

VILLAGE 1, South 4

Canopy + Vestibule Project

M o r o z + D a v i s o n

The entrance of a building plays an important role in both the functionality of a building's facade, providing access through the facade, and the buildings architectural identity. As the primary interface between a building and its users as a functional device, the entryway is a key expressive architectural element, and should be designed so users can readily find their way to the entrance. In the reclad design of Village 1, the entryway was not redesigned, and as such, it is not represented as key expressive element, but as just another part of the facade.

This design package focuses on the design of an entrance canopy + entrance vestibule for the University of Waterloo's Village 1 residence, designed for the entrance to South 4 (S4). The canopy is intended to provide a convenient, functional, visually striking, and clearly defined entrance to the building, providing shelter to anyone waiting outside. At the same time, it is intended to break up the continuity of the facade, while also integrating fluidly with the design motif of the facade. One of the design motifs for the reclad design was a drop of water, centred at the door for navigability. The canopy continues this water motif, where its form is an abstraction of a waterfall that falls, plateaus, changes direction, and then falls once again. The canopy is a hollow structural section (HSS) steel and glass design, where the structural components can be divided into two parts. The main structure, HSS beams that cantilever from two of the walls, supports the canopy and tie it back to the buildings structure. The curved HSS members (multiple members with curved connections) directly carry the glass. The canopy will provide a strong break in the repetitiveness of the facade, as a visually striking, flowing form.



Wave Architect + Partners



UNIVERSITY OF
WATERLOO

Aidan Moroz
Liam Davison

PRECEDENTS

VILLAGE 1 - Canopy + Vestibule Design

Moroz + Davison

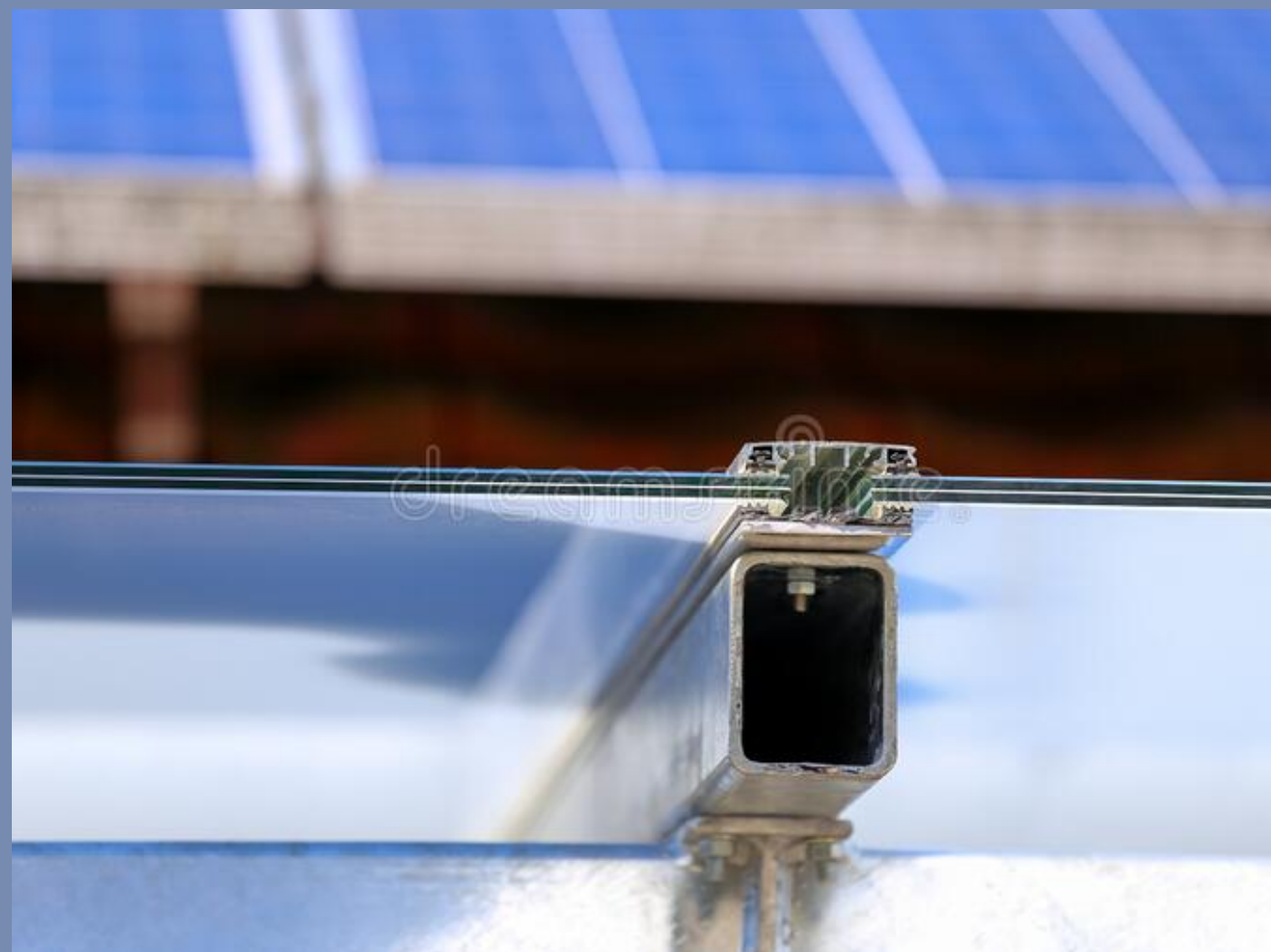


<https://www.yrt.ca/en/about-us/facilities.aspx>

The design of the canopy focused on straight/curved glass as well as straight/curved HSS steel members. The form of how the steel and glass in this Bus Depot (York Region Transit) effectively utilizes steel and glass to provide a canopy for those waiting for the bus. This precedent was an inspiration on how we can apply curved steel members and curved glass to create the canopy in the desired form.

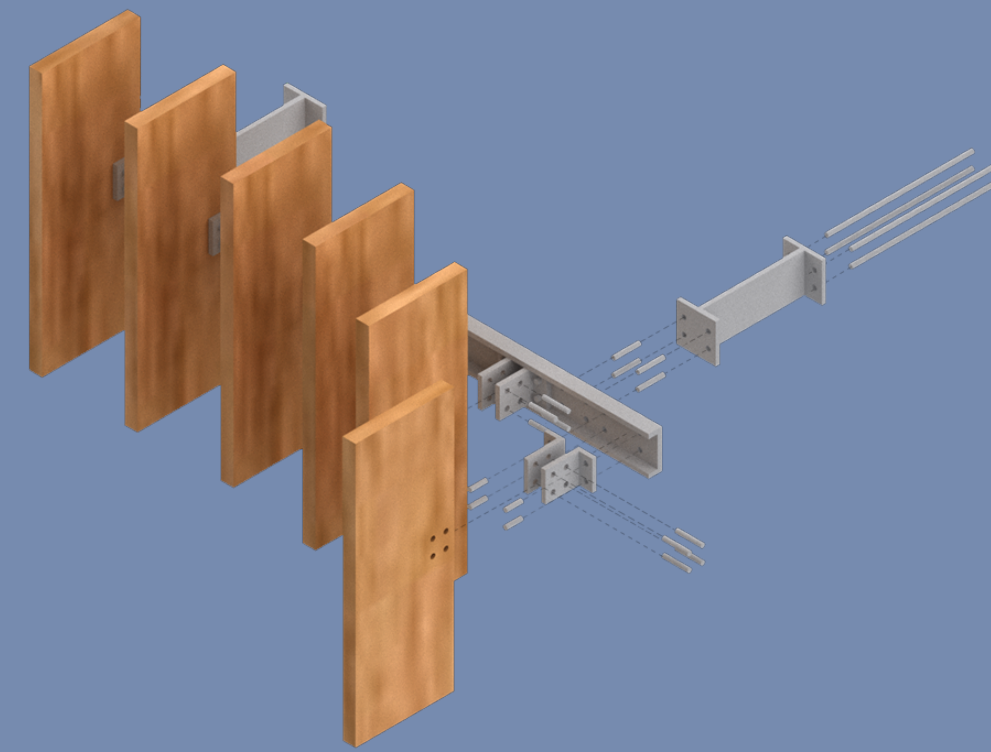


<https://seele.com/references/chadstone-shopping-centre>



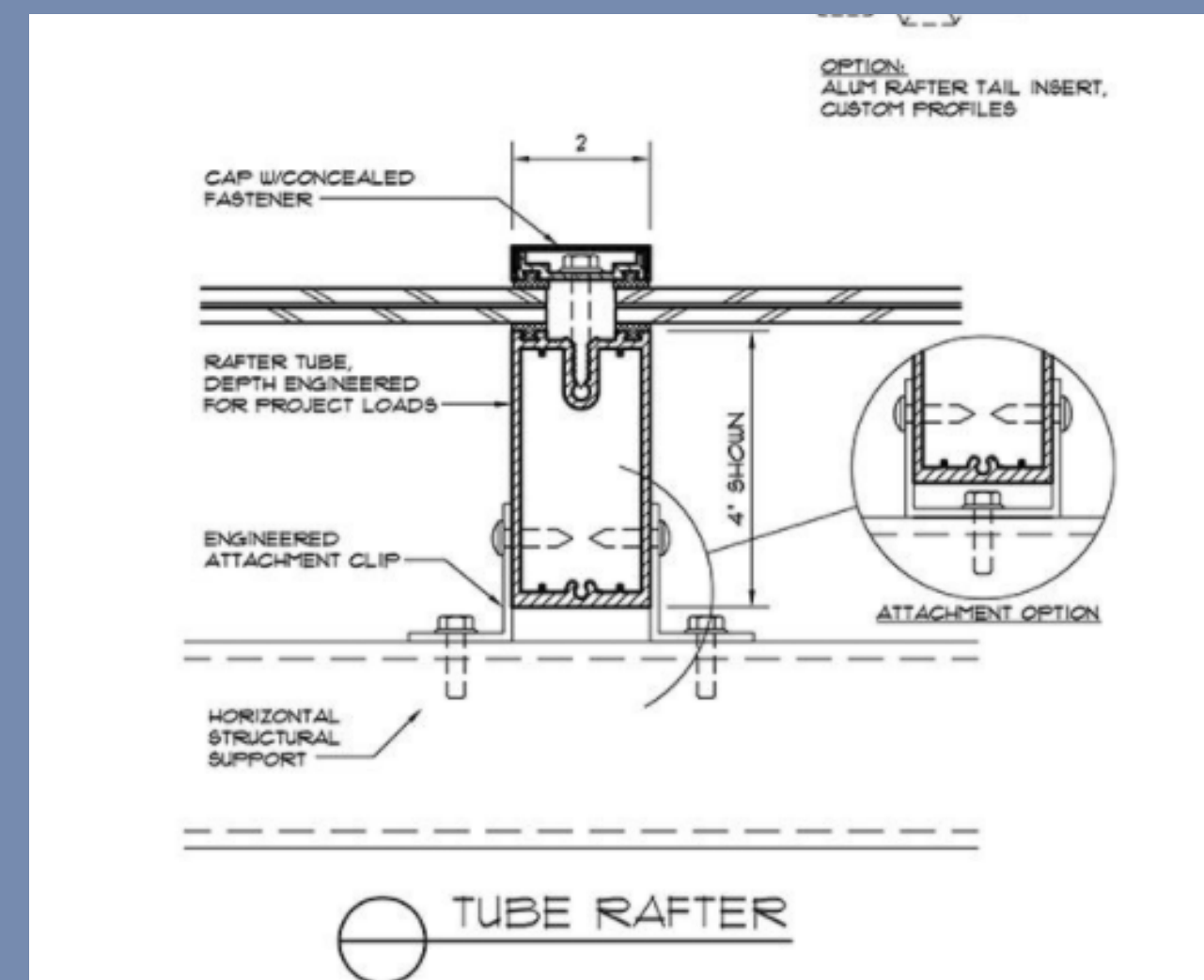
<https://www.dreamstime.com/installation-matt-white-glass-canopy-support-beams-image-series-roof-detail-against-sun-rain-image196701384>

The detail provides a method of attaching glass to steel members, without using spider clamps. The aesthetic of spider clamps was not desired, because of how they appear on the surface of the glass (dots), as well as how they separate the glass from the structure. The detail allowed us to achieve a cleaner look, where the glass appears to be embedded in the curved structural members. We wanted the curved members to show as apparent "streamlines", and the above details made this illusion possible, by allowing us to place the caps in such a way that it looked like an extension of the curved members.

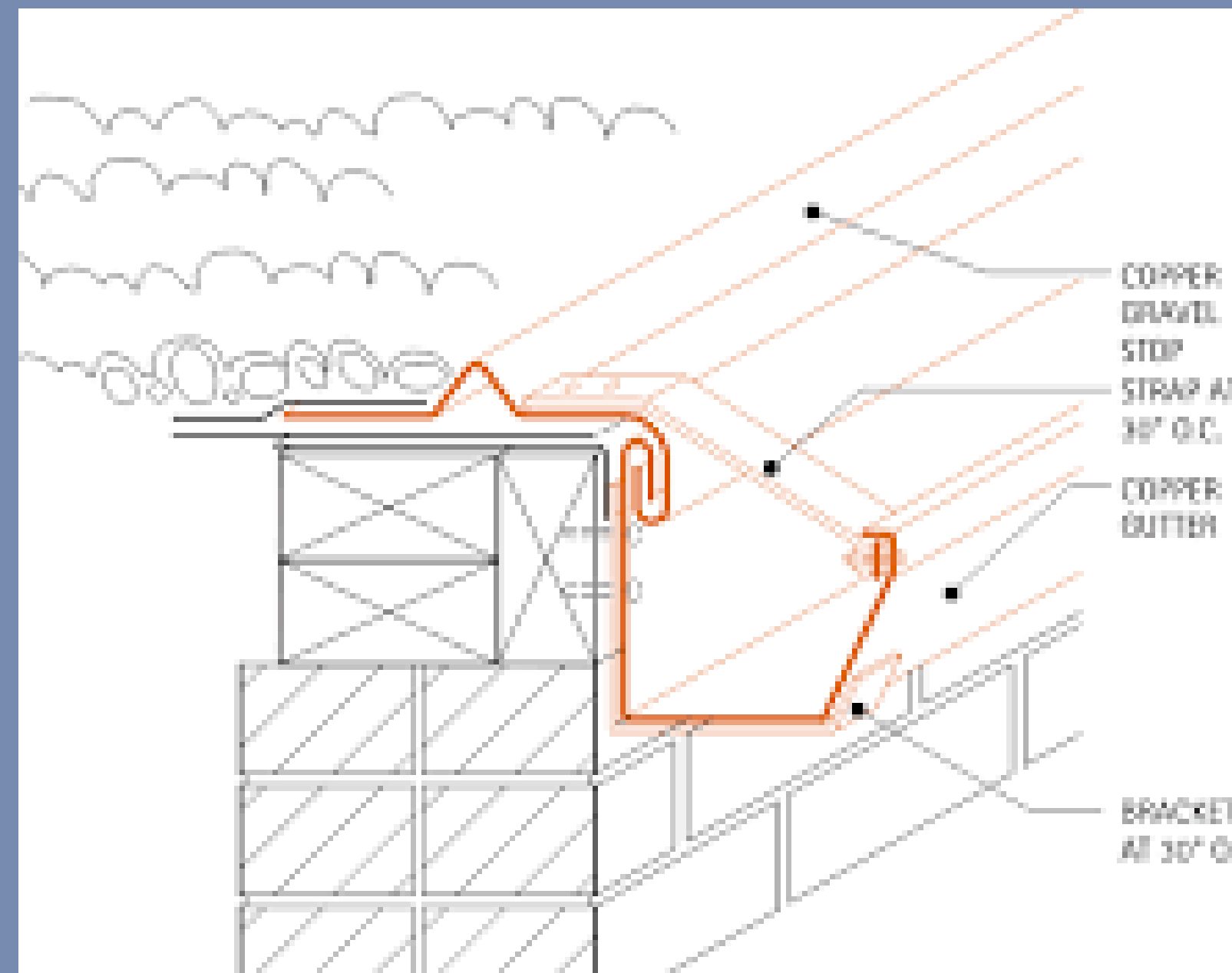


The vertical portion of the canopy was intended to tie directly back to the structure of the building. To achieve this, the same frame system used to support the wood fins in the reclad project are applied. This system reduces thermal bridges while providing the vertical members a place to be secured.

The canopy is intended to be an abstraction of water flowing. This means that the design will need to utilize materials that can "flow". Steel and glass architecture that seems to flow, warp, and provide motion, as seen in the example to the left, were therefore a huge influence on the project. In this particular design, the use of glass with heavy set structural mullions created this "flow" feeling. Therefore we were inspired to use a glass and steel combination where the steel mullions are clearly shown, but only in the direction of the flow. Any perpendicular structure was minimized.



<http://www.deamor.com/solutions/products/glass-canopies/tubular/>



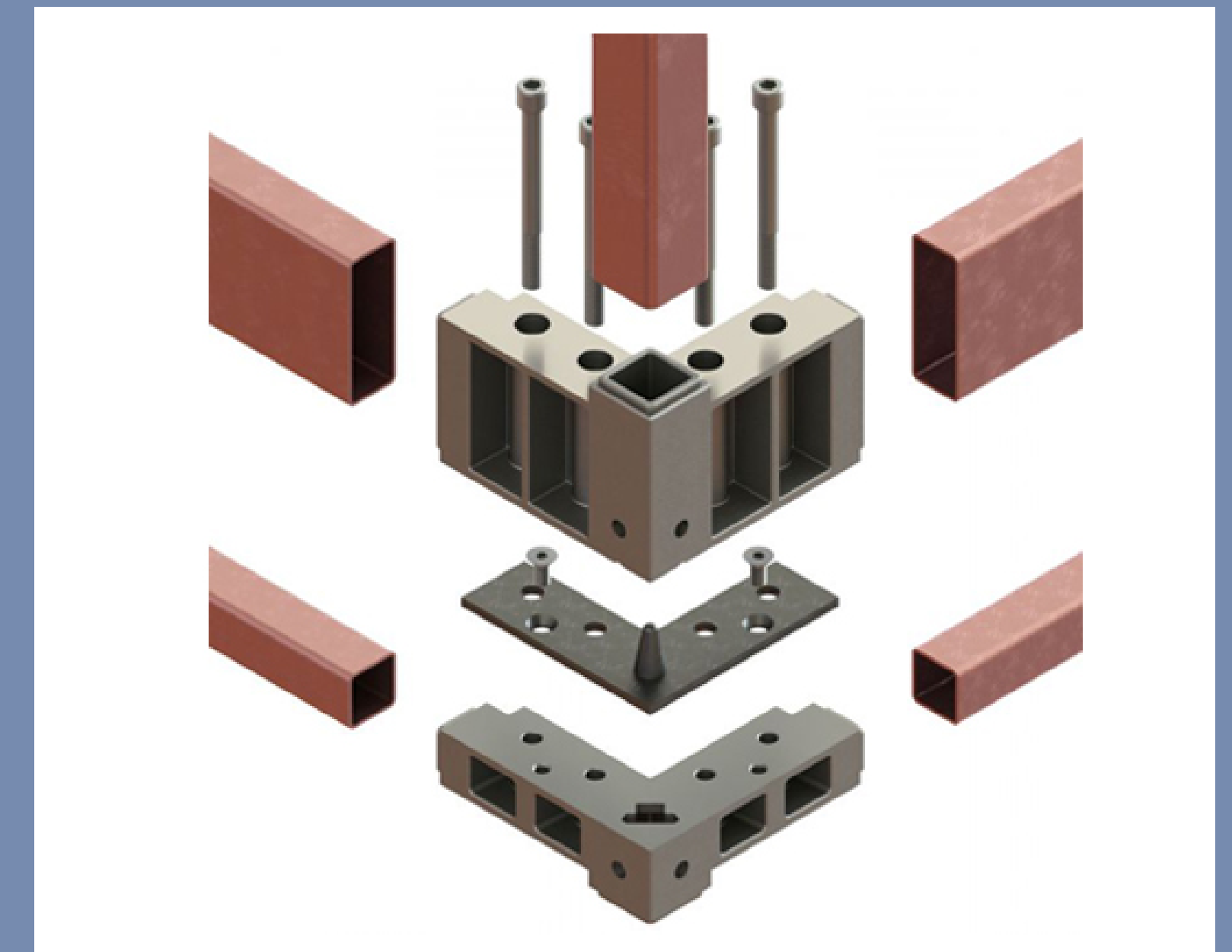
https://www.copper.org/applications/architecture/arch_dhb/arch-details/gutters_downspouts/hung_gutters.html

The form of the canopy forces rain-water off of the end, so we employed a gutter, as a modified version of the one above. Our canopy only has 5 points where the gutter can be attached. Modifying this detail, we were able to implement a simple gutter system that will effectively drain water in collaboration with the slanted shape of our canopy, where the more flexible pieces of the gutter were replaced with more stiff pieces, to span the distance between the 5 connection points.



<https://www.architectureartdesigns.com/20-wonderful-garden-fountains/>

The decided design motif for the general architectural form of the canopy was that of an abstraction of a water fall that falls twice. Where the first "fall" occurs from the roof of the building, the "plateau" is then the roof of the canopy, and the second "fall" becomes the final portion of the canopy.

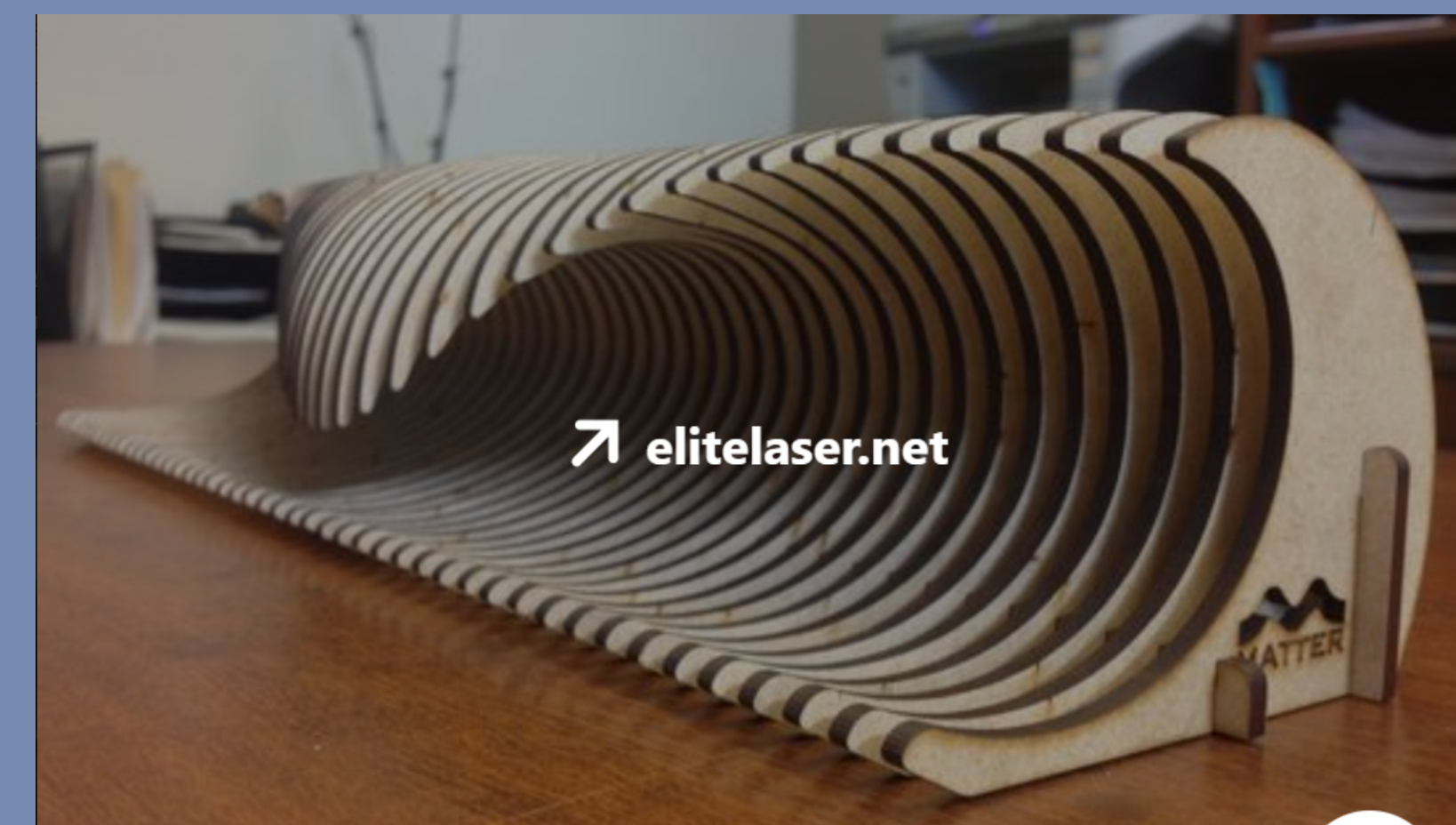


<https://www.2-modular.com/vectorblok/>

The structural frame underneath the canopy had to be tied together at these ends, to form one solid structure, that then ties back to the wall. The Vector Blok Modular connection was an inspiration for how the connection between HSS beams was made. The modular block is intended to have the HSS beams slip into the provided holes, and then be locked in place by a fastener. This creates a stronger connection than if only fasteners were used.



<https://www.dreamstime.com/small-waterfall-flowing-over-rocks-nature-there-waterfalls-flow-image120285011>

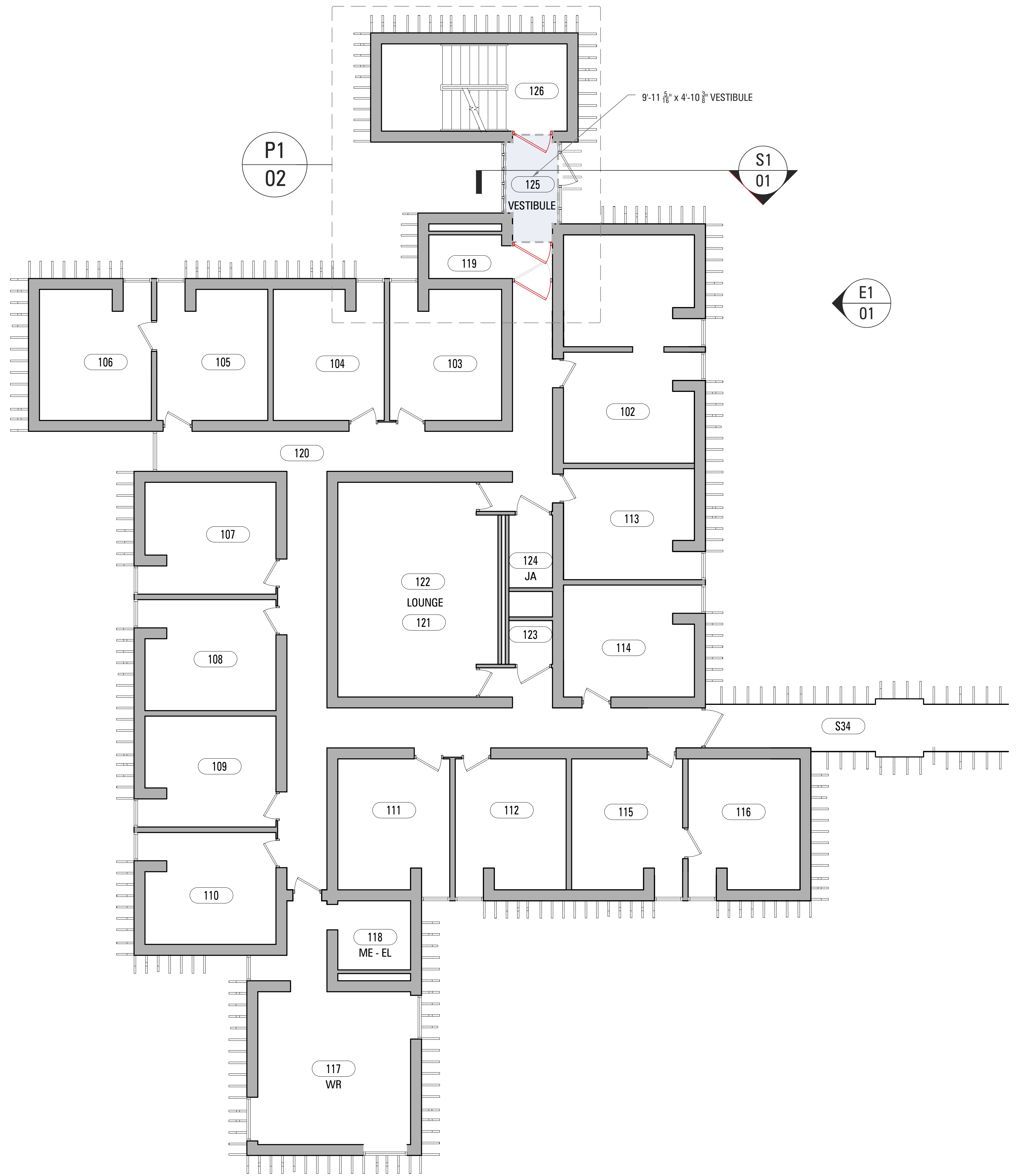


<https://elitelaser.net/projects/>

The main design motif of the entire building is water. To further the use of water as a major design motif, the end of the canopy has been cut short and angled to look similar to a crashing wave, if only in a gentler form. The above laser-printed design was a direct motivation for this, as well as a motivation for earlier design alternatives.



 UNIVERSITY OF WATERLOO	
	
Wave Architect + Partners	
TEAM MEMBERS:	
AIDAN MOROZ	20836125
LIAM DAVISON	20833436
PROJECT:	VILLAGE 1 CANOPY PROJECT
DRAWING:	OVERALL PROJECT
DRAWN BY:	AM
CHECKED BY:	LD, AM
DATE:	2021 - 04 - 12
SCALE:	NTS
NOTES:	
DWG NO:	R1

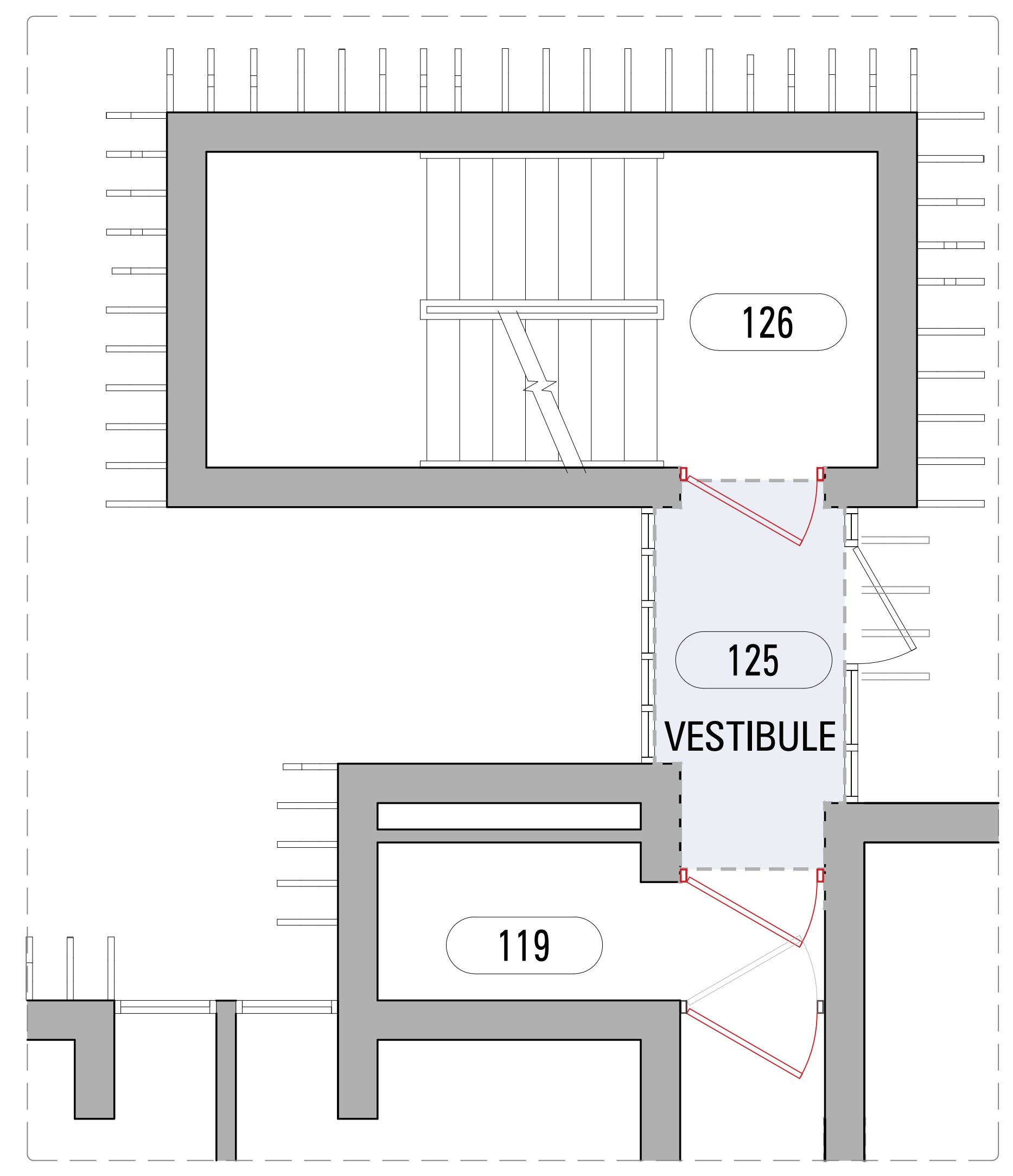


P1
01

FLOOR PLAN

SCALE: 3/16" = 1'-0"

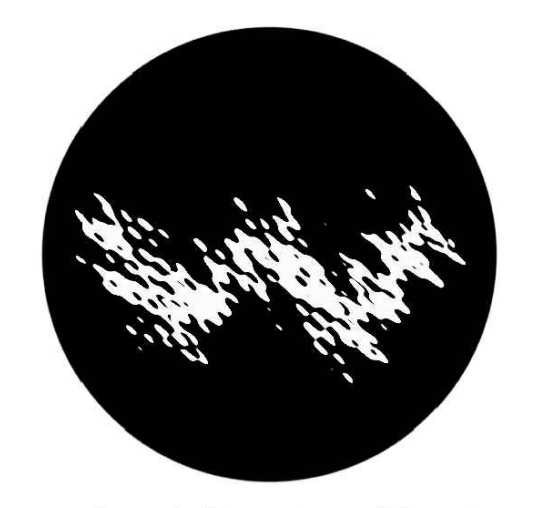
N



P1
02

VESTIBULE DETAIL PLAN

SCALE: 3/8" = 1'-0"



Wave Architect + Partners

TEAM MEMBERS:

AIDAN MOROZ	20836125
LIAM DAVISON	20833436

PROJECT:

VILLAGE 1
RECLAD PROJECT

DRAWING:

FLOOR PLAN AND
VESTIBULE PLAN

DRAWN BY: LD, AM

CHECKED BY: LD, AM

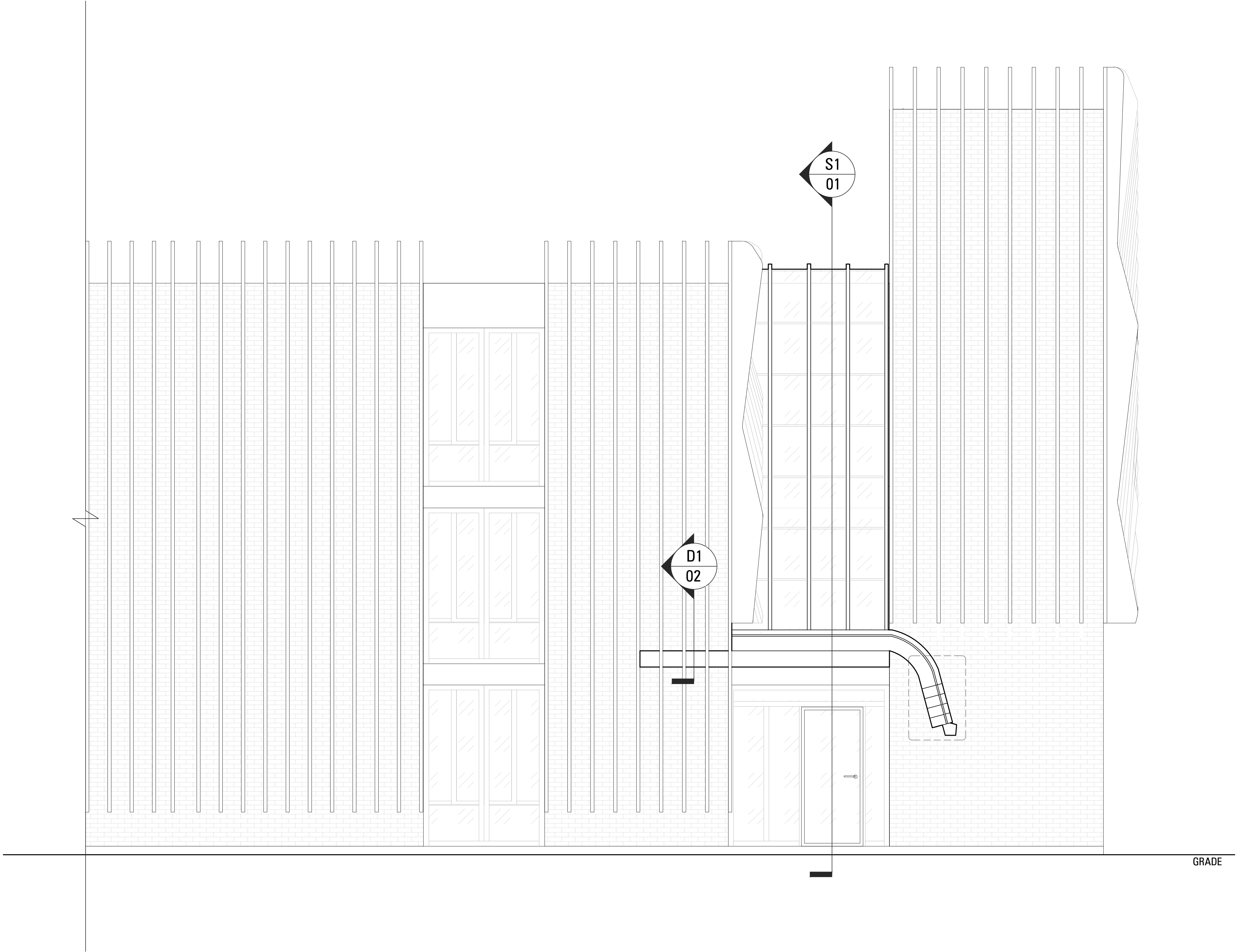
DATE: 2021 - 04 - 11

SCALE: Defined on drawing

NOTES:

DWG NO:

P1



E1
01 ENTRY ELEVATION
SCALE: 1/2" = 1'-0"



Wave Architect + Partners

TEAM MEMBERS:

AIDAN MOROZ	20836125
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PROJECT: **VILLAGE 1
CANOPY
PROJECT**

DRAWING: **ENTRY
ELEVATION**

DRAWN BY: **LD, AM**

CHECKED BY: **LD, AM**

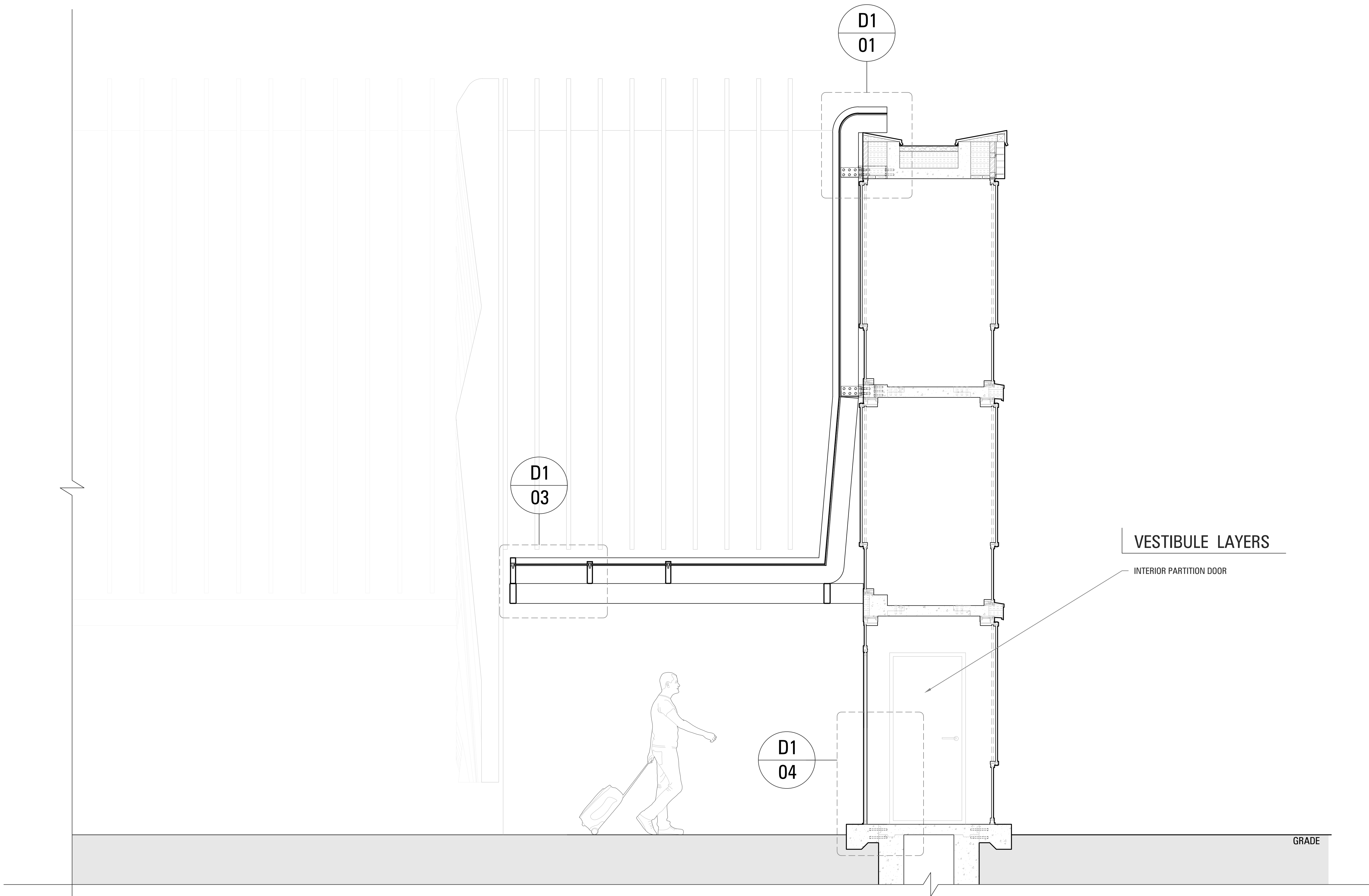
DATE: **2021 - 04 - 11**

SCALE: **Defined on drawing**

NOTES:

- CAD Blocks of people found on: Free library of cad people, dwg people, silhouettes, persons & vector people.. (n.d.). Retrieved March 09, 2021, from <https://pimpmydrawing.com/>

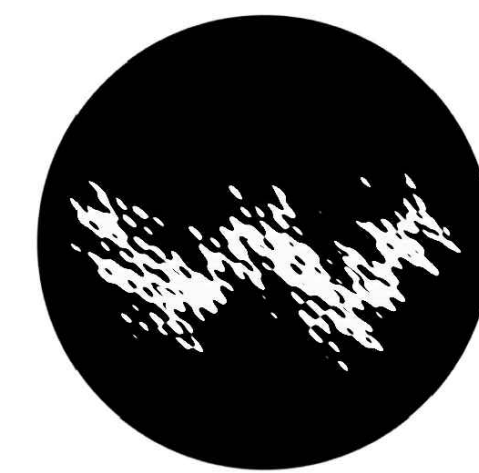
DWG NO: **E1**



S1
01

ENTRY SECTION

SCALE: 1/2" = 1'-0"



Wave Architect + Partners

TEAM MEMBERS:

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PROJECT: **VILLAGE 1
CANOPY
PROJECT**

DRAWING: **ENTRY SECTION**

DRAWN BY: **LD, AM**

CHECKED BY: **LD, AM**

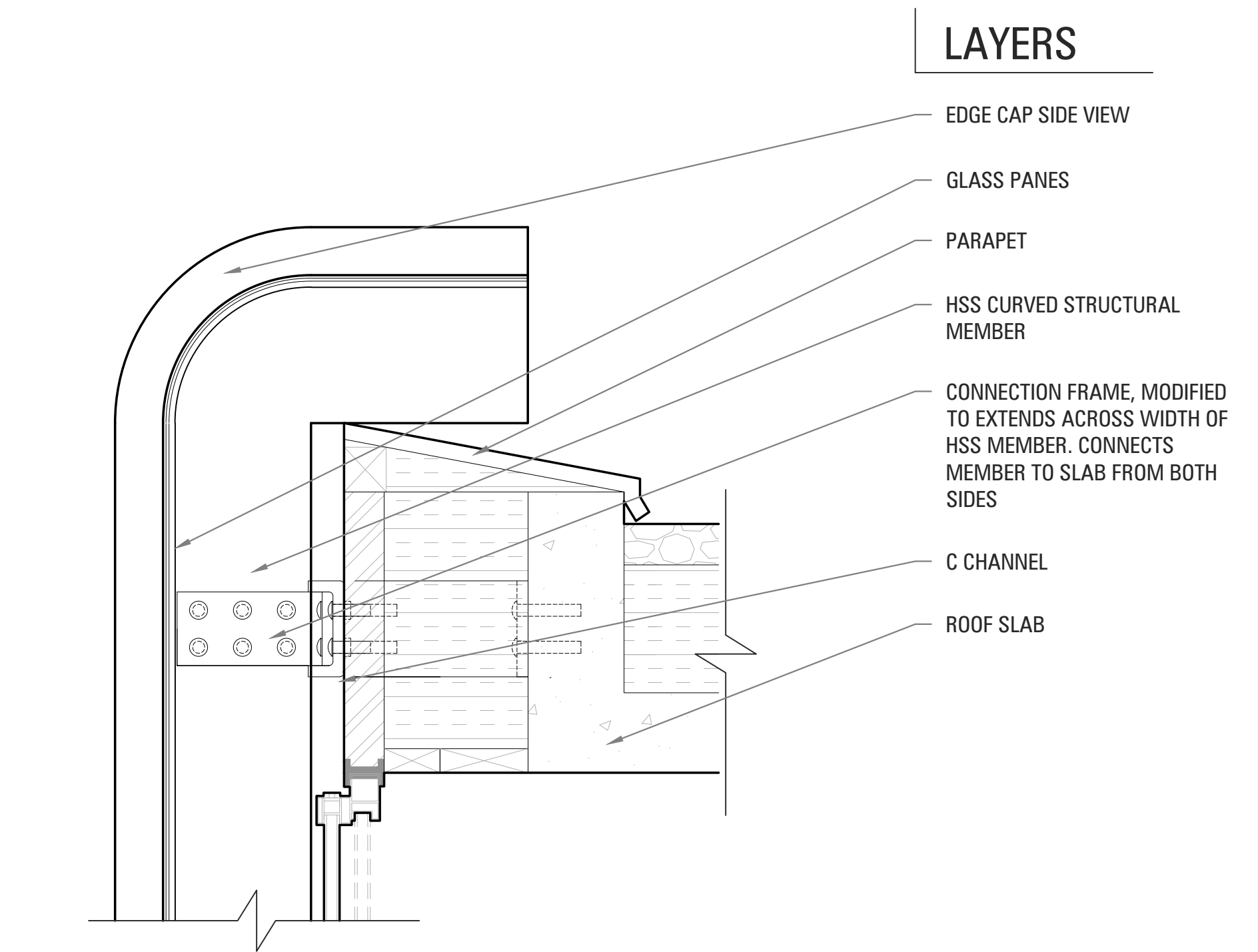
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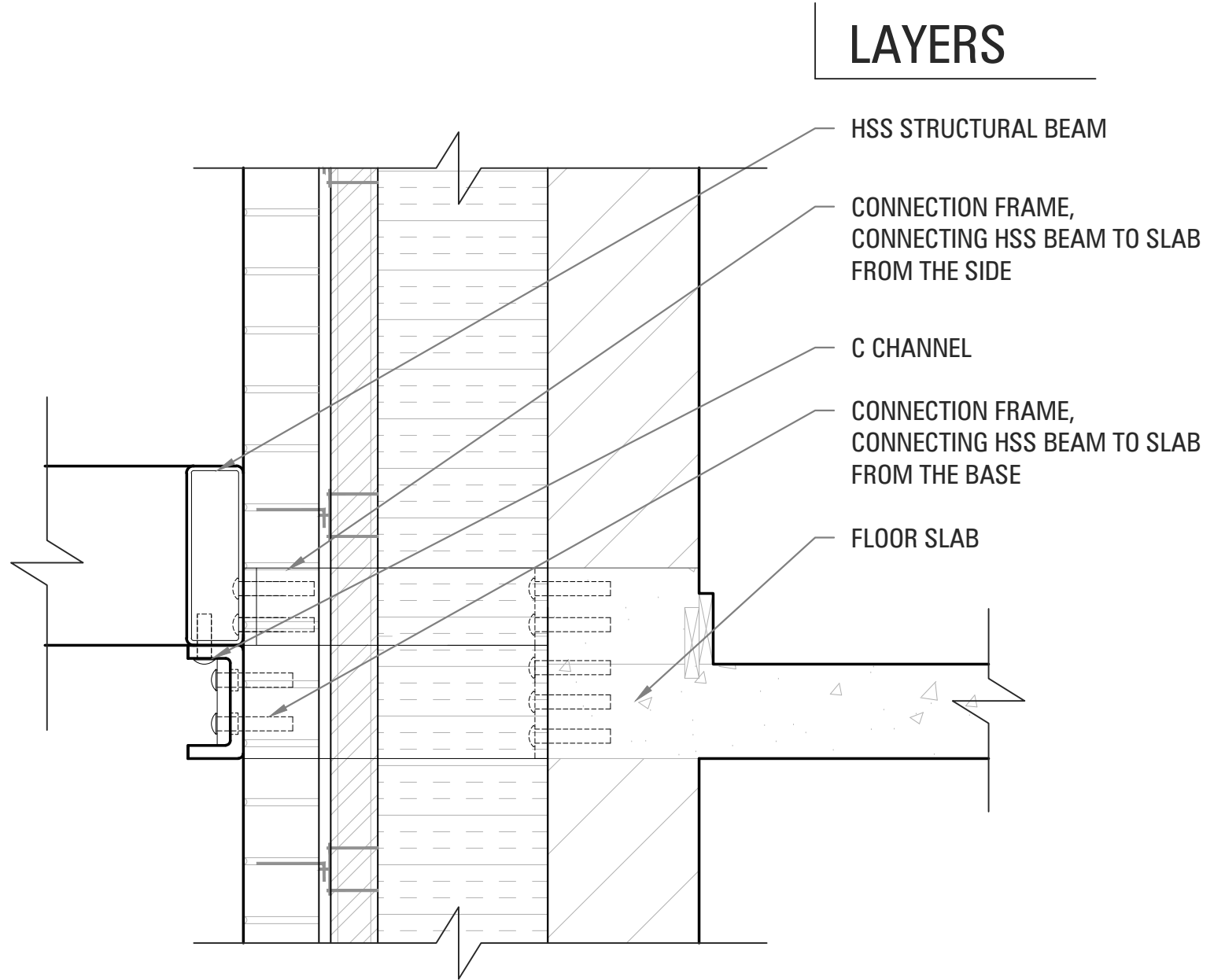
NOTES:

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DWG NO: **S1**



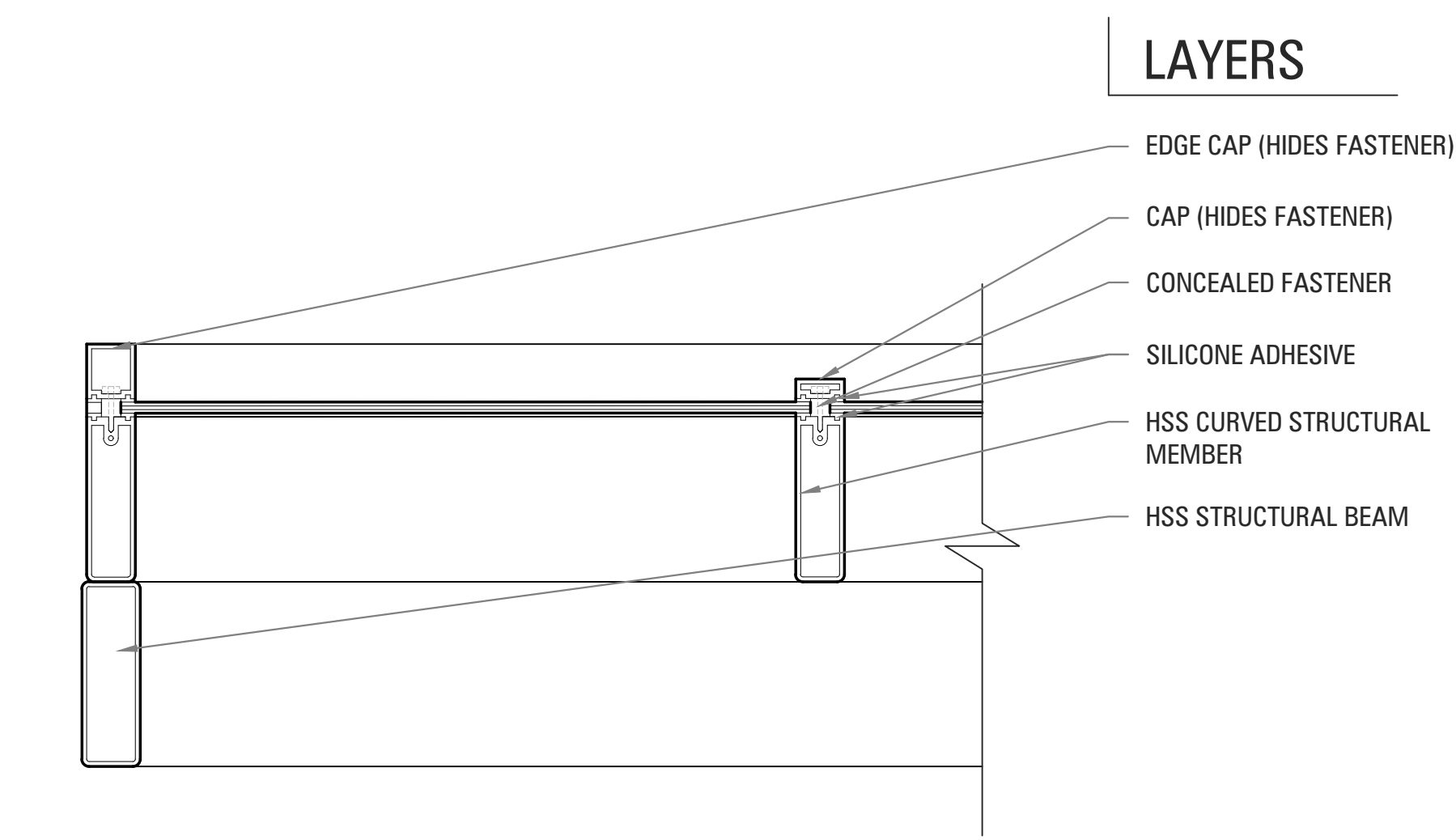
LAYERS



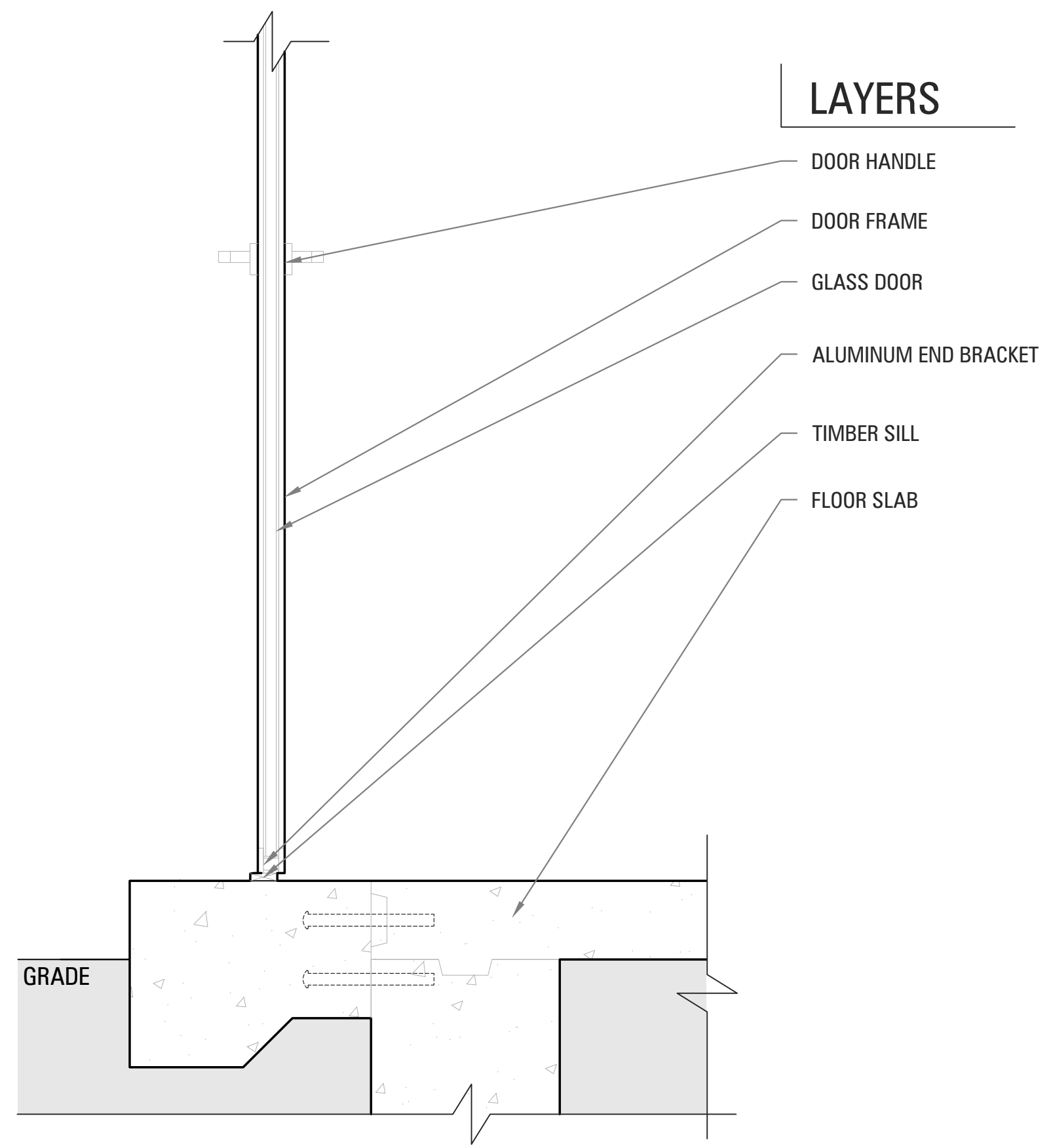
LAYERS

D1 01 CURVED BEAM TO ROOF SLAB DETAIL
SCALE: 1 1/2" = 1'-0"

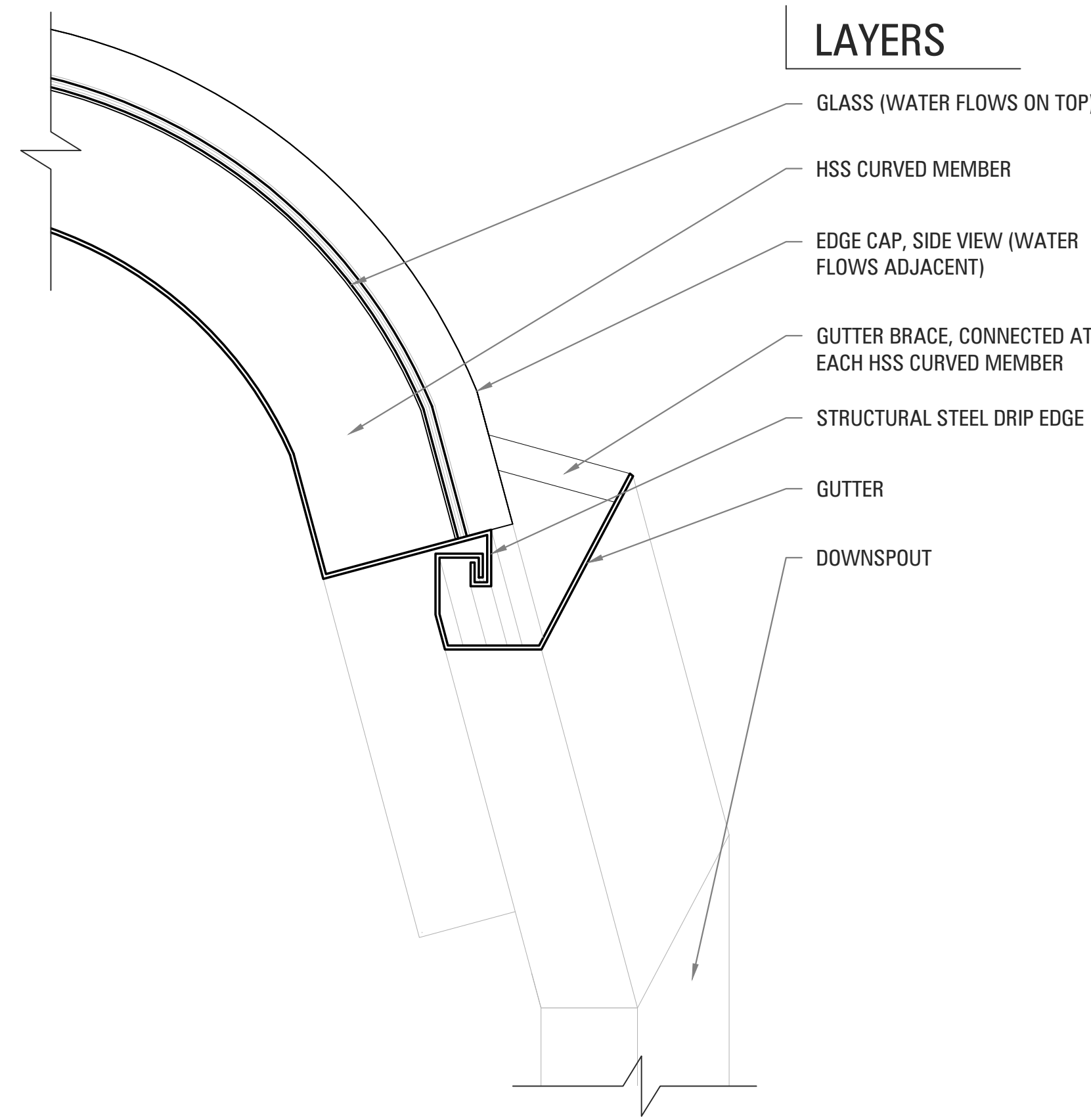
D1 02 STRUCTURAL BEAM TO FLOOR SLAB DETAIL
SCALE: 1 1/2" = 1'-0"



LAYERS



LAYERS

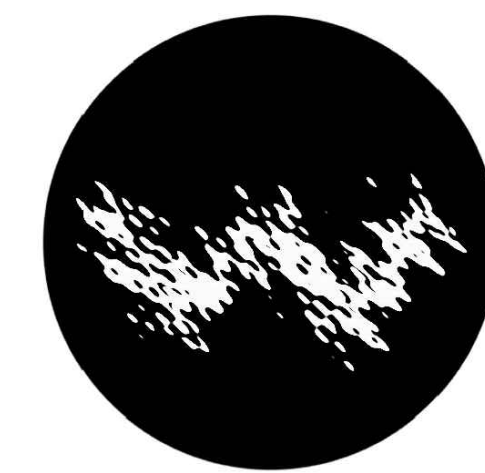


LAYERS

D1 03 GLASS TO BEAM DETAIL
SCALE: 1 1/2" = 1'-0"

D1 04 DOOR TO GROUND DETAIL
SCALE: 1 1/2" = 1'-0"

D1 05 GUTTER DETAIL
SCALE: 1 1/2" = 1'-0"



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TEAM MEMBERS:

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PROJECT: **VILLAGE 1
CANOPY
PROJECT**

DRAWING: **ATTACHMENT
DETAILS**

DRAWN BY: **LD, AM**

CHECKED BY: **LD, AM**

DATE: **2021 - 04 - 12**

SCALE: **Defined on drawing**

NOTES:

- CAD Blocks of people found on: Free library of cad people, dwg people, silhouettes, persons & vector people.. (n.d.). Retrieved March 09, 2021, from <https://pimpmydrawing.com/>

DWG NO: **D1**



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TEAM MEMBERS:

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PROJECT:
VILLAGE 1
CANOPY
PROJECT

DRAWING:

PAPER MODEL

DRAWN BY: AM

CHECKED BY: LD, AM

DATE: 2021 - 04 - 21

SCALE: NTS

NOTES:

DWG NO:

PM1



THE TALE OF RUDY THE ALIEN

FEATURING VILLAGE 1 RESIDENCE

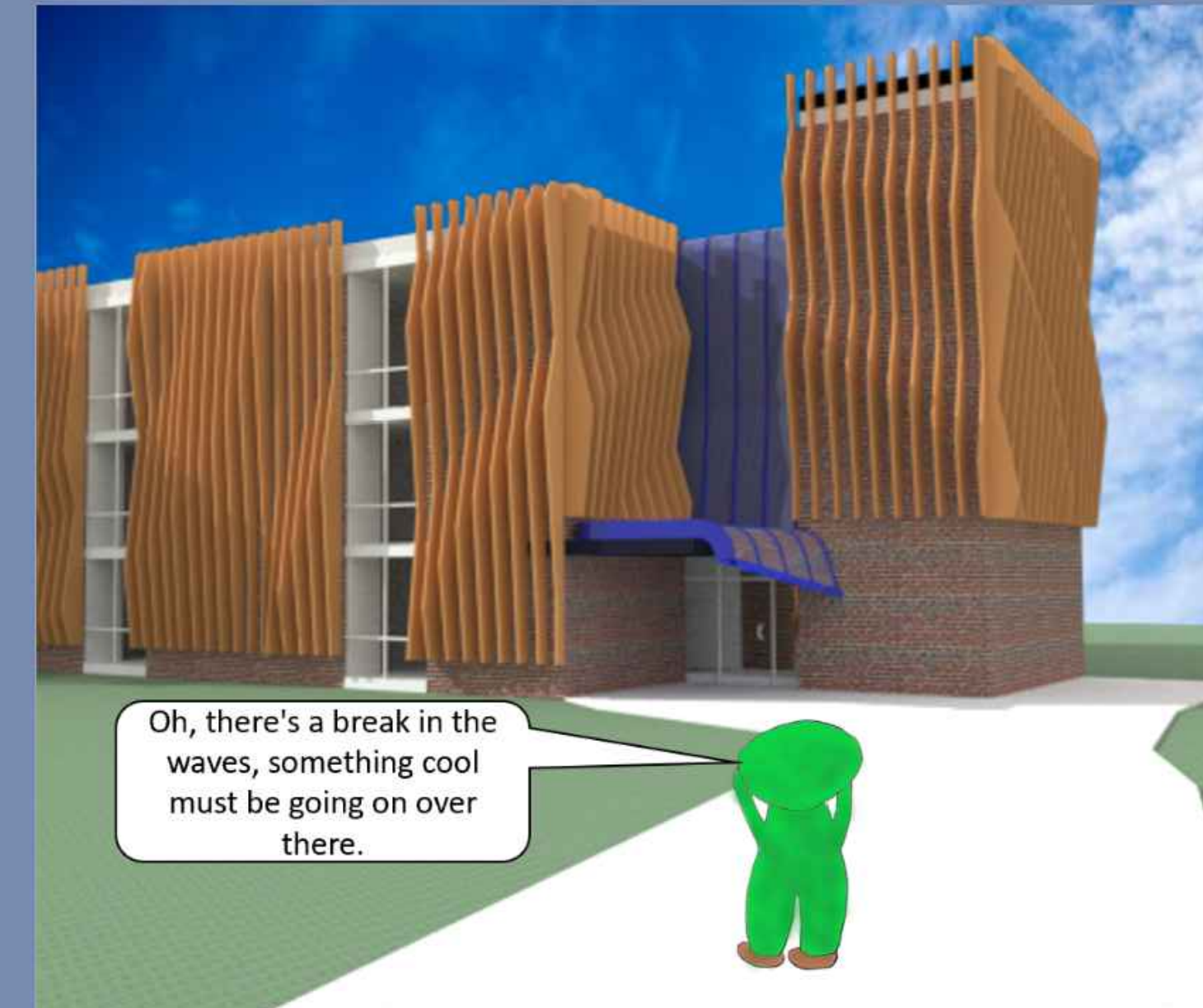
VOLUME 1



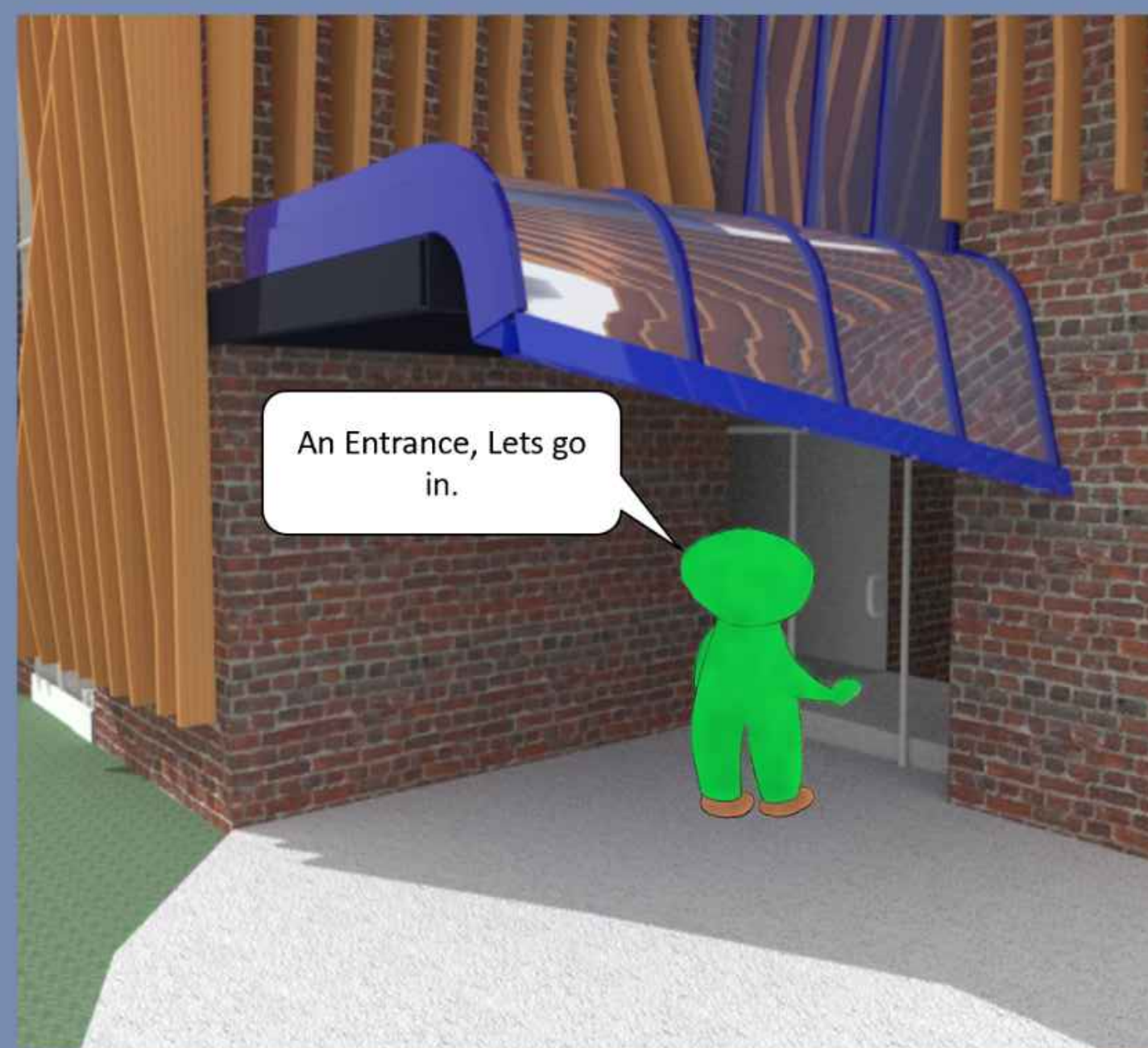
During A Clear Night in Outer Space, Rudy the Alien notices something unusual.



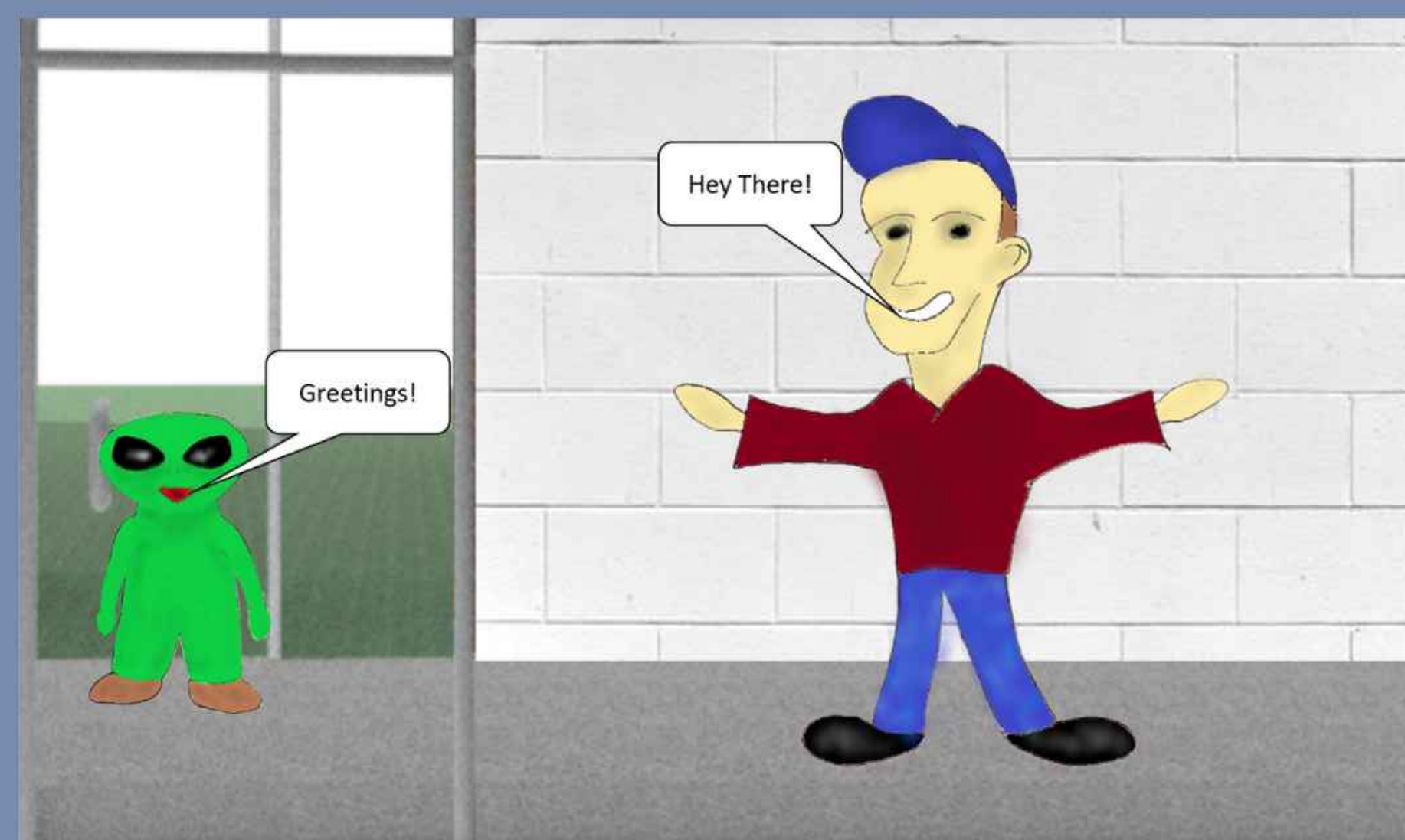
He investigates further, only to discover a rather strange building.



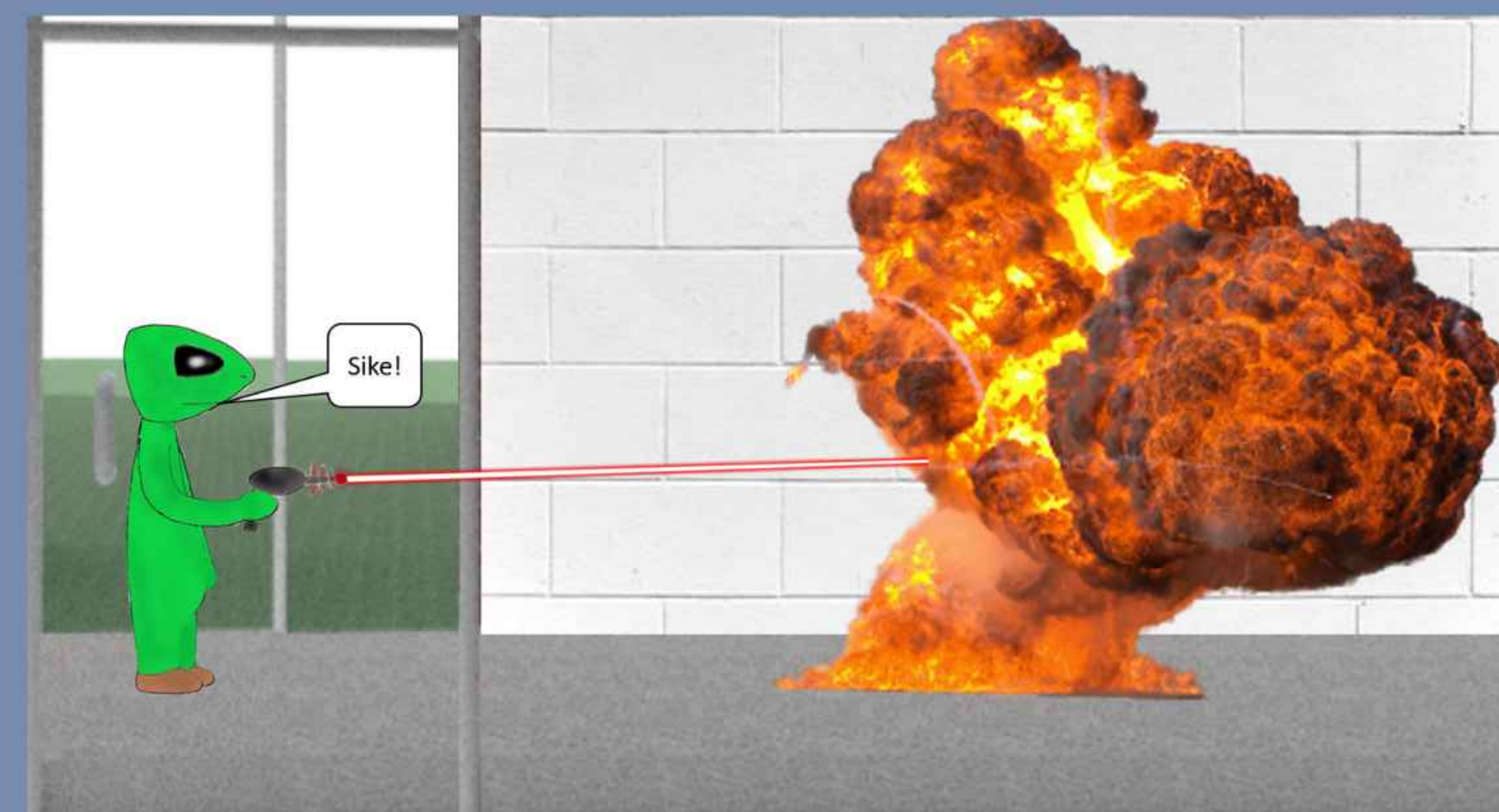
Rudy lands his flying saucer, and takes a closer look on the ground. He spots a disturbance to the buildings ripple in the distance.



Rudy walks towards the disturbance and finds a door, curious, he enters in to the building.



Now inside the building, Rudy make contact with a human. An odd looking fella, it's a student at the University of Waterloo.



Rudy zaps the poor guy.

THE END



TEAM MEMBERS:

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PROJECT: **VILLAGE 1
CANOPY
PROJECT**

DRAWING:

USE SCENARIO

DRAWN BY: LD

CHECKED BY: LD, AM

DATE: 2021 - 04 - 21

SCALE: NTS

NOTES:

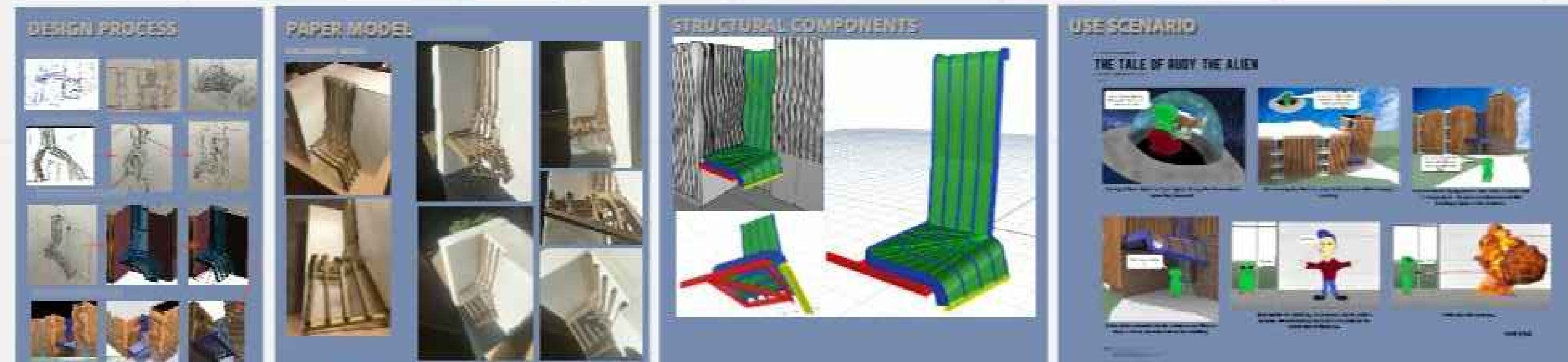
- Image Rights:
 Space:
<https://phys.org/news/2020-02-fast-radio-steady-day.html>
 Sky: <https://www.pexels.com/search/sky/>
 Wall:
<https://www.thespruce.com/tk-ways-to-attach-things-to-cinder-block-walls-5080521>
 Explosion:
<http://clipart-library.com/clip-art/transparent-explosion-gif-22.htm>
 Laser:
<https://www.nicepng.com/maxp/u2t44u2u2o0e6q8/>

DWG NO:

U1

Roebling A2

House Members:

[illegible]

Wave Architect + Partners

TEAM MEMBERS:

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LIAM DAVISON 20833436

PROJECT: **VILLAGE 1
CANOPY
PROJECT**

DRAWING:

PRESENTAION

DRAWN BY: LD, AM

CHECKED BY: LD, AM

DATE: 2021 - 04 - 21

SCALE: NTS

NOTES:

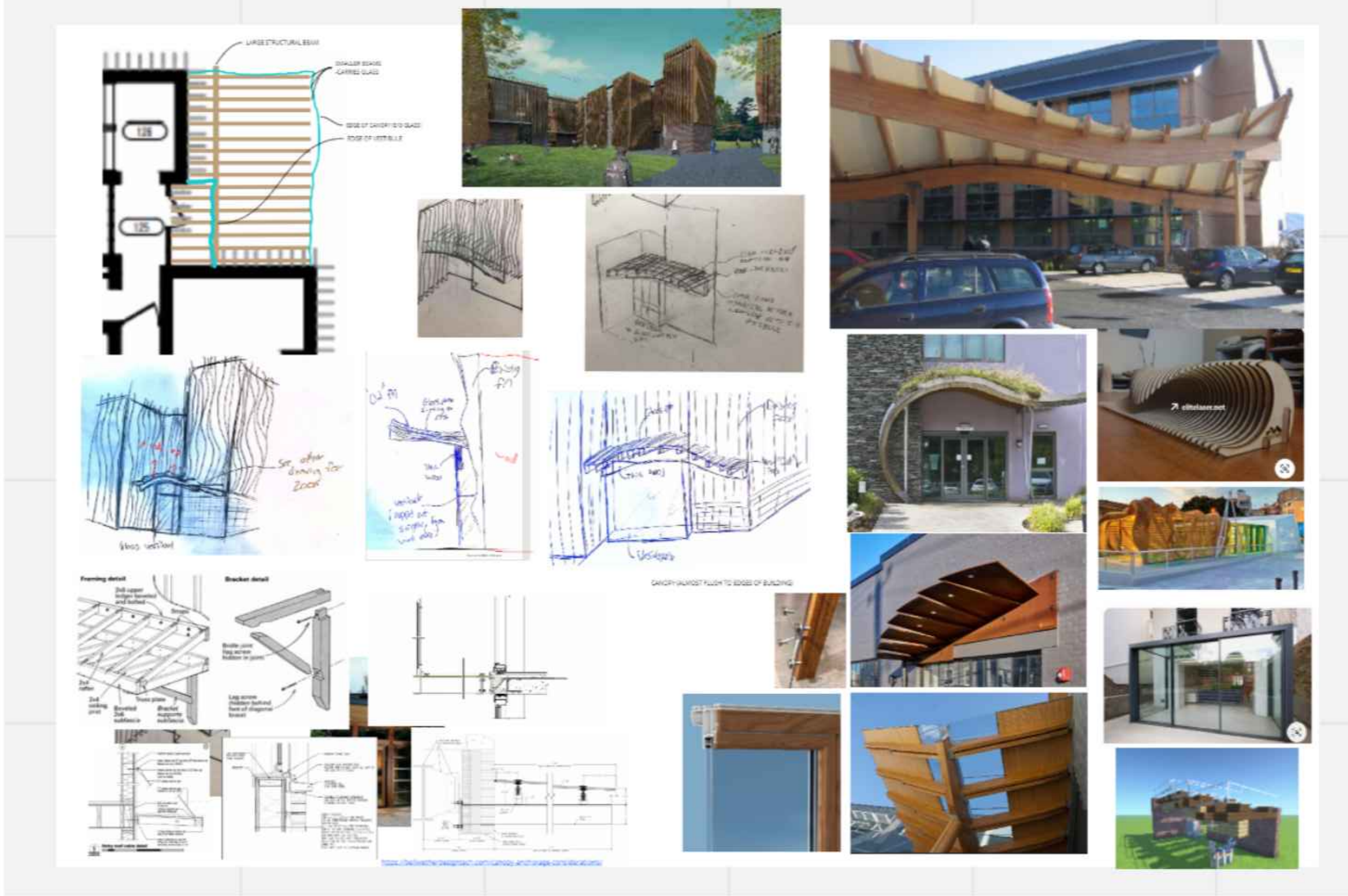
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M1

CRIT 1

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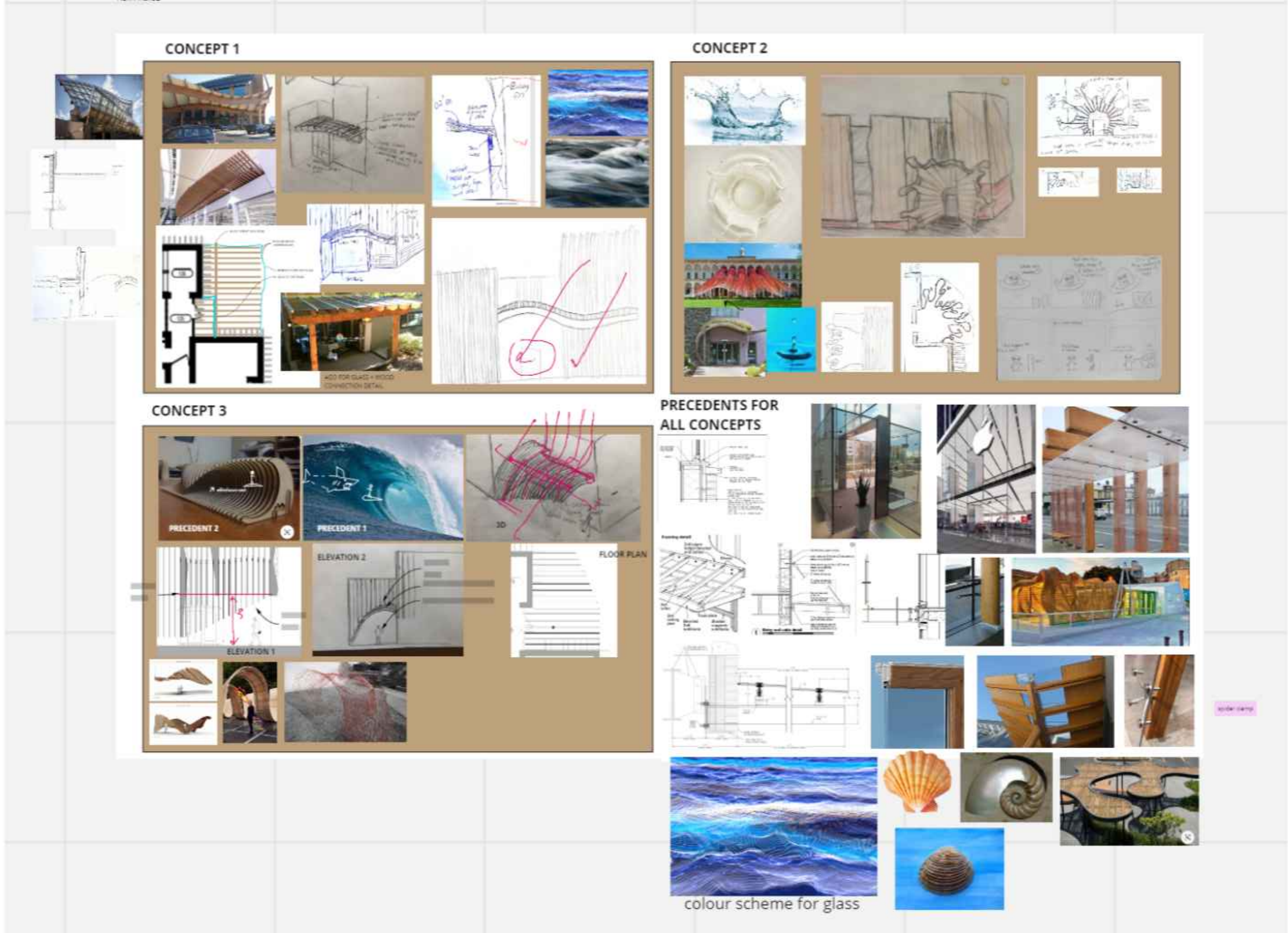
BLITZ CRIT



CRIT 2

MAY 24

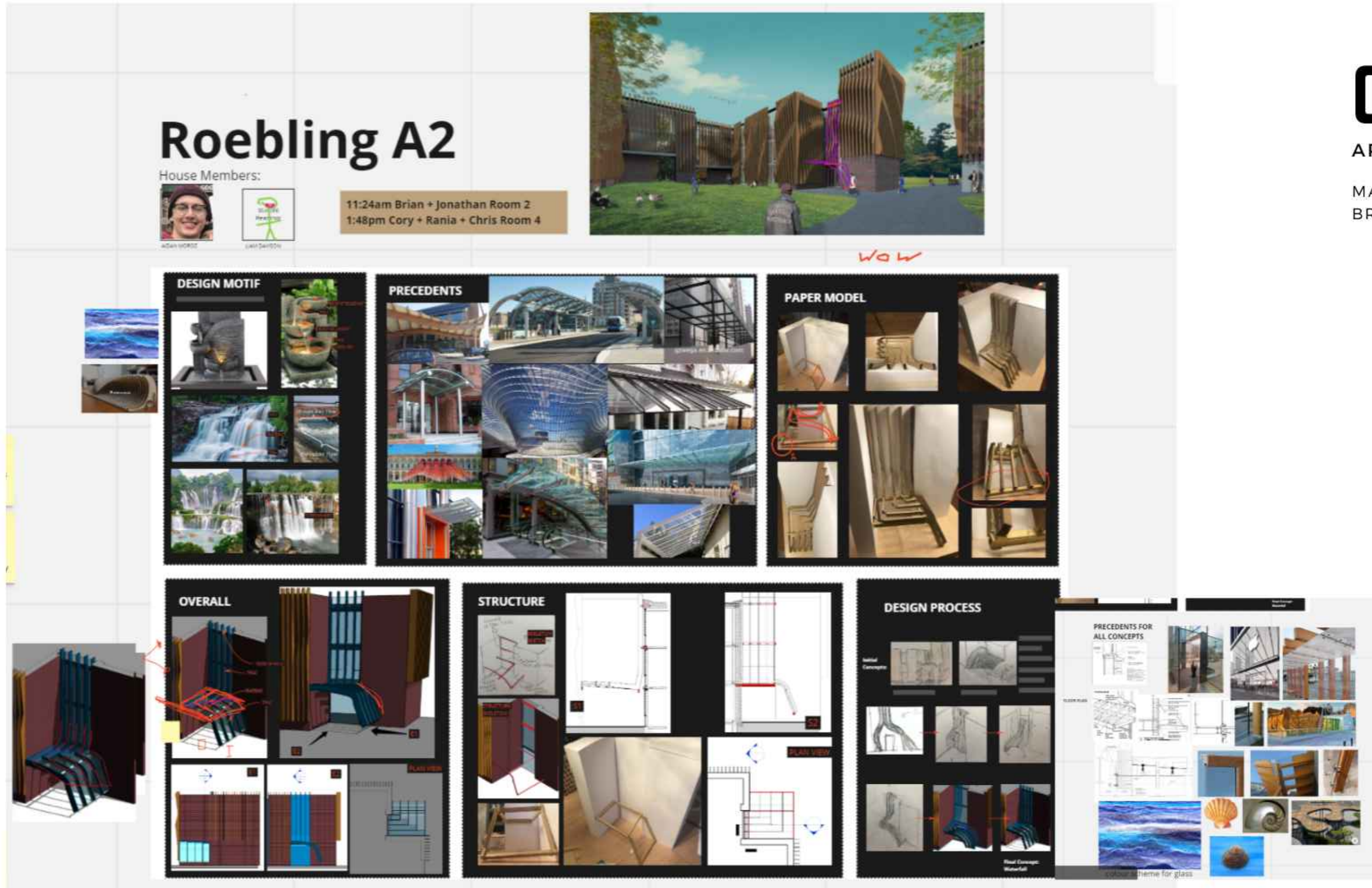
CHRIS HARDY
MARCO CHOW



CRIT 3

MAY 31

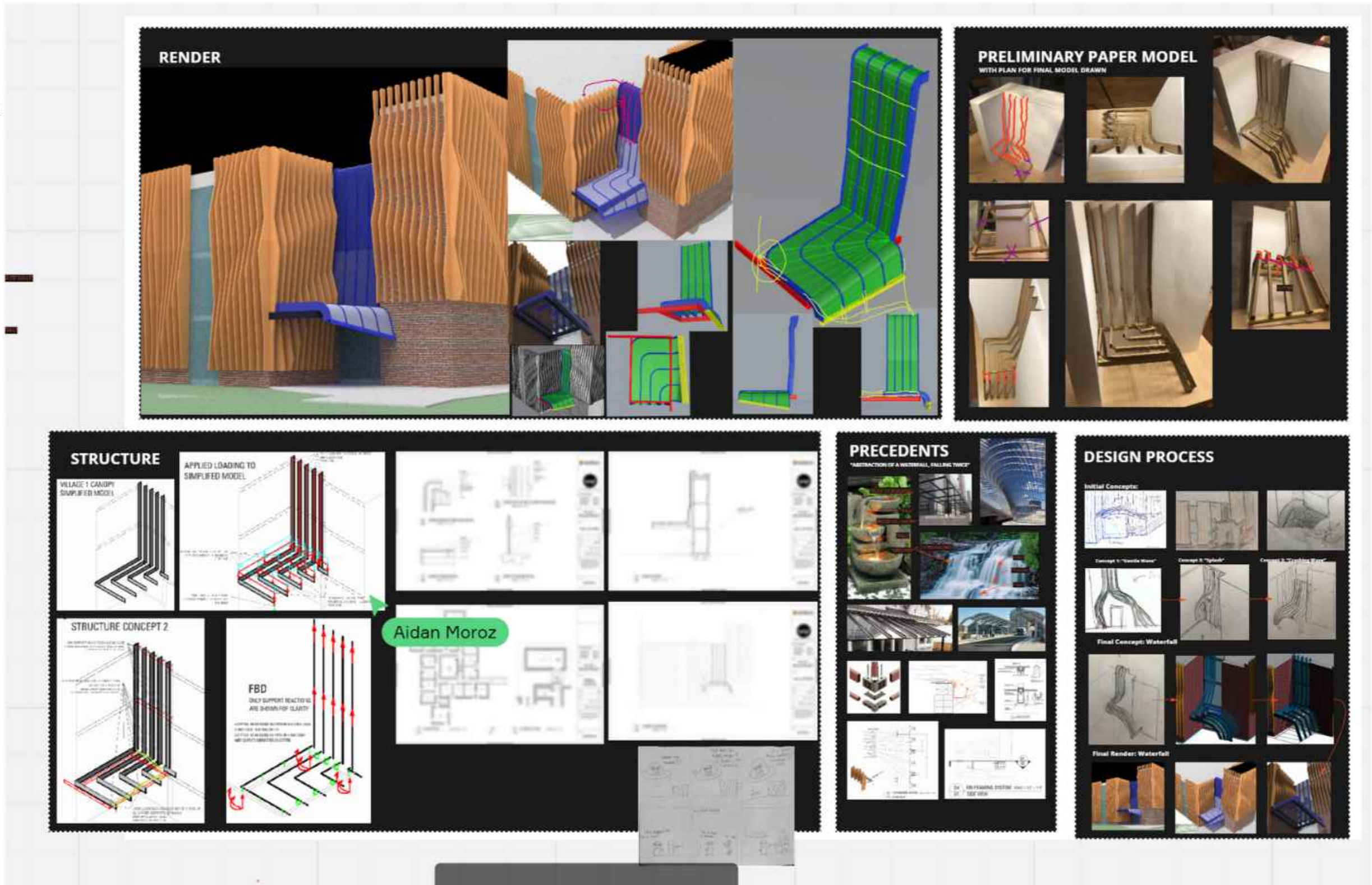
JONATHAN ENNS
AE 204 REP REZA
BRIAN TIEN
CORY ZURELL
AE 204 REP RANIA
CHRIS HARDY



CRIT 4

APRIL 7

MARCO CHOW
BRIAN TIEN



Wave Architect + Partners

TEAM MEMBERS:

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PROJECT:
VILLAGE 1
CANOPY
PROJECT

DRAWING:
PROCESS/
DEVELOPMENT

DRAWN BY: LD, AM

CHECKED BY: LD, AM

DATE: 2021 - 04 - 21

SCALE: NTS

NOTES:

DWG NO:
PD1