UBC MacLeod Engineering Building

High-performance Envelope – Endless Expressive Opportunities

AMERICAN CONCRETE INSTITUTE

31_10_2023

aci CONCRETE CONVENTION

Teeple Architects INC.

PROSCENIUM
ARCHITECTURE + INTERIORS INC.

Collaboration by

Architects | Teeple Architects in association with Proscenium Architecture + Interiors

Owner | The University of British Columbia

Structural Engineer | Weiler Smith Bowers Consulting Engineers

CM / Concrete | Heatherbrae Builders

Pre-Cast | Con-Force Structures

UBC MacLeod Building
History & condition

- Dept of Electrical & Computer Engineering
- 1963 construction
- High-quality international modernism
- No seismic consideration
- Significant thermal bridges

UBC MacLeod Building
Comprehensive Renewal

- Resilience-focused seismic upgrade
- New envelope + mechanical, electrical systems
- New-construction level sustainability
- Full interior retrofit
- Deferred maintenance

Precast Expression

Rhythm of the Existing Structure

Vertical Column Lines

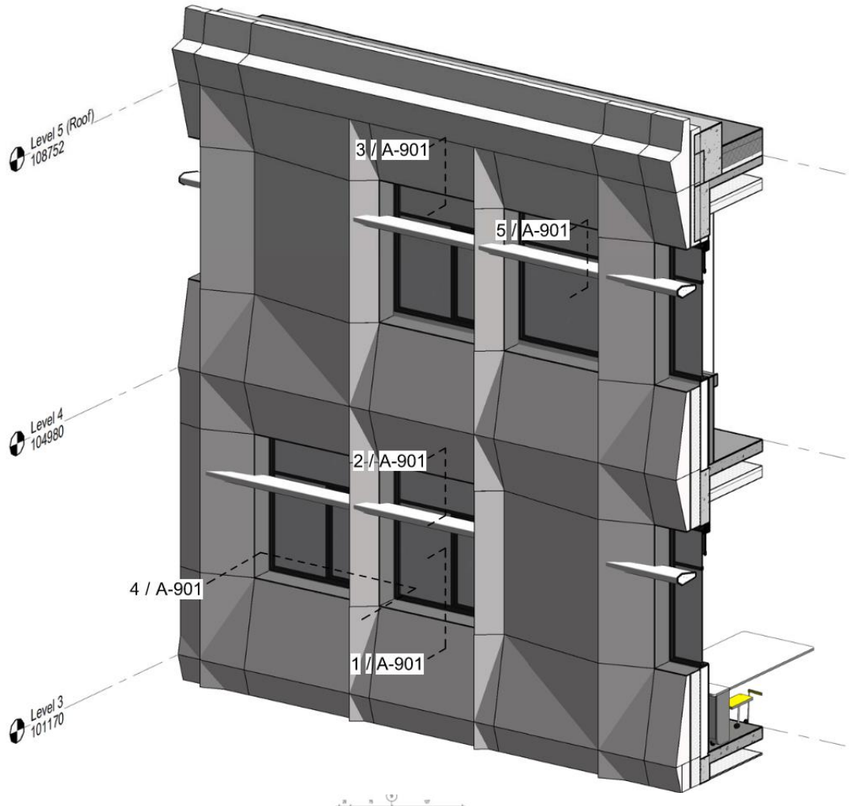
Horizontal Slabs

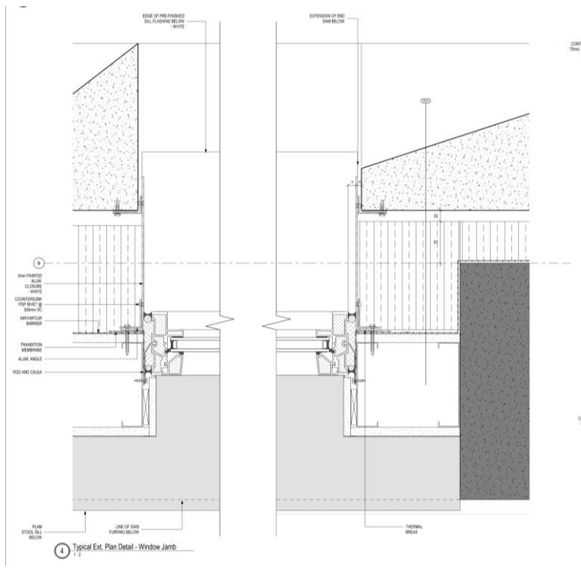
Infill Brick Panels

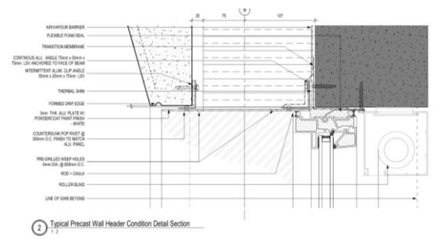

MacLeod Building
2356 Main Mall

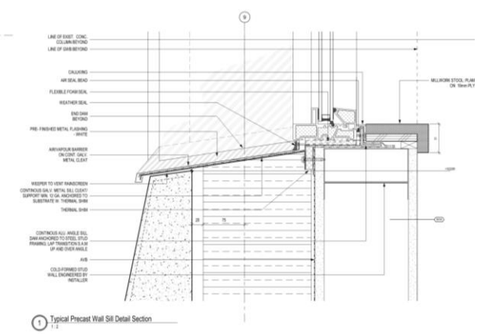
Precast Approach

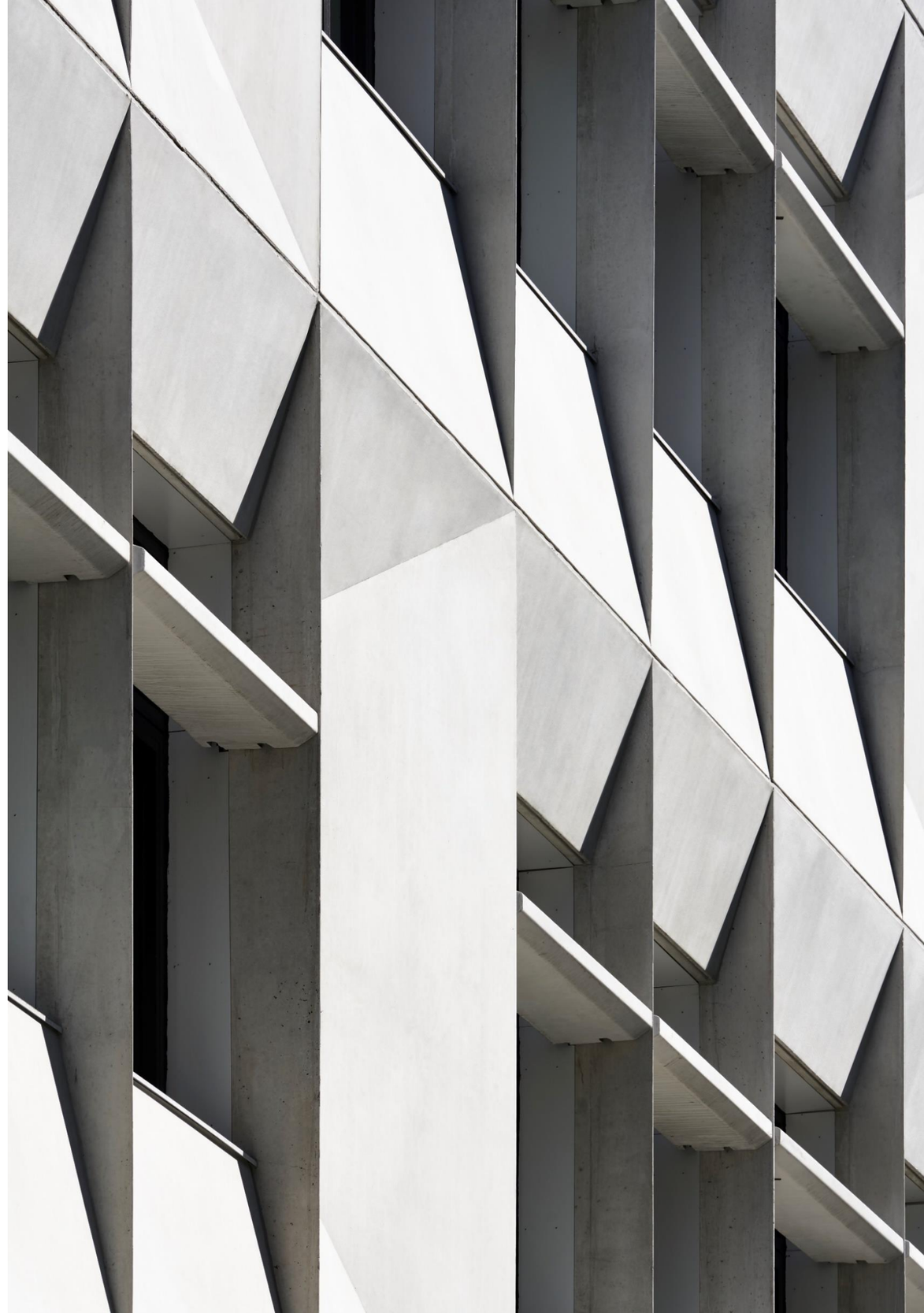
Detailing







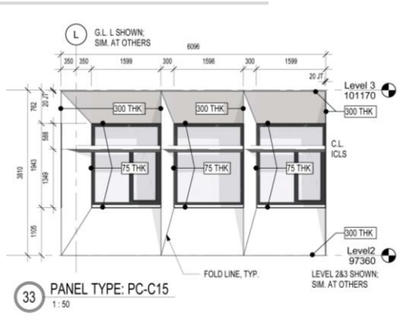




5 Typical Precast Wall Section
1 : 20

Precast Approach

Modularity



33 PANEL TYPE: PC-C15
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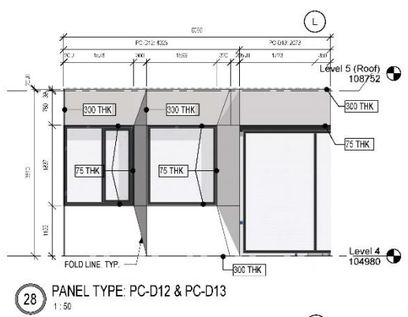

28 PANEL TYPE: PC-D12 & PC-D13
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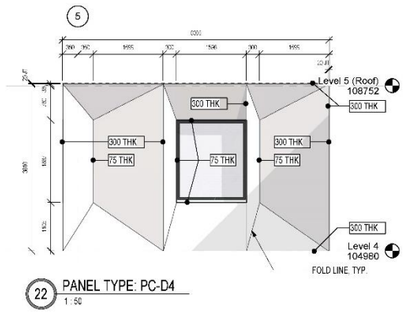

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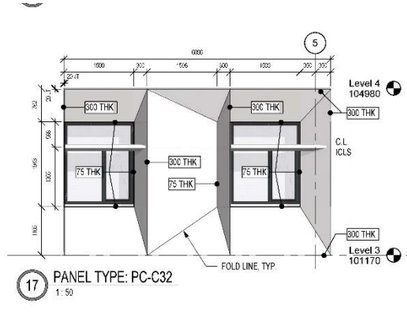

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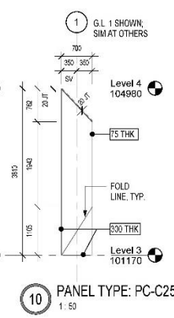

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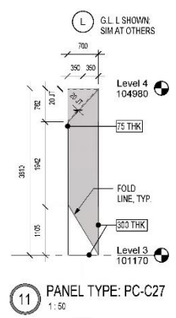

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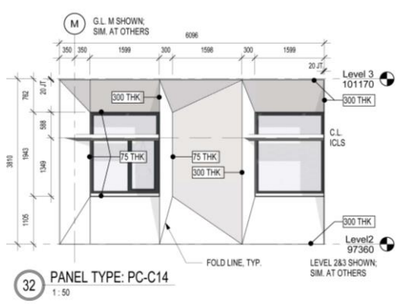

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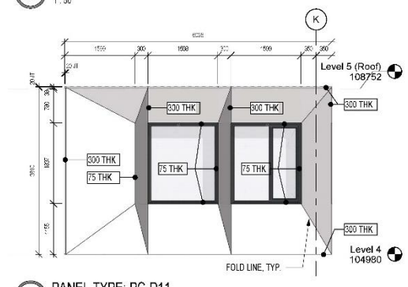

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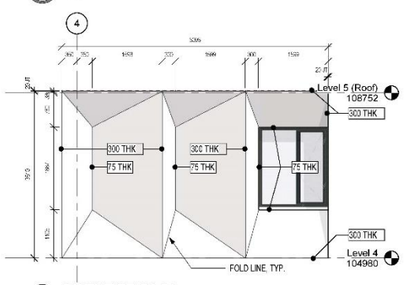

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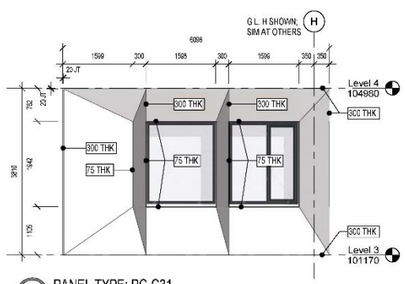

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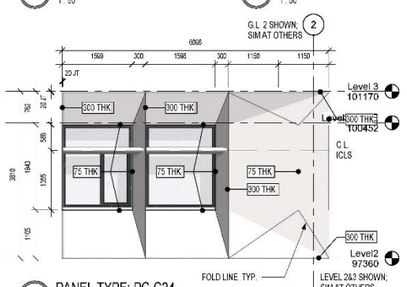

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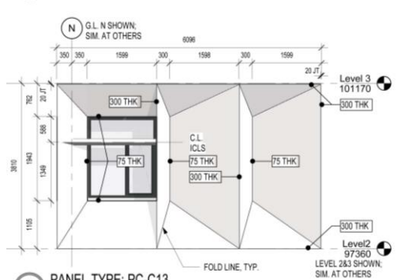

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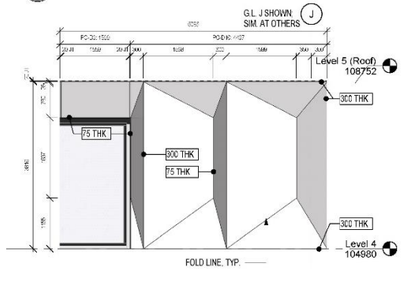

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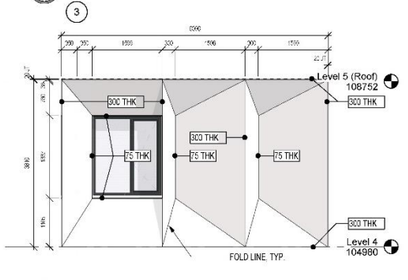

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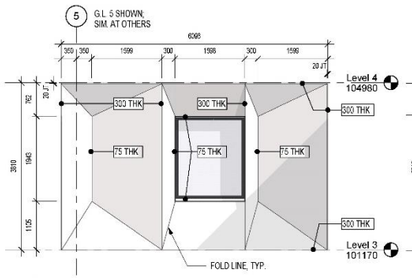

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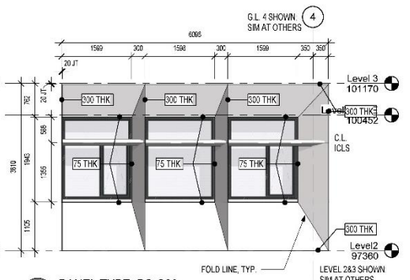

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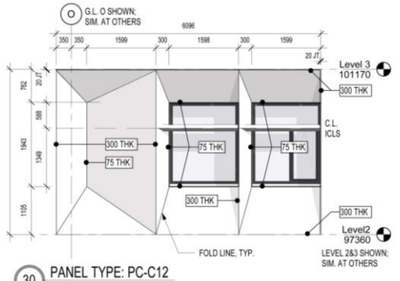

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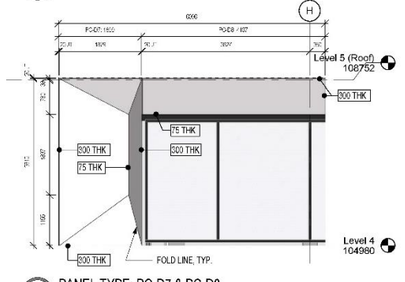

25 PANEL TYPE: PC-D7 & PC-D8
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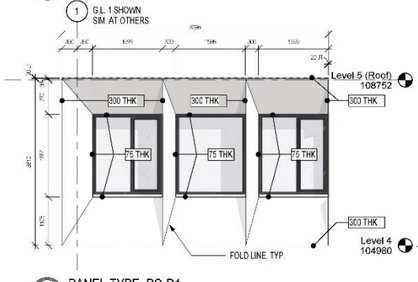

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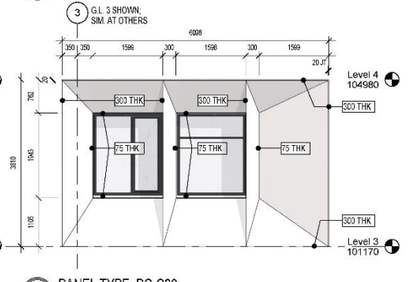

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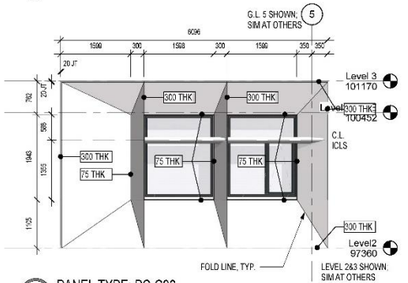


7 PANEL TYPE: PC-C22
1 : 50

Architect | Teeple Architects with Two Row Architect & Lowe Hammond Rowe Architects

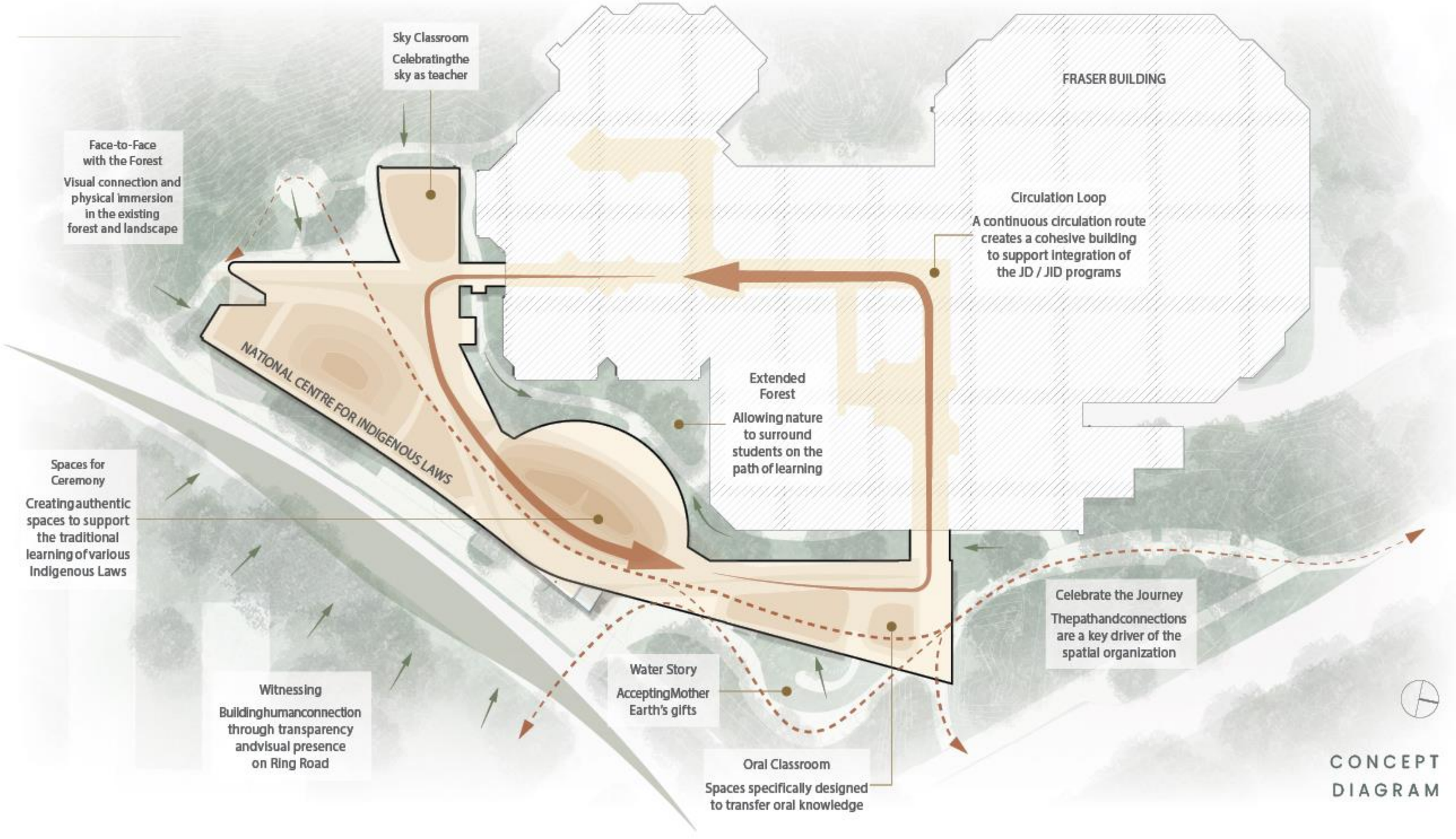
Structural Engineer | Fast + Epp

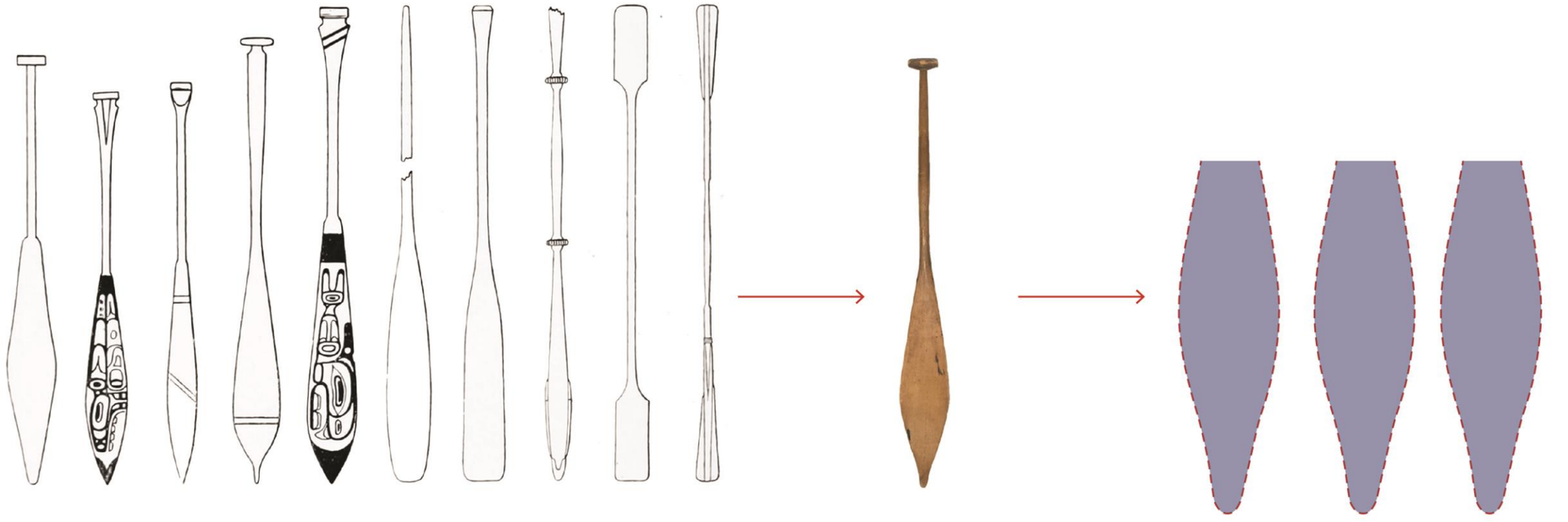
CM | Chandos Construction

Concrete | Lane Construction

Precast | Surespan Structures

University of Victoria National Centre for Indigenous Laws


Sky Classroom
Celebratingthe sky as teacher
FRASER BUILDING
Face-to-Face with the Forest
Visual connection and physical immersion in the existing forest and landscape
Circulation Loop
A continuous circulation route creates a cohesive building to support integration of the JD / JID programs
NATIONAL CENTRE FOR INDIGENOUS LAWS
Extended Forest
Allowing nature to surround students on the path of learning
Spaces for Ceremony
Creating authentic spaces to support the traditional learning of various Indigenous Laws
Celebrate the Journey
Thepathandconnections are a key driver of the spatial organization
Witnessing
Buildinghumanconnection through transparency andvisual presence on Ring Road
Water Story
AcceptingMother Earth's gifts
Oral Classroom
Spaces specifically designed to transfer oral knowledge
CONCEPT DIAGRAM

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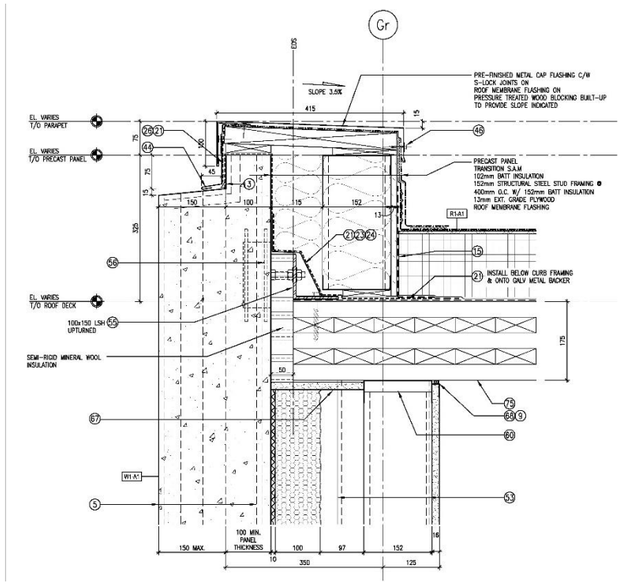
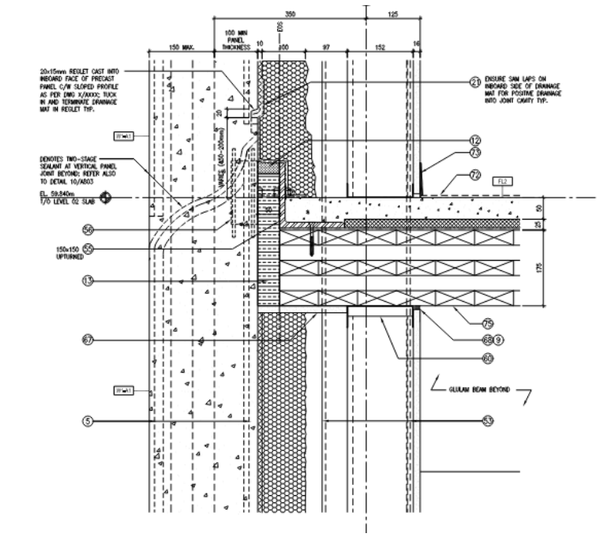
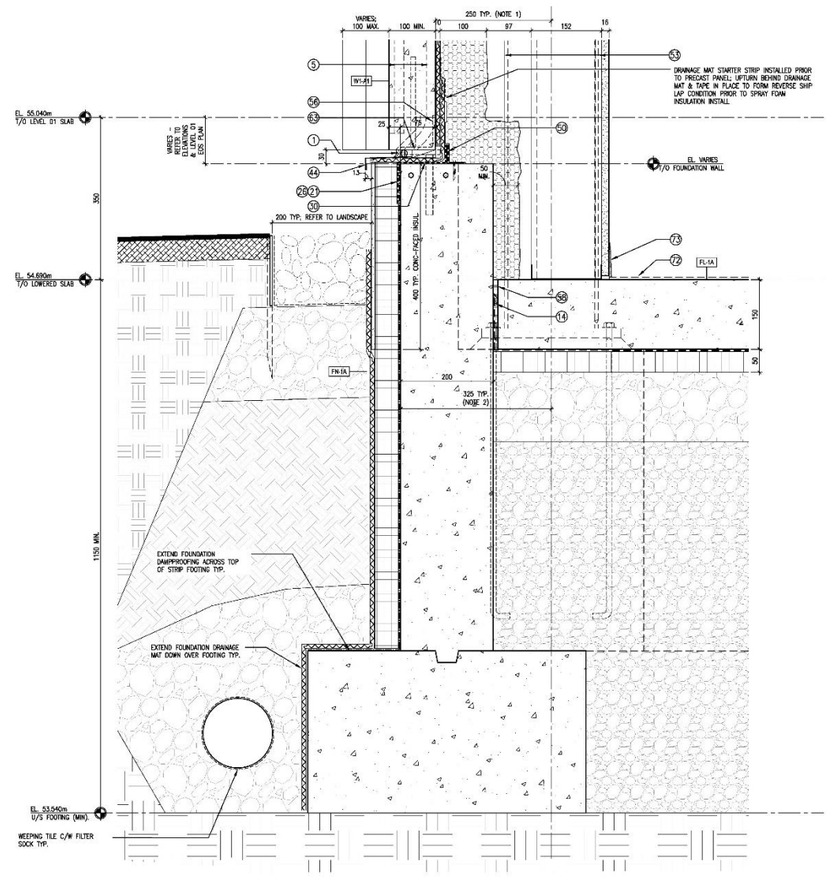
Detailing


Gr
PRE-FINISHED METAL CAP FLASHING C/W S-LOCK JOINTS ON ROOF MEMBRANE FLASHING ON PRESSURE TREATED WOOD BLOCKING BUILT-UP TO PROVIDE SLOPE INDICATED
SLOPE 3.5%
EL. VARIES T/O PARAPET
EL. VARIES T/O PRECAST PANEL
PRECAST PANEL TRANSITION S.A.M 102mm BATT INSULATION 152mm STRUCTURAL STEEL STUD FRAMING @ 400mm O.C. W/ 152mm BATT INSULATION 12mm EXT. GRADE PLYWOOD ROOF MEMBRANE FLASHING
INSTALL BELOW CURB FRAMING & ONTO GALV METAL BACKER
EL. VARIES T/O ROOF DECK
100x150 LSH UPTURNED
SEMI-RIGID MINERAL WOOL INSULATION
W1.A1
R1.A1
100 MIN. PANEL THICKNESS
150 MAX.
415
350
125


155 MIN. PANEL THICKNESS
150 MAX.
350
125
20x15mm RESILET CAST INTO INBOARD FACE OF PRECAST PANEL C/W SLOPED PROFILE AS PER DWG X/XXXX; TUCK IN AND TERMINATE DRAINAGE MAT IN RESILET TYP.
ENSURE SAW CAPS ON INBOARD SIDE OF DRAINAGE MAT FOR POSITIVE DRAINAGE INTO JOINT CAVITY TYP.
DENOTES TWO-STAGE SEALANT AT VERTICAL PANEL JOINT BEYOND; REFER ALSO TO DETAIL 10/A003
EL. 59.040m T/O LEVEL 02 SLAB
150x150 UPTURNED
GLULAM BEAM BEYOND
W1.A1
FL2


EL. 55.040m T/O LEVEL 01 SLAB
VARIES - REFER TO DETAILS 6 & LEVEL 01 SSS PLAN
VARIES 100 MAX.
100 MIN.
250 TYP. (NOTE 1)
DRAINAGE MAT STARTER STRIP INSTALLED PRIOR TO PRECAST PANEL; UPTURN BEHIND DRAINAGE MAT & TAPE IN PLACE TO FORM REVERSE SHIP LAP CONDITION PRIOR TO SPRAY FOAM INSULATION INSTALL
EL. VARIES T/O FOUNDATION WALL
200 TYP. REFER TO LANDSCAPE
400 TYP. CONC.-FACED WALL
EL. 54.690m T/O LOWERED SLAB
FL-1A
FN-1A
325 TYP. (NOTE 2)
1150 MIN.
EXTEND FOUNDATION DAMPPROOFING ACROSS TOP OF STRIP FOOTING TYP.
EXTEND FOUNDATION DRAINAGE MAT DOWN OVER FOOTING TYP.
EL. 53.540m U/S FOOTING (MIN).
WEEPING TILE C/W FILTER SOCK TYP.

Morgan State University Calvin & Tina Tyler Hall

Architect | Teeple Architects with GWWO Architects

Structural Engineer | ReStl Designers Inc.

Builder | Barton Malow

Concrete | Lane Construction

Precast | Universal Concrete Products

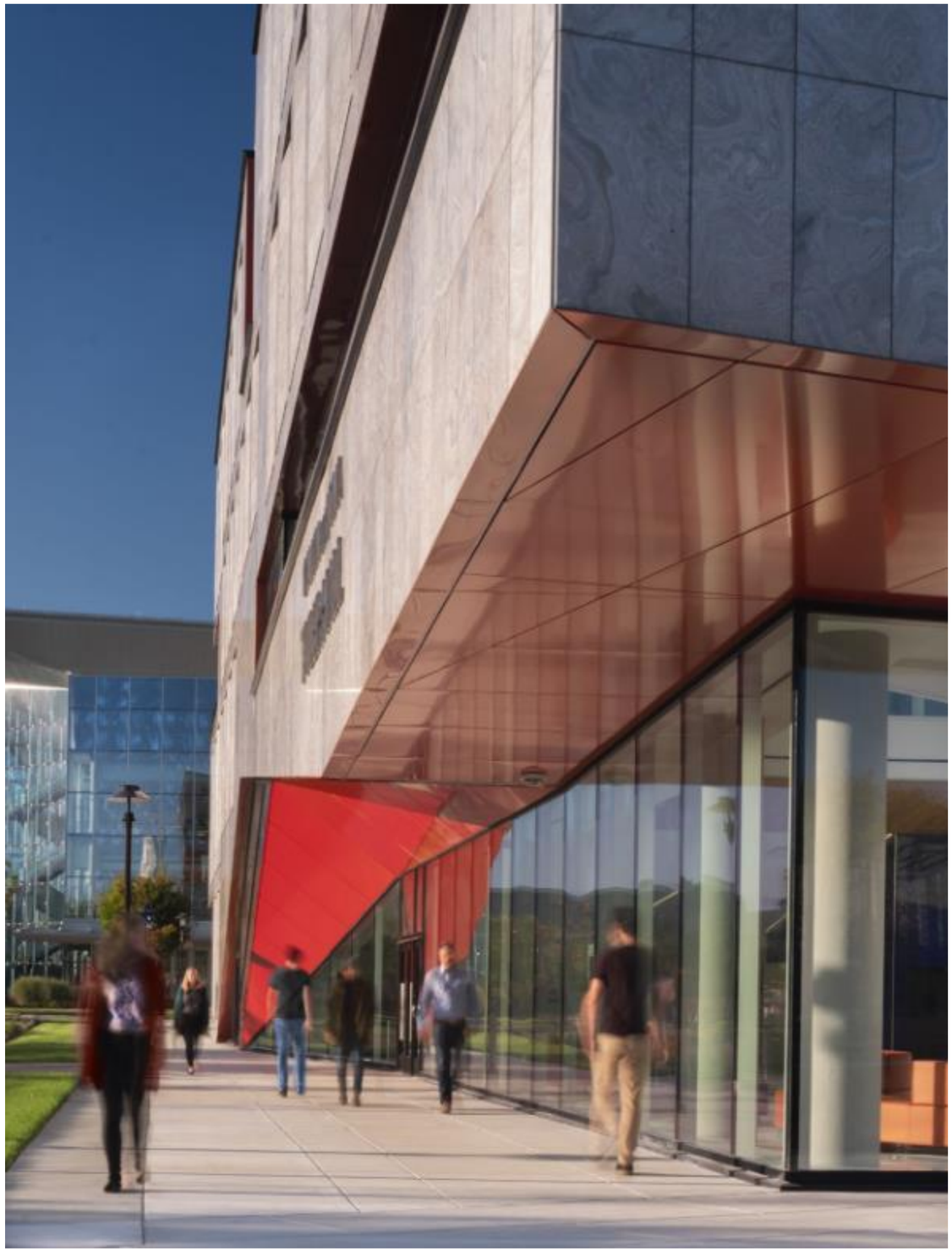
Historic Quad

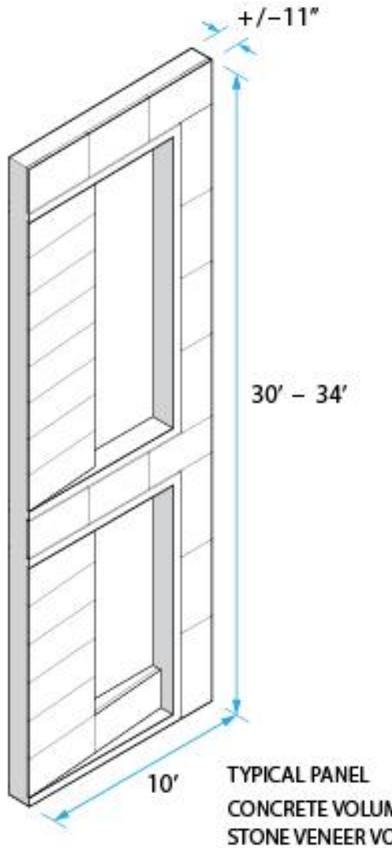
Morgan Commons

SITE

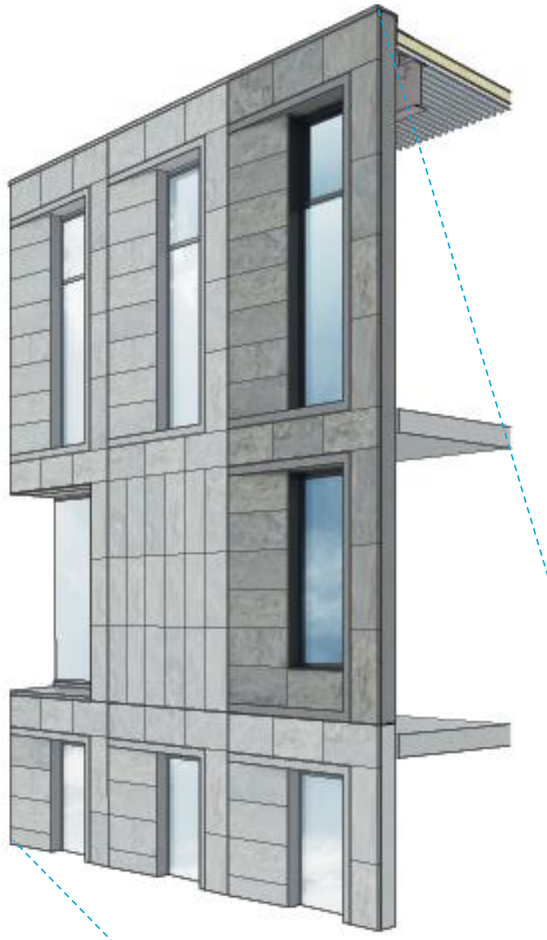

TYLER HALL

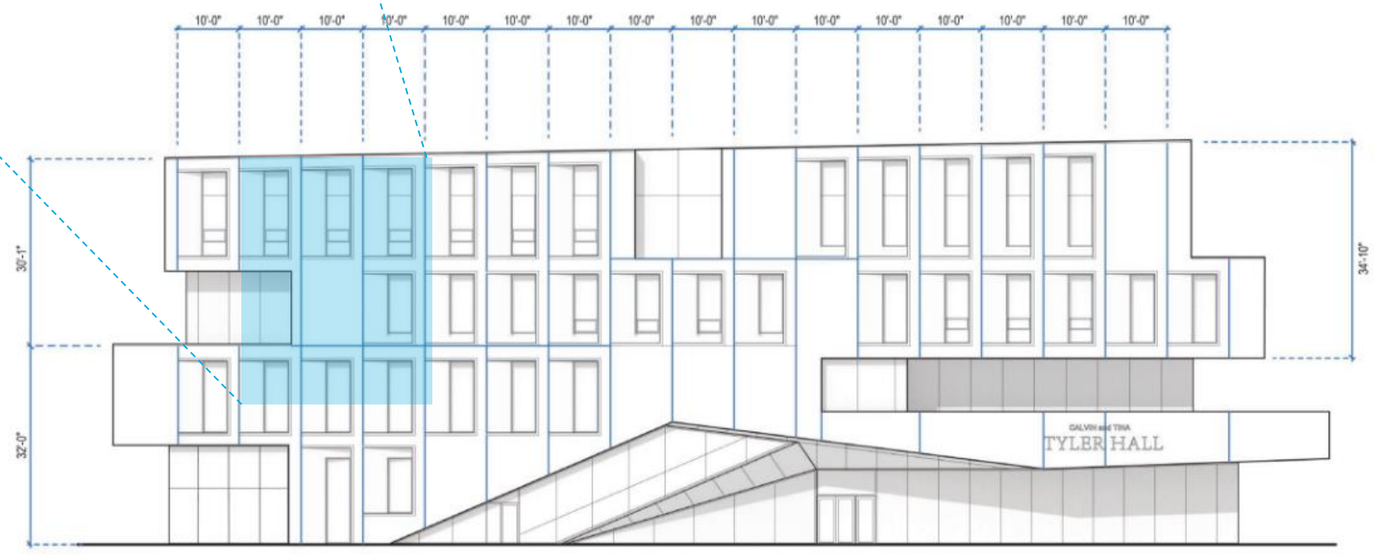

CALVIN and TINA
TYLER HALL





TYPICAL PANEL
CONCRETE VOLUME: 182 cu ft
STONE VENEER VOLUME: 31 cu ft



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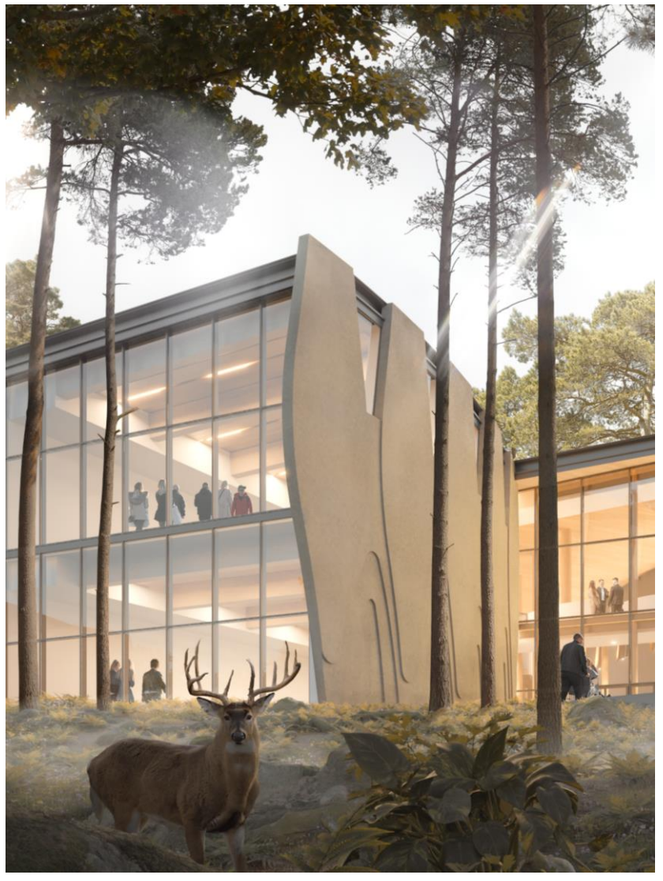

Thank you!

Questions?