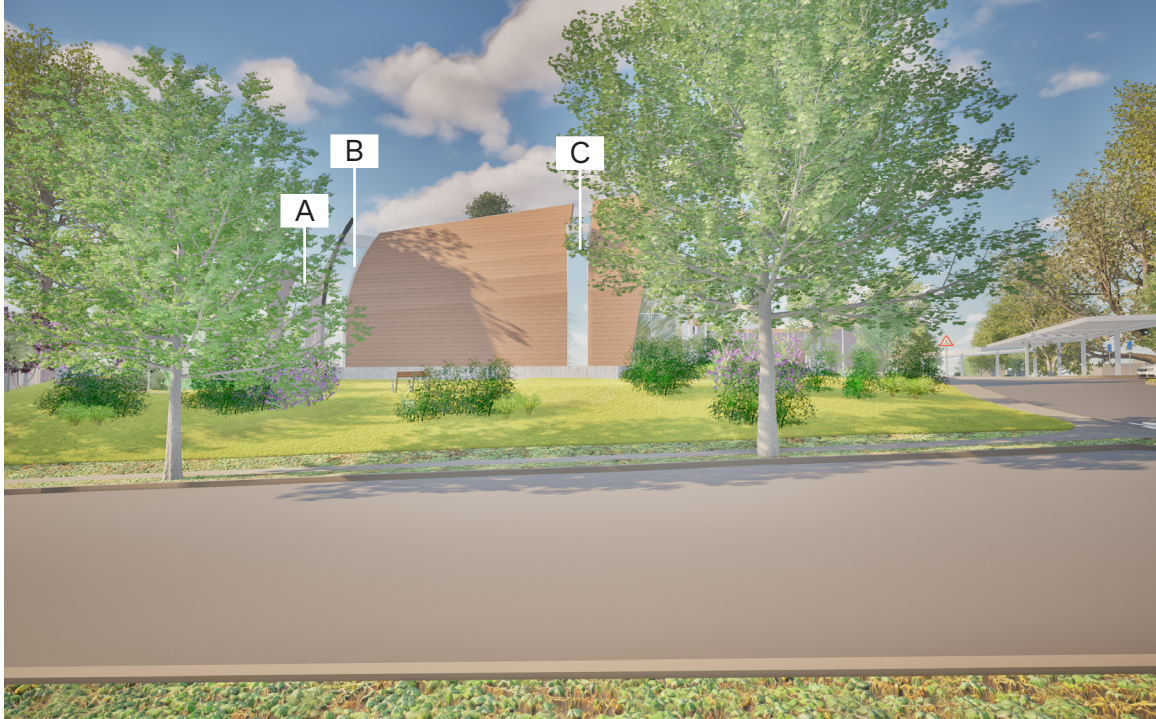


Area D2 directly reflects the sun to a viewer standing in place in the path of glare to the southeast of the property and looking back to the building or west along Springfield Avenue for a 15 minute interval for the whole month of June and about a week before and after. This 15 minute interval starts around 5:50am at the beginning of the month and starts at 6am towards the end of the month.

*please note that the black and white portion of the image is taken from google maps and does not accurately reflect the vegetation after construction

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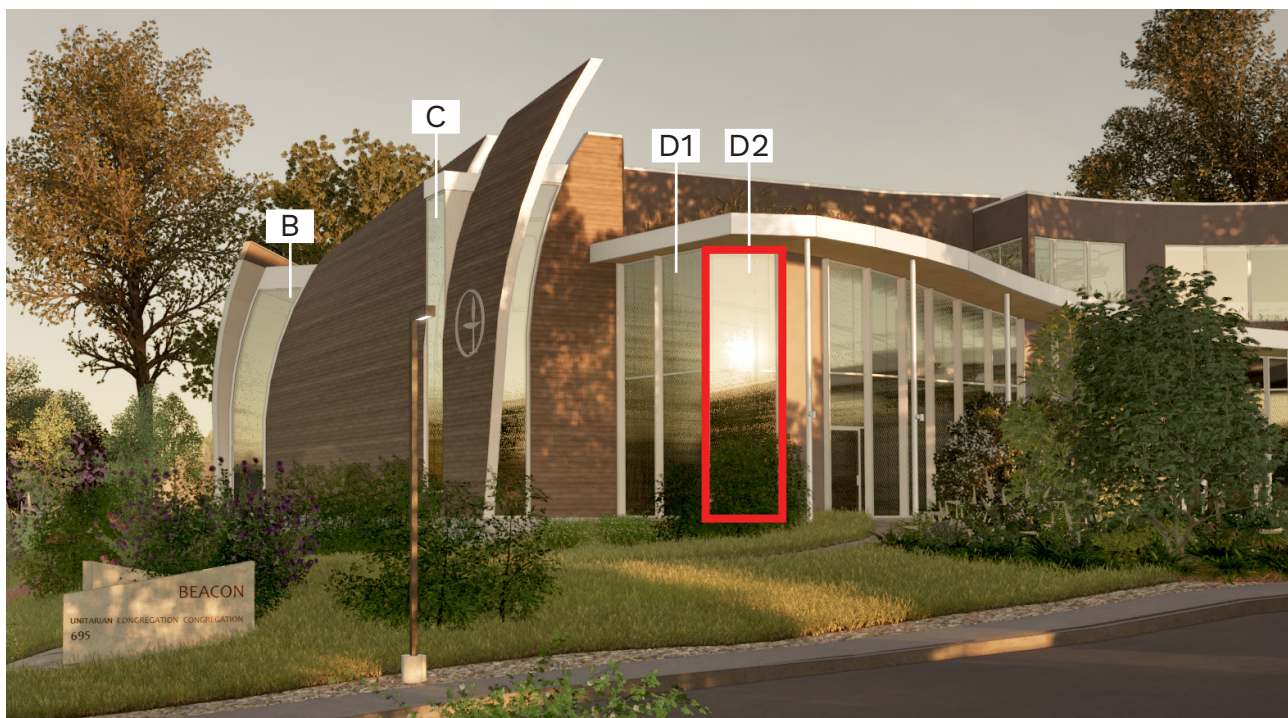
VIEWS OF GLAZING AREAS A, B, AND C



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VIEWS OF GLAZING AREA D1 + D2

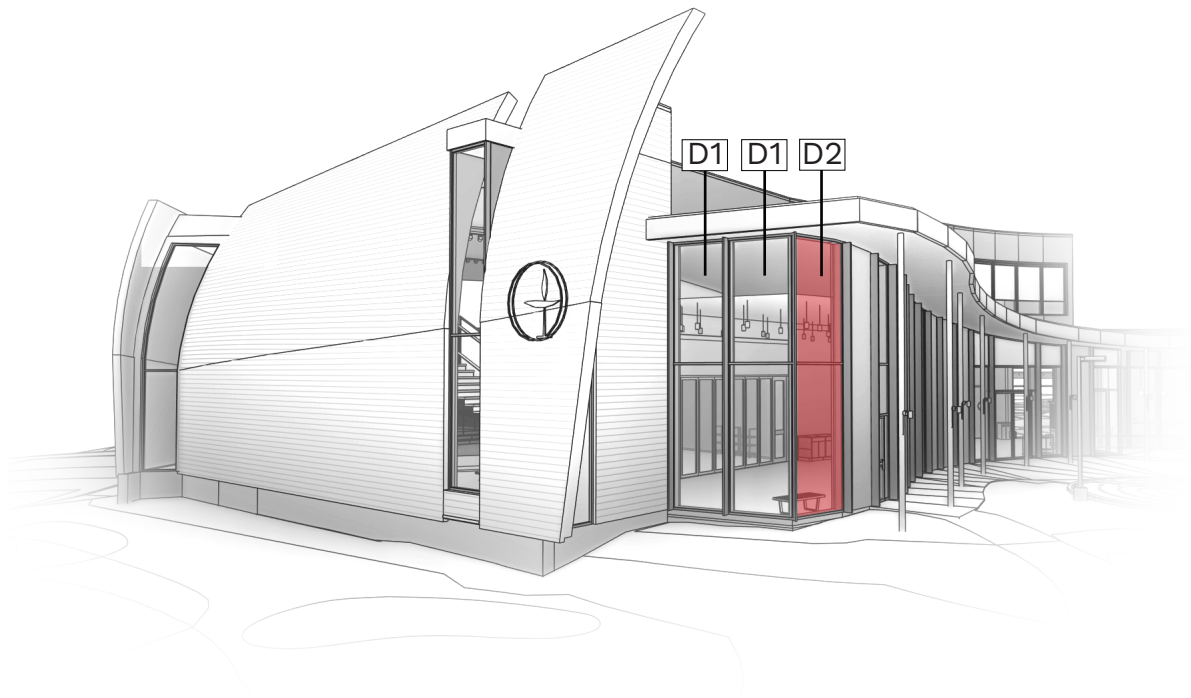
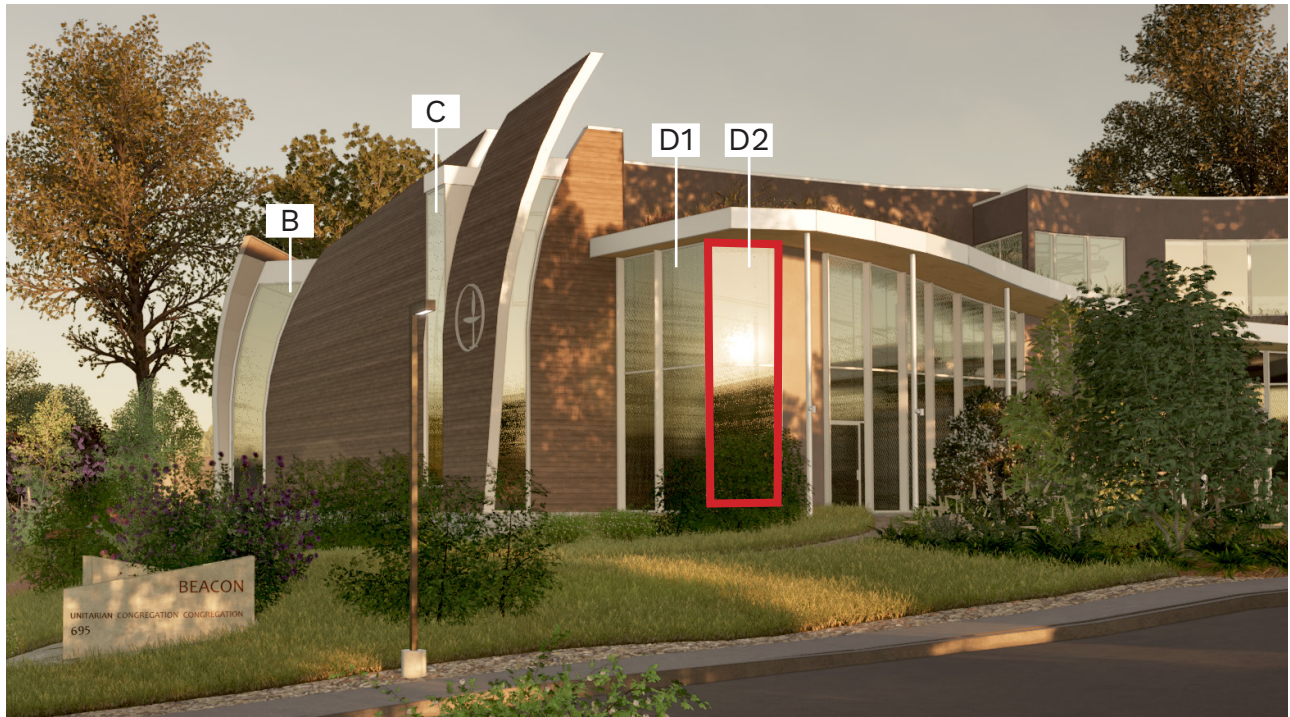
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PROPOSED GLASS MODIFICATIONS

- Proposed glazing for Area D2 will have an exterior visible light reflection value of 10%.
- Proposed glazing for all other areas has an exterior visible light reflection value of 19%
- A typical residential window has an exterior visible light reflection value of approximately 14%



CONCLUSION

The design team has identified the only potential area of glazing that could cause a glare. The glass specification for the area that has potential glare has been modified to be the lowest achievable reflectance. The proposed exterior reflectance value of 10% is below the norm for acceptable reflectance for buildings where exterior glare is regulated. Where regulated, the common threshold for allowable glass reflectivity is 15%. Additionally, a patterned film is being added to the glass on the east and south facades which will diffuse reflected light and partially mitigate reflected glare.

