



## PROCUREMENT SERVICES

CITY OF SURREY, SURREY CITY HALL  
13450 – 104 Avenue, Surrey, B.C., V3T 1V8  
Tel: 604-590-7274  
E-mail: [purchasing@surrey.ca](mailto:purchasing@surrey.ca)

### ADDENDUM No. 1

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REQUEST FOR QUOTATIONS No.: 1220-040-2022-063

TITLE: Surrey RCMP HQ – Roof and Skylight Replacements

ADDENDUM ISSUE DATE: September 28, 2022

**REVISED DATE:** PREFER TO RECEIVE QUOTATIONS ON OR BEFORE **October 11, 2022.**

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### INFORMATION FOR CONTRACTORS

Contractors are advised that Addendum No.1 to RFQ # 1220-040-2022-063 is hereby issued by the City. This addendum shall form part of the contract documents and is to be read, interpreted and coordinated with all other parts. The following information is provided to answer questions raised by Contractors for the above-named project, to the extent referenced and shall become a part thereof. No consideration will be allowed for extras due to the Contractors or any sub-contractor not being familiar with this addendum. This Addendum No.1 with attachments contains thirty-eight (38) pages in total.

#### **REVISED DATE:**

The City would prefer to receive Quotations on or before **October 11, 2022.**

#### **REVISED DRAWINGS:**

**See attached revised drawings ROOF PLAN – R1 (REV.1); DETAILS – R4 (REV.1); DETAILS – R5 (REV.1).**

#### **INFORMATION ONLY**

- 1. Refer to Schedule C – Form of Quotation.**

**Delete Schedule C (Form of Quotation) in its entirety and substitute with the Revised Schedule C (Form of Quotation).**

#### **MODIFICATION TO THE SCOPE OF WORK**

- 1. Contractor is to modify the parapet slope in order to slope towards the building at 4%. Remove the installation of a cap sheet membrane and the metal parapet cap from the scope of work at the areas surrounding the skylights only. Allow for installation of a new 8% plywood backslope cricket with shims, sloping away from the skylight, in order direct water**

around the skylight and onto the roof level. Hold back the wood cricket roughly 4 inches from the exterior parapet edge. Install a reinforced PMMA liquid membrane over the entire base sheet, and lap onto the surrounding cap sheet membrane around the skylight area, SBS sheet membrane is not required in this area. Install PMMA liquid membrane per the manufacturers written installation instructions. Install a continuous metal drip edge at the entire parapet, and hold back the metal cap roughly 100mm (4") from either side of the skylight edge to allow drainage around the skylights. Full metal cap is not required at the skylight, only a drip edge. Skylight wood curb height is to be adjusted to suit the revised finished roof level above the cricket. Refer to revised Drawings R1 (REV.1), R4 (REV.1), R5 (REV.1).

#### **QUESTIONS AND ANSWERS:**

- Q1. Section 01 11 00 Summary of Work on 18.1.7.2 states "Install new 51mm (2") glass faced polyisocyanurate insulation, in adhesive", section 07 52 00 under 1.1.2.1.1.3.2 indicates "51mm (2") glass faced polyisocyanurate insulation in 2 layers, in adhesive". Please clarify if we are to install one layer of 2 inch, two layers of 2 inch or two layers of 1 inch for roof 1.1?
- A1. Contractor is to install 1 layer of 2" thick glass faced polyisocyanurate insulation layer for Roof Area 1.1.**
- Q2. I would like to formally request that the Skylight Glazing System be an acceptable alternative to the proposed Kawneer 2000 skylight system. I have attached documentation to aid in your decision. If you require additional documentation, please contact me at your earliest convenience?
- A2. The proposed Skylite Glazing Solutions system is acceptable See attached. Submit an Optional Price to use Skylite Glazing Solutions pressure plate system. Contractor to submit (with quotation) a tabulated System Description, showing they meet the performance requirements listed on the Specification and Drawings.**
- Q3. The sunshades on the one skylight that was visible were missing. Are we to put back as is or do they want new sunshades installed?
- A3. Remove and dispose of any existing sunshades. The new glazing tint is to provide the required shade. Owner will select the desired tint during shop drawing submittal stage.**
- Q4. At the interior there are three steel support structures under the skylights. Is the steel to remain and be reinstalled once the curb is built up or can it be removed? How is the steel attached to the substructure?
- A4. All existing steel support structures are to be removed and replaced at new skylight elevation, any cost for this is to be included in the general scope of work. Please refer to attached original IFC drawings, supplied for reference only – A8-Roof Plan and A25-Wall Sections.**
- Q5. It was mentioned that the six parking stalls located on the SW corner of the property were on grade. Will the contractor be given exclusive access to the six spots for loading and disposal bins?
- A5. The area in question may be used for crane loading, with minimum 4 full working days of prior notice given to RCMP. A portion of the area may be used to place a garbage bin only when required and as necessary, this is to be kept to a minimum a length of time as reasonably possible. RCMP to be notified 2 days in advance of placement. Note: The remaining parking plaza area north of the red dashed line is suspended slab, and Maximum Vehicle Load is two tonnes. This is to be strictly adhered to.**



- Q6. In Schedule C – Form of Quotation / Preliminary Construction Schedule, a Substantial Performance date of December 02 is noted. This timeline will not be achievable, due mainly to the difficulty of getting product. I have been told by several glazing firms that the time required from the signing off of shop drawings to installation is a minimum of 16 weeks. Is the City open to a spring 2023 completion date?
- A6. The City prefers work to commence and be completed in as timely a manner as possible but will consider alternate Construction Schedules.**
- Q7. Under Schedule A last paragraph says that the project “will achieve Substantial Performance of the Work on or before December 02, 2022”. We have asked glazing contractors, and this is an unrealistic requirement. They have requested that Substantial Completion could be achieved by middle or late Spring 2023 as material shortages of essentials (glass, aluminum, sealants, tapes, etc.) still plague the supply chain. We are requesting that Substantial Performance would be at the discretion of the contractor and that such tentative completion date could be entered into the RFQ?
- A7. The City prefers work to commence and be completed in as timely a manner as possible but will consider alternate Construction Schedules.**
- Q8. As the project requires RCMP Security Clearances, and this process can take up to six to eight weeks to complete, this will put the project already beyond proposed Substantial Performance of the Work date, therefore we are again requesting an extension of the Completion Date?
- A8. The City prefers work to commence and be completed in as timely a manner as possible but will consider alternate Construction Schedules.**

Q9. The drywall at the interior of skylights, is it to be replaced on the same plane or can it step in at the top of curb and follow the new blocking that is not as wide as the existing concrete curb?

**A9. The intent is to have the new drywall be on the same plane as existing. If it is cost effective to install a wood trim to match existing finish to achieve the desired look, then that would be acceptable.**

Q10. Please clarify the following for the finish on the new skylights:  
the specifications call for powder coated finish, but the drawings indicate clear anodized finish?

**A10. Clear anodized finish is preferred if the Skylight System is Kawneer 2000. Powder Coated finish if not Kawneer 2000.**

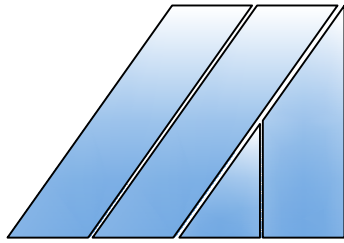
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All Addenda will become part of the Contract Documents.

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- END OF ADDENDUM -





**SKYLITE  
GLAZING  
SOLUTIONS LTD**

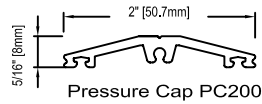
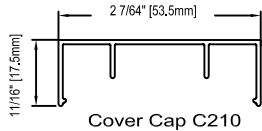
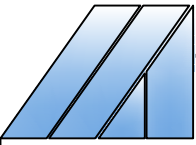
EXTRUSIONS AND CUSTOM FABRICATION

#112 - 1772 Broadway, Port Coquitlam  
Tel: (604)552-1780; Fax: (604)552-1781

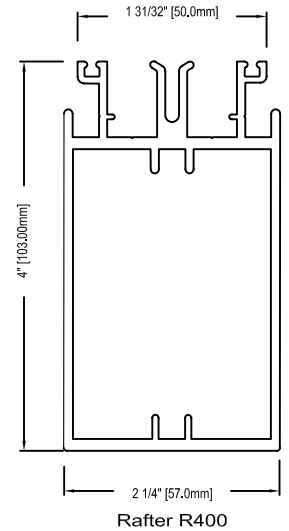
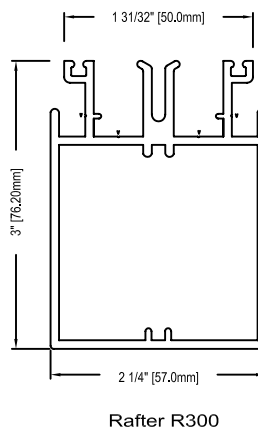
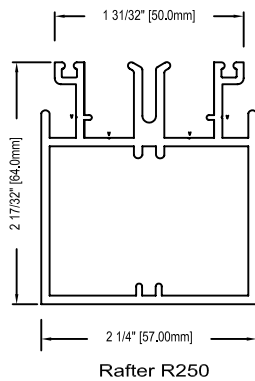
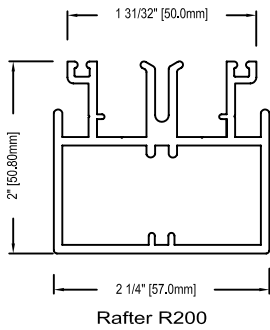
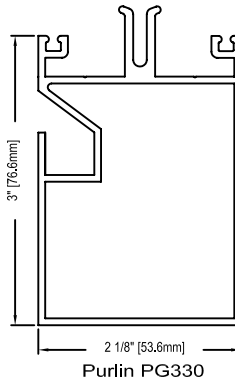
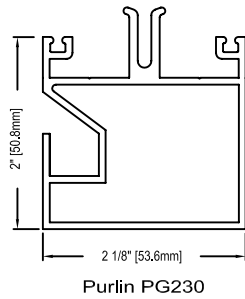
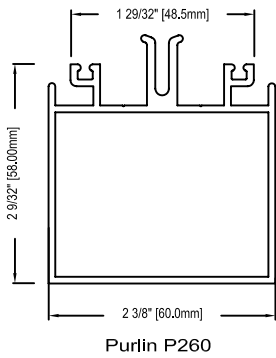
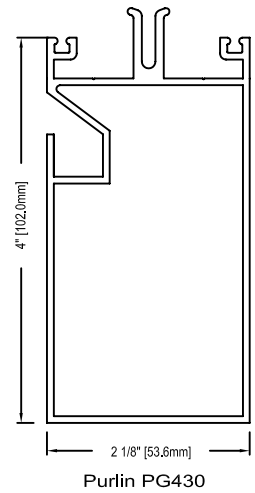
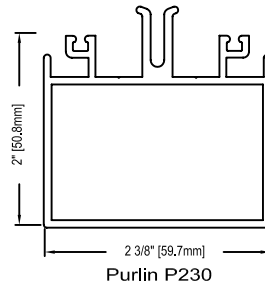
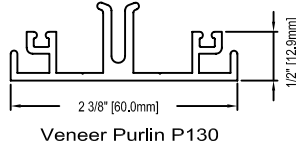
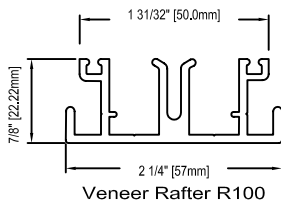
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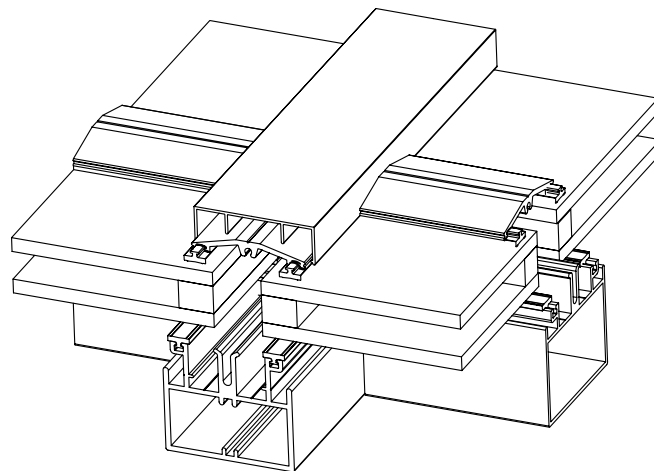
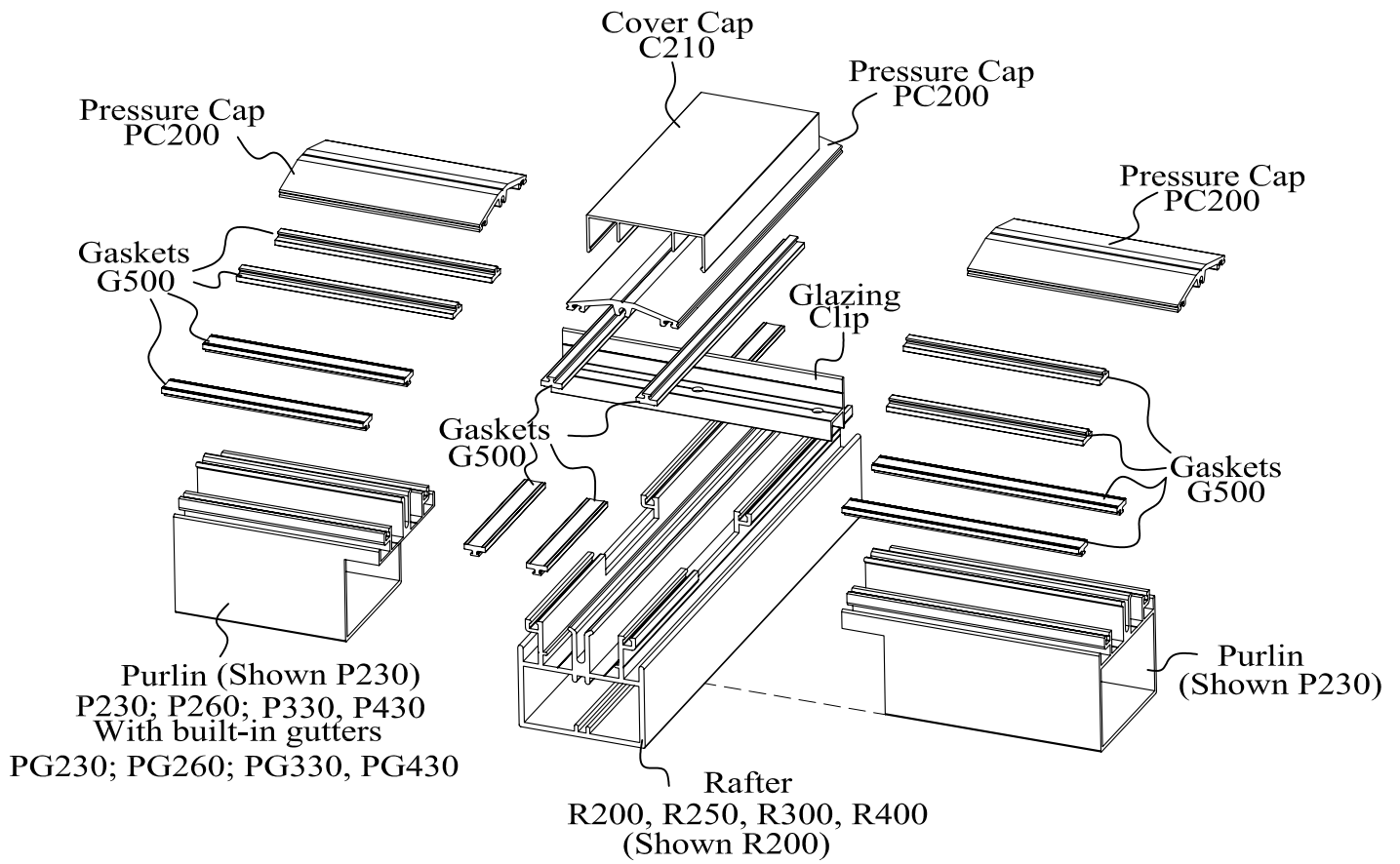
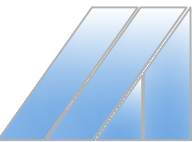
**CUSTOM SKYLIGHTS  
CANOPIES, RAILING**

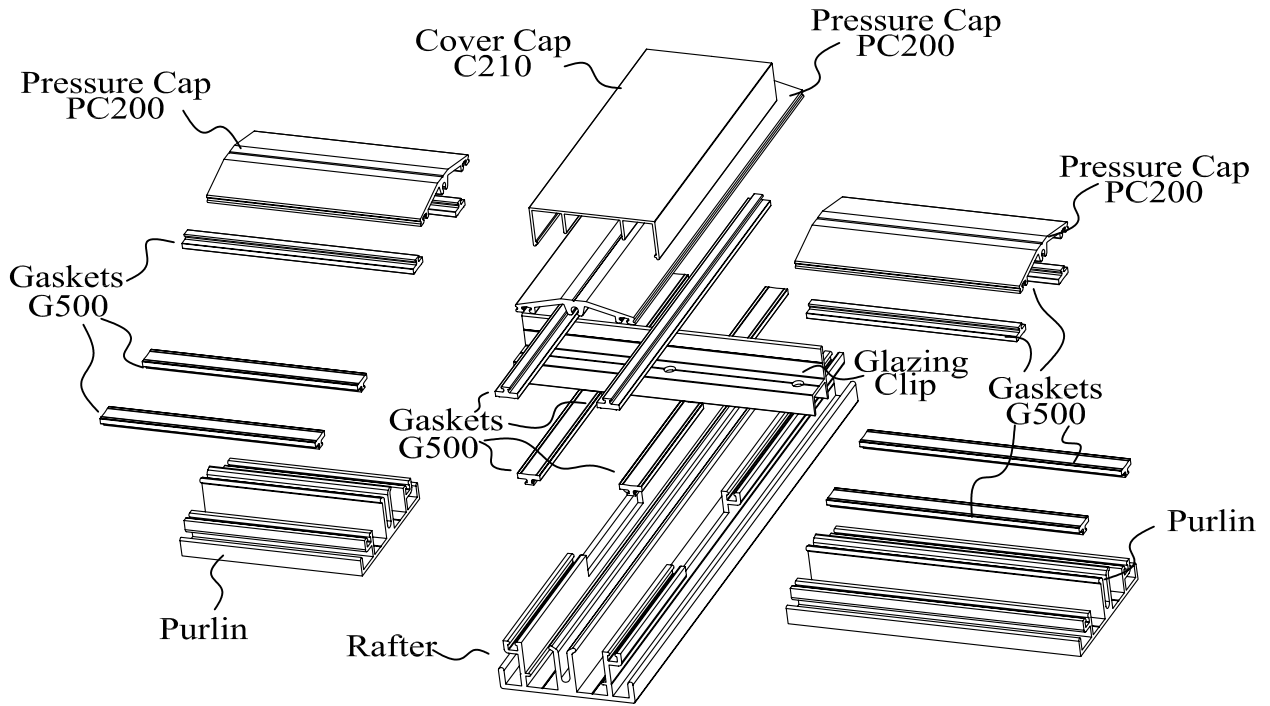
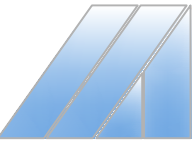
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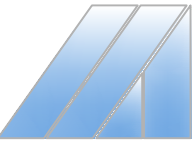


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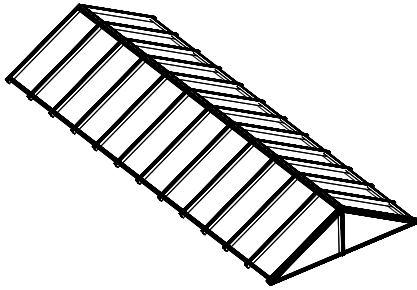




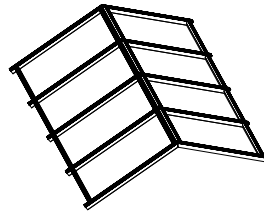




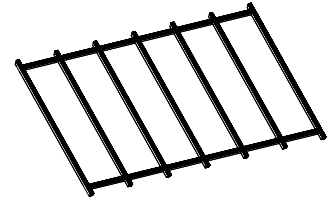
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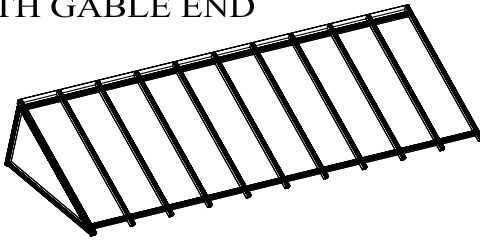
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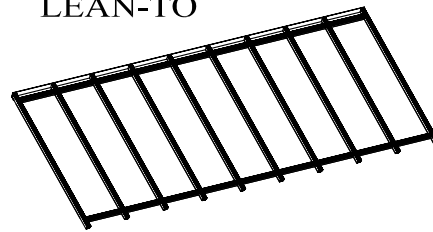
BOX FRAME



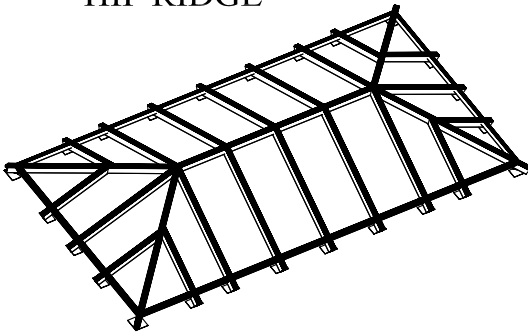
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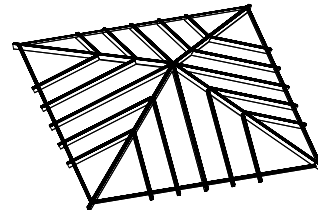
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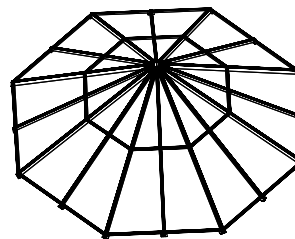
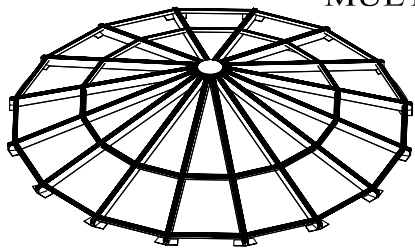
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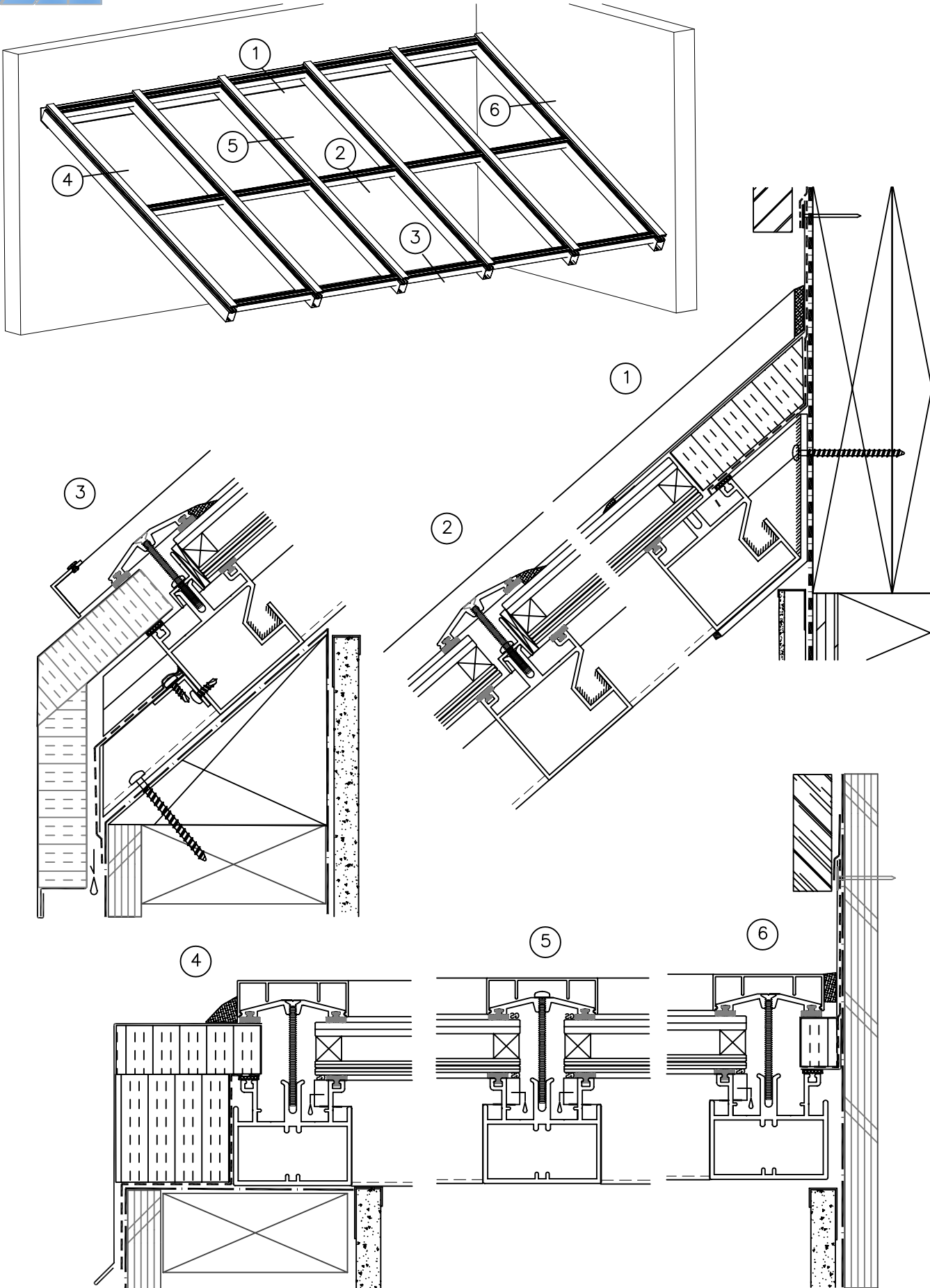


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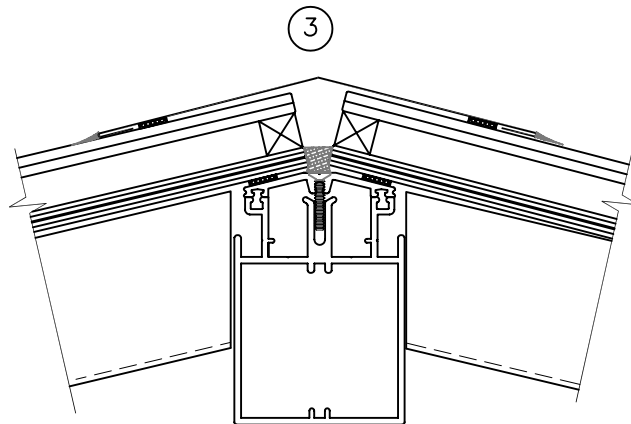
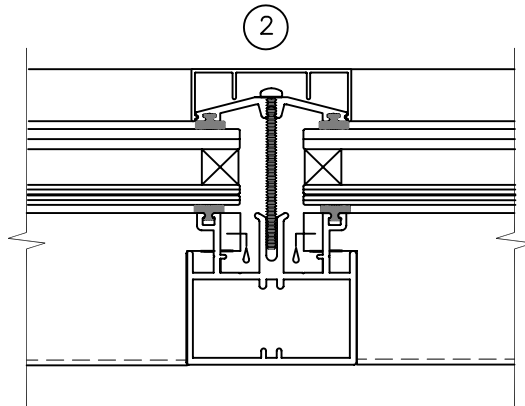
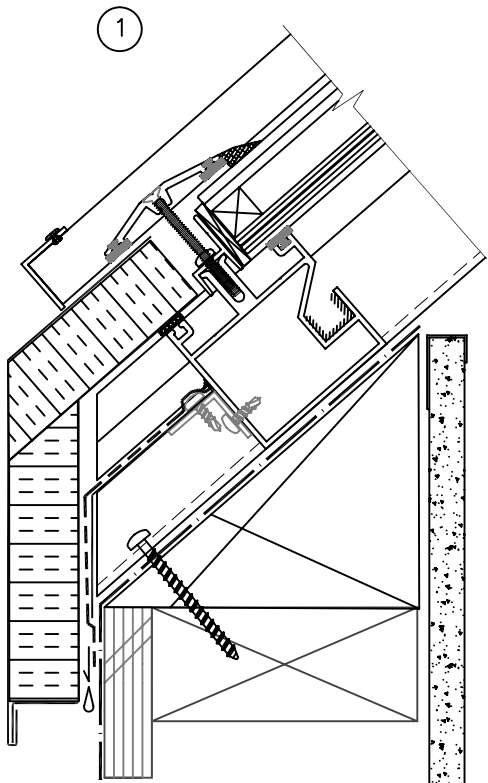
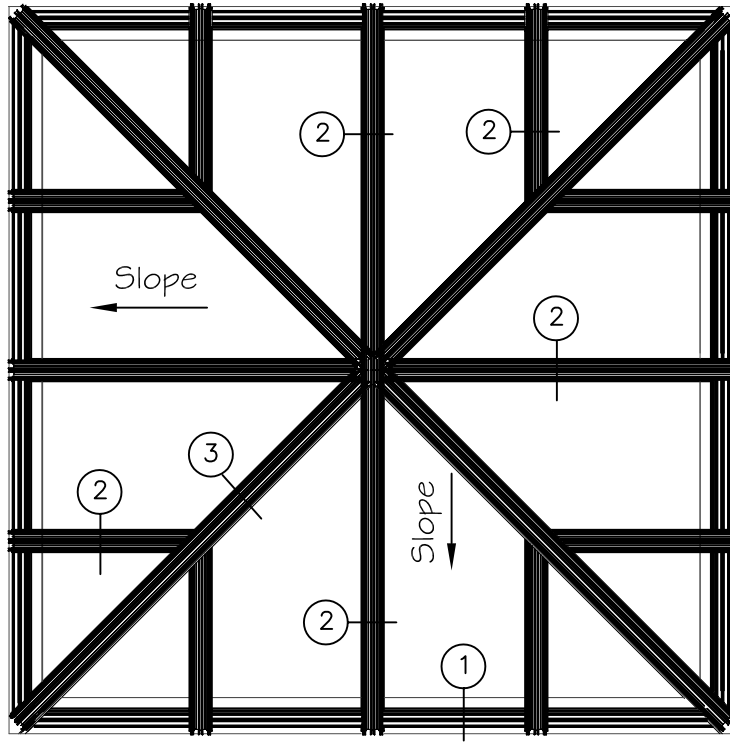


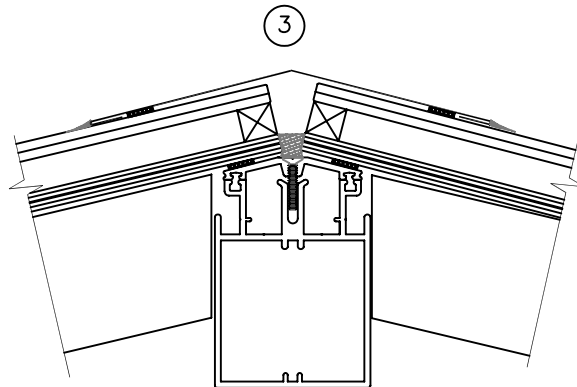
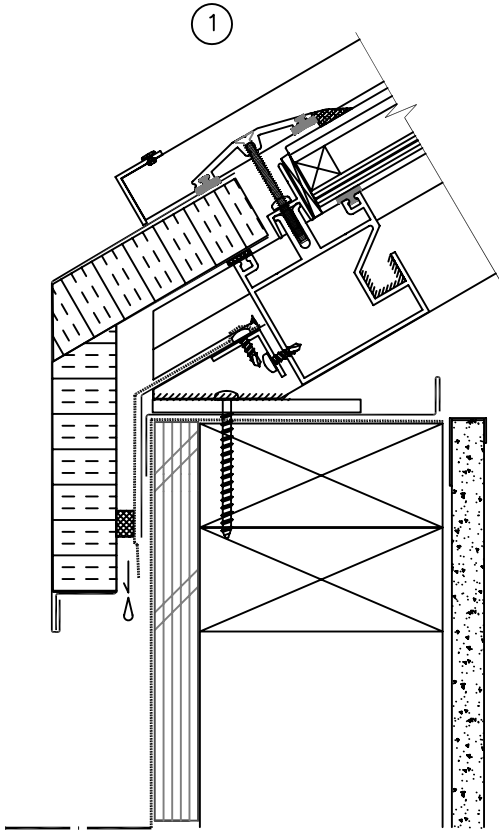
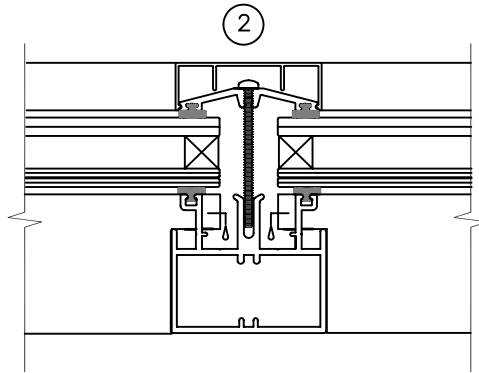
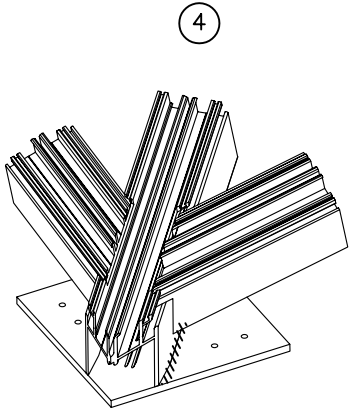
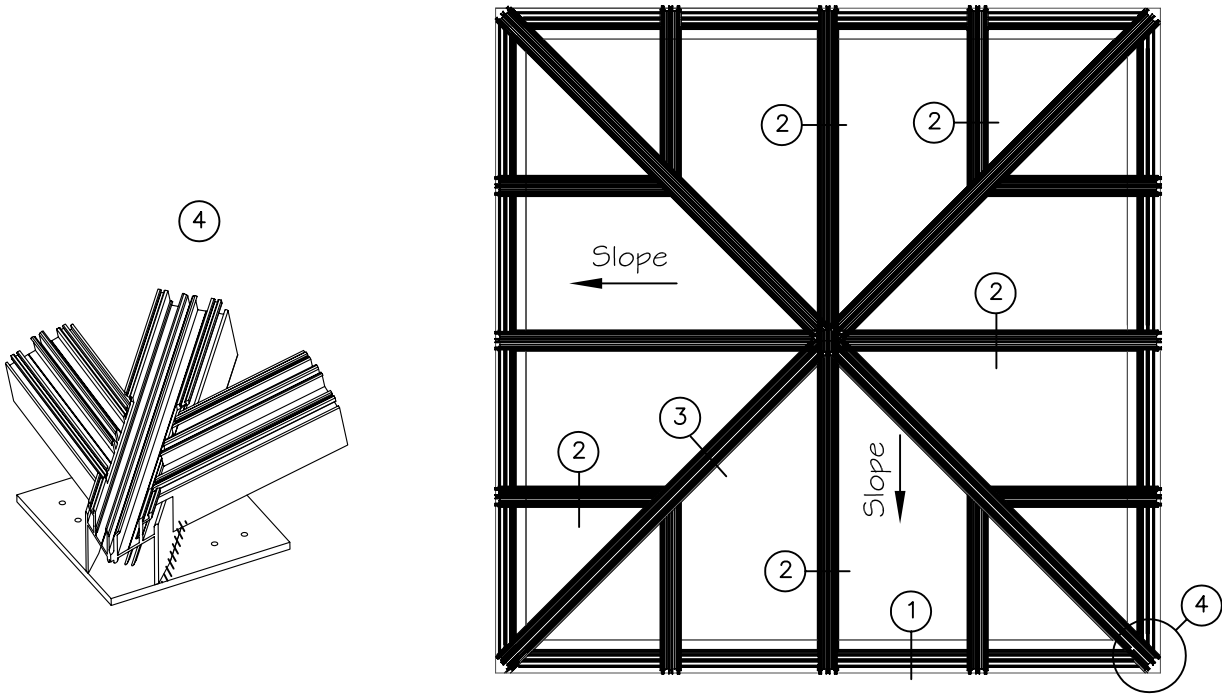
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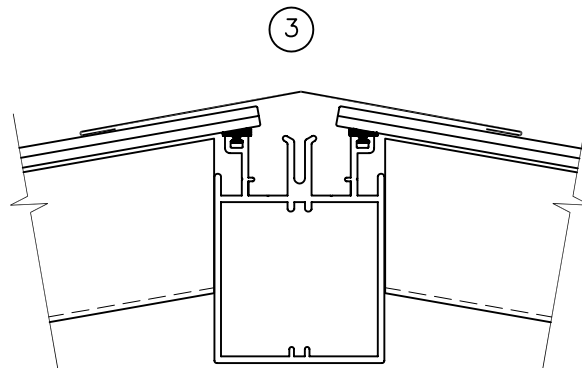
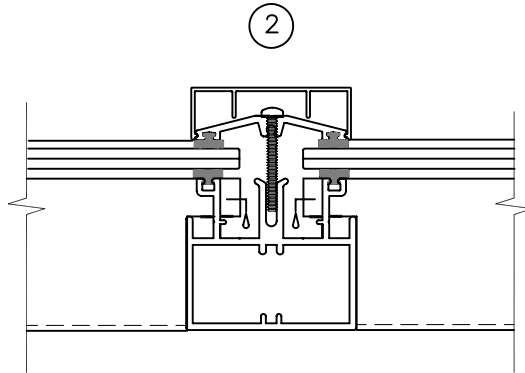
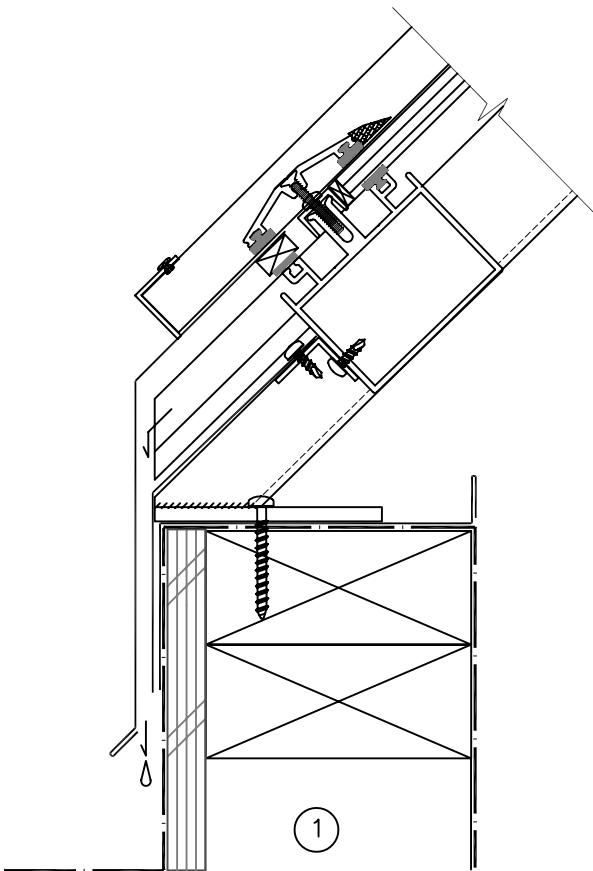
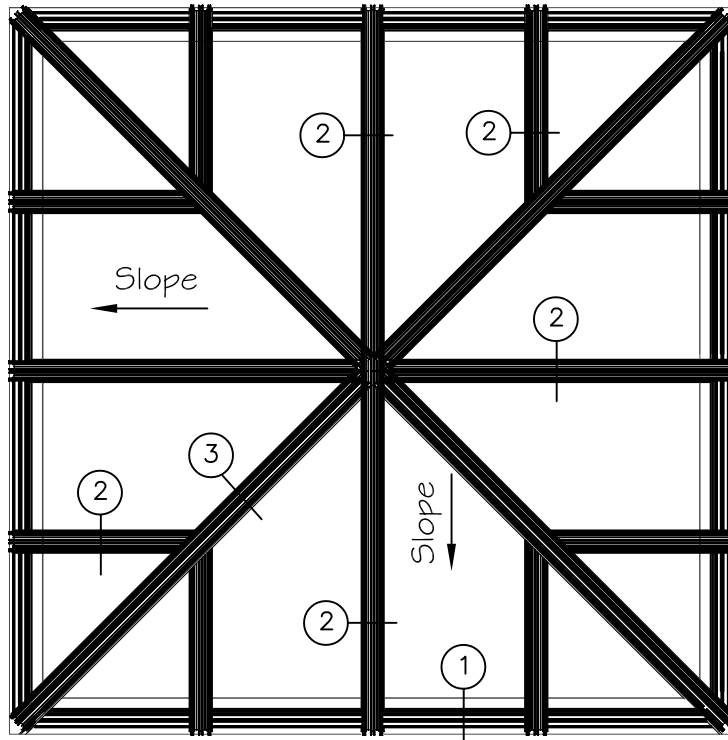


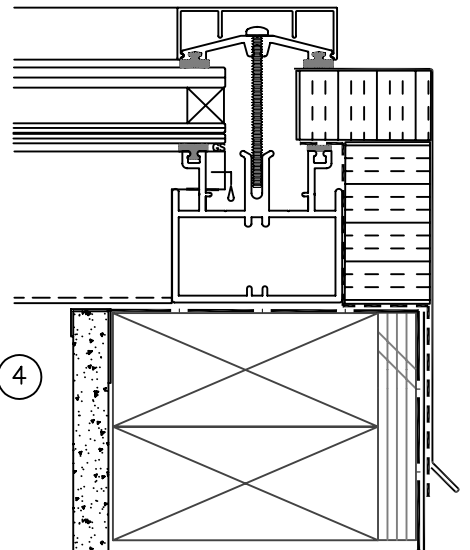
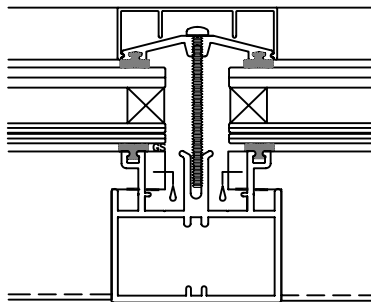
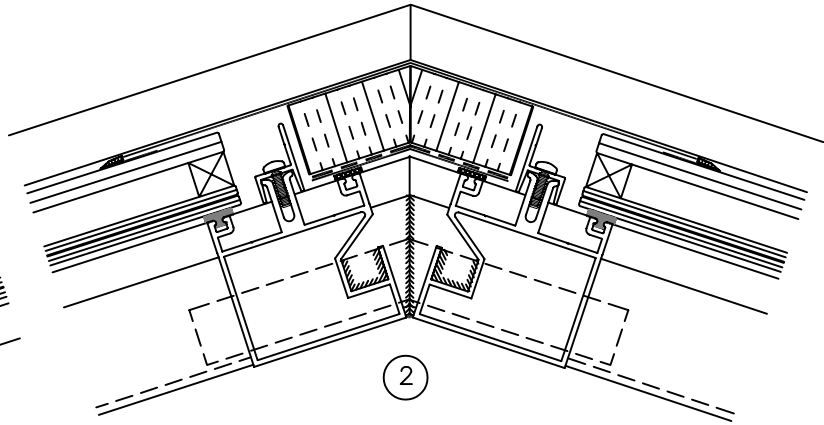
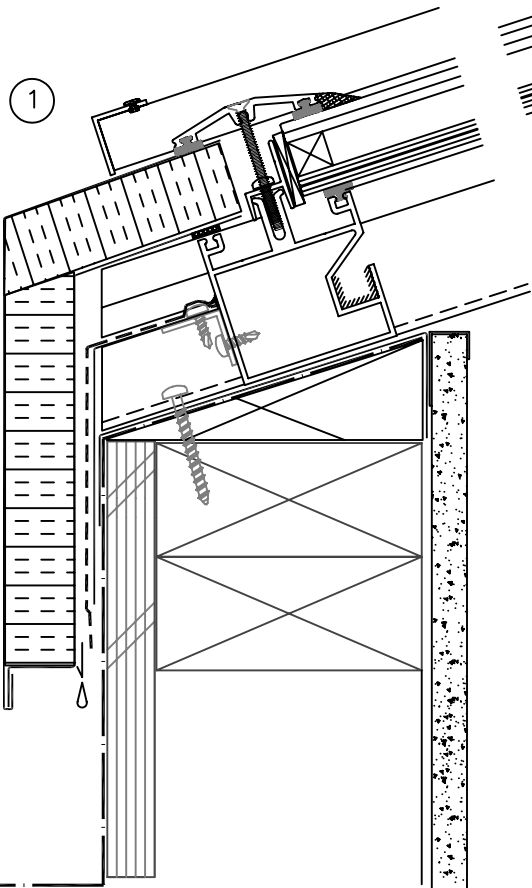
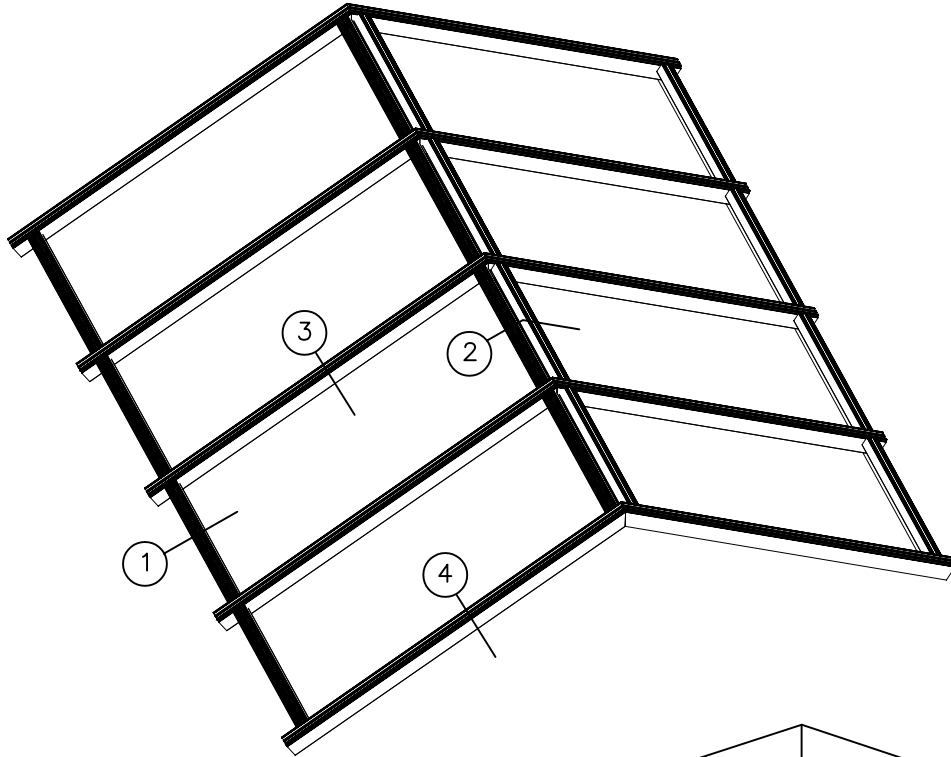


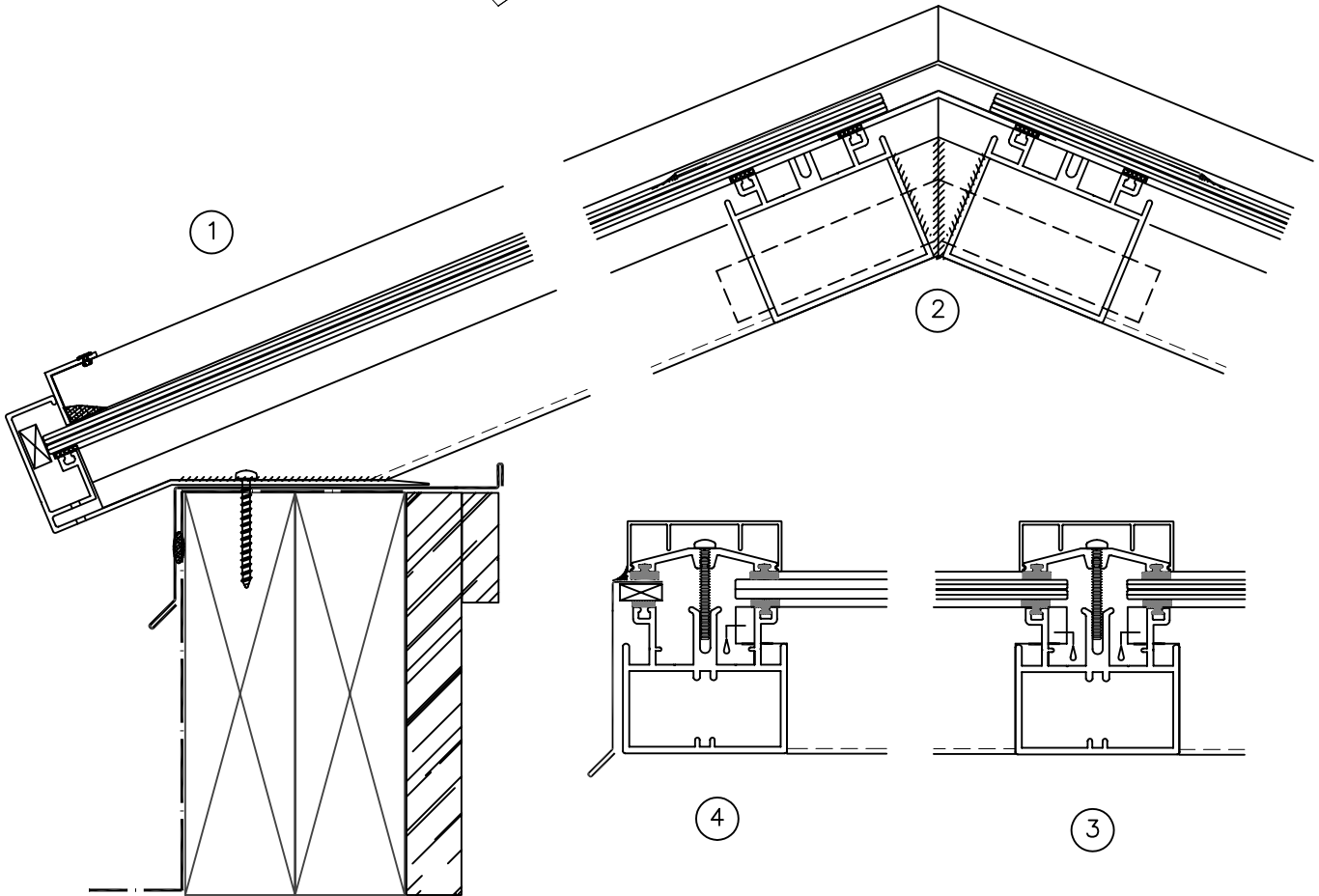
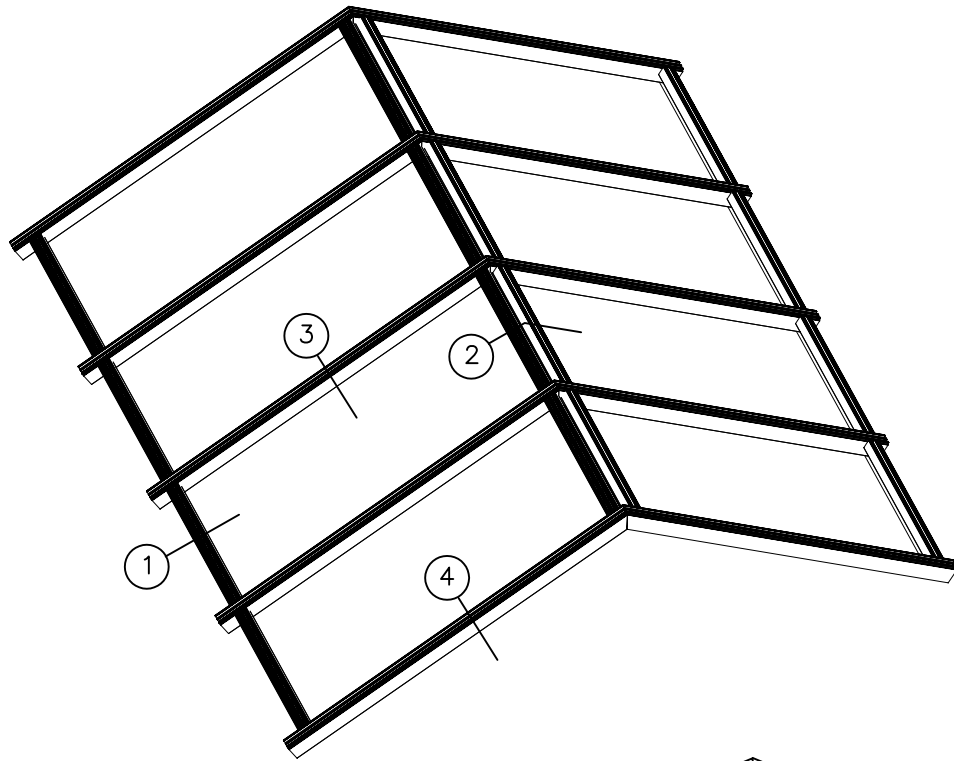


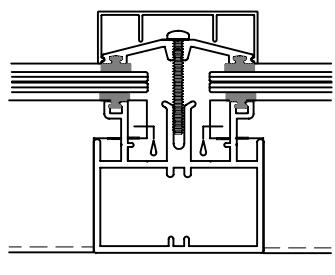
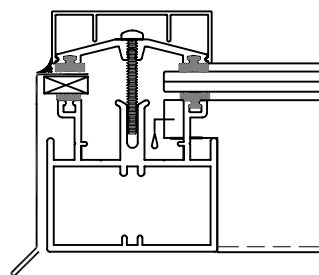
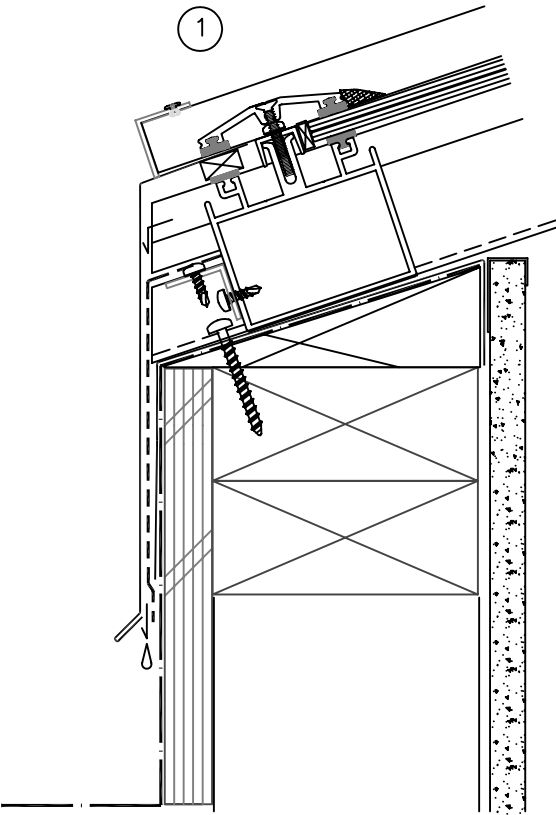
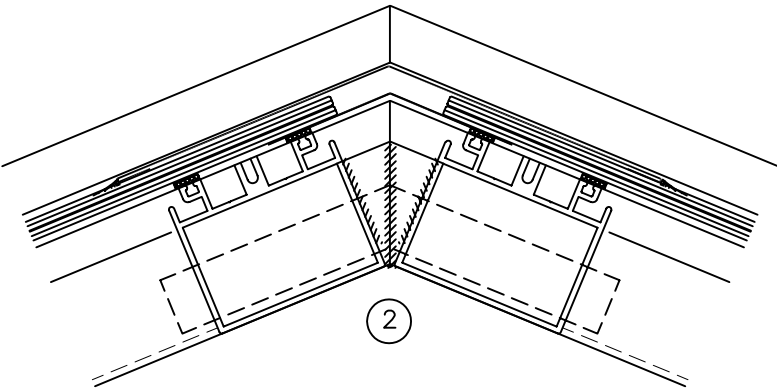
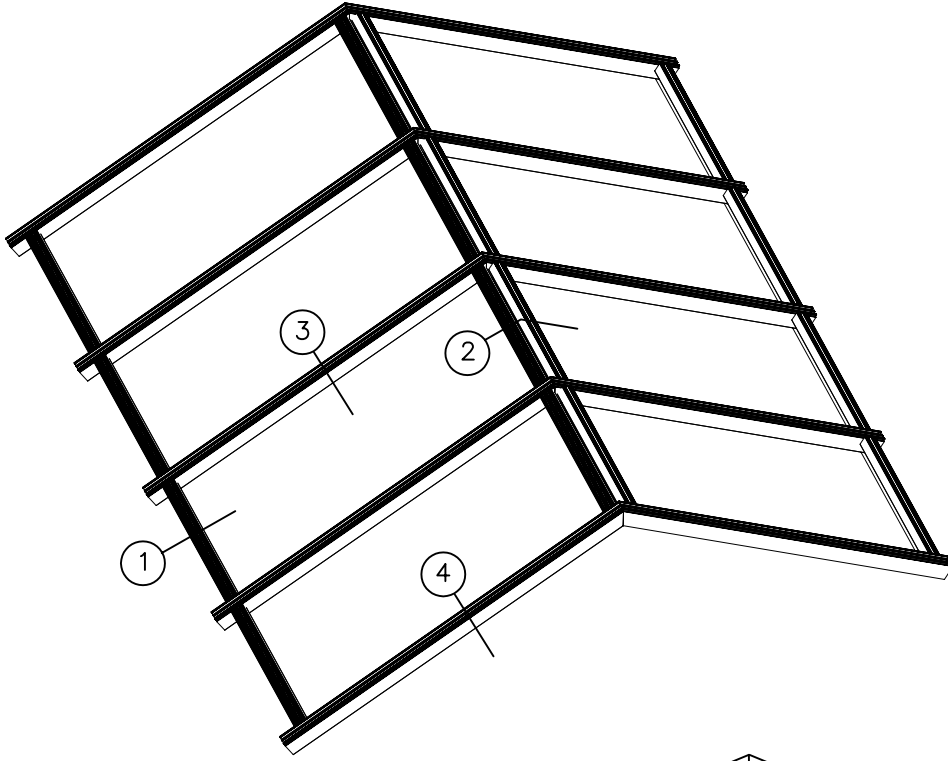








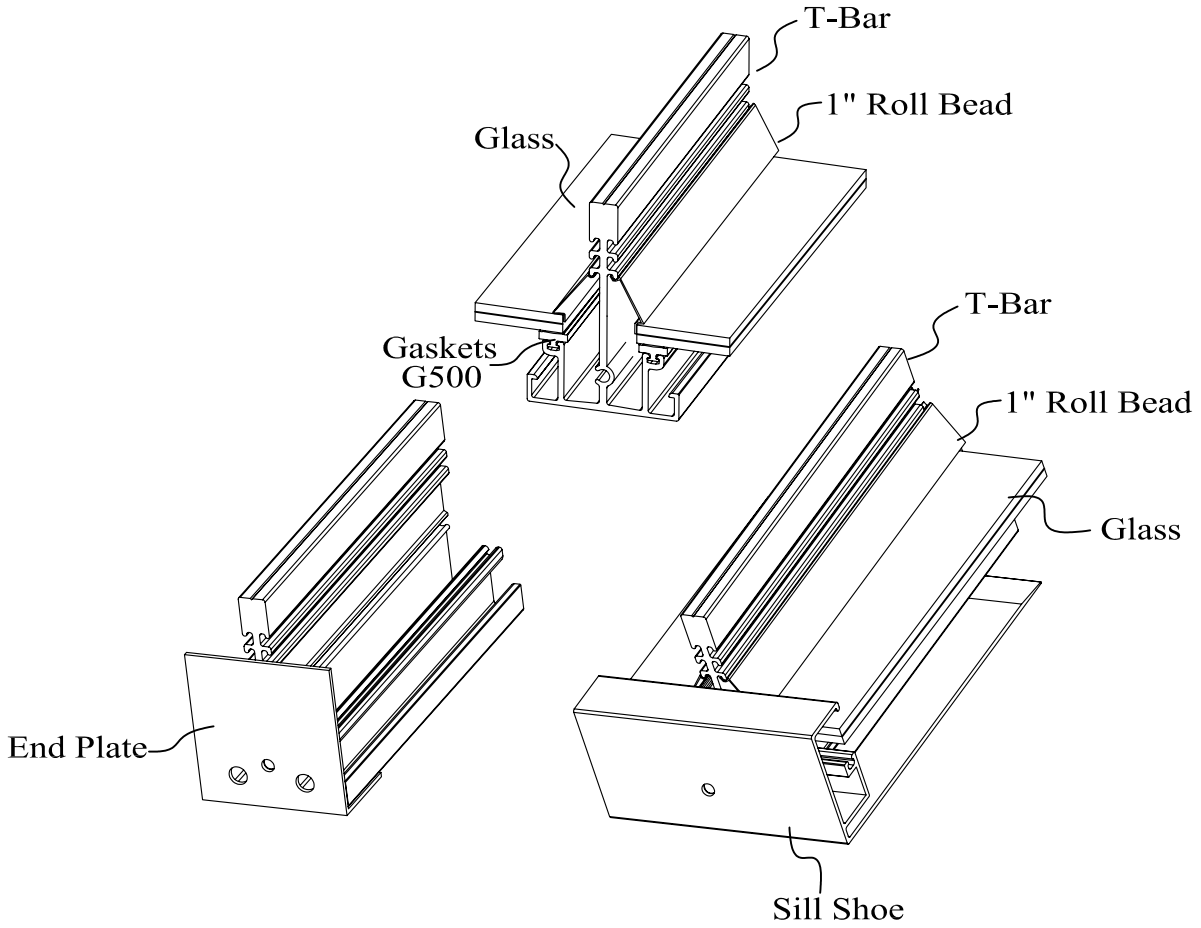
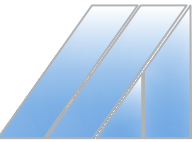


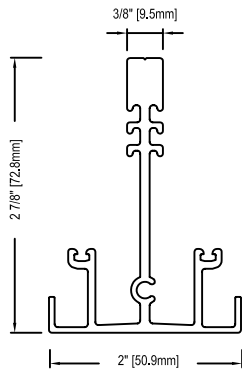
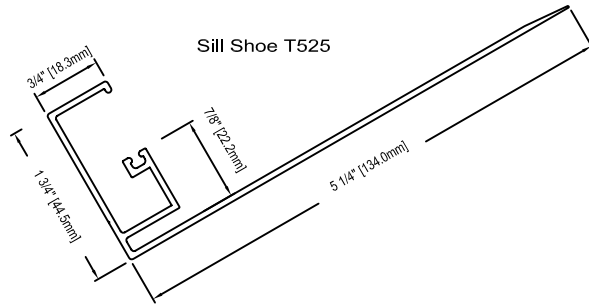
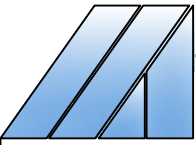


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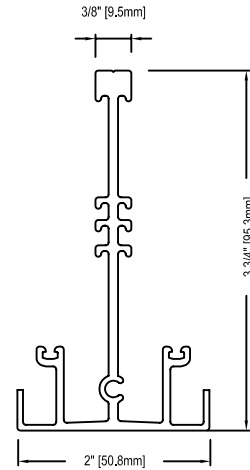
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T-Bar T275



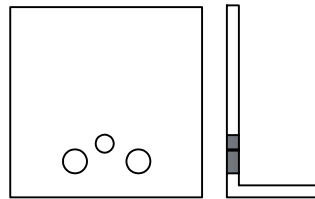
T-Bar T-400



Gasket



Roll Bead T-100



T-Bar Glass Stop T50

# THERMAL SIMULATION REPORT

**Project Name:** **K&W Glass – U-Value for Skylights: Total Skylight U-Factor Calculation for the George Mackie Library**

**Project Number:** 1300-16543

**Civic Address:** 8440 112 Street, Delta, BC V4C 4W9

**Simulation Date:** March 4<sup>th</sup>, 2022

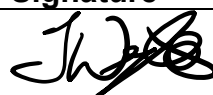

**Report Date:** March 7<sup>th</sup>, 2022

**Revision #:** R0

<b>Product Model:</b>	<b>Name/Number</b>	<b>Type</b>
	Skylite Glazing Solutions Ltd System	Skylight

**Fenestration Product Supplier:** **K&W Glass Innovations Ltd.**  
#54 – 1833 Coast Meridian Road  
Port Coquitlam, BC  
V3C 6G5

Attn: Wayne Dueck

	<b>Layton Consulting Employee Name</b>	<b>Signature</b>
<b>Simulation by:</b>	Taylor Wight, P.Eng., NFRC Certified Simulator	
<b>Reviewed by:</b>	Tyler Loewen, NFRC Certified Simulator	

 <small>GLAZING, CLADDING, &amp; SPECIALTY STRUCTURAL ENGINEERING Suite 233 - 18525 53<sup>rd</sup> Ave., Surrey, BC, Canada, V3S 7A4</small>	Project: <b>K&amp;W Glass Skylight U-Factor Calculation</b>			Project No: 1300-16543	
	Frame Types: K&W Skylight			Client: K&W Glass	
	Calc. by TW	Simulation Date Mar 4, 2022	Chk'd by TL	Report Date Mar 7, 2022	Revision R0

## EXECUTIVE SUMMARY

To: Whom it may concern,

This report is to confirm that the skylight systems of the project, known as “George Mackie Library” located at 8440 112 Street, Delta, BC, was analysed using the NFRC Certified Simulation Programs (THERM & WINDOW 7.4). The double-glazed insulated glazing unit (IGU) simulated in this skylight included (2) layers of Low E high performance glass (SN68 on the outer pane, and Energy Advantage on the inner pane) and a 90% argon gas fill.

This project was reviewed to achieve a U-value of 2.20 W/m<sup>2</sup>K based on the overall area weighted average method.

If you have any questions, please feel free to contact us.

Regards,



Taylor Wight, P.Eng, NFRC Certified Simulator  
**Layton Consulting Ltd.**

Tyler Loewen, NFRC Certified Simulator  
**Layton Consulting Ltd.**

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	Frame Types: K&W Skylight				Client: K&W Glass	
	Calc. by TW	Simulation Date Mar 4, 2022	Chk'd by TL	Report Date Mar 7, 2022	Revision R0	Page: 3

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	K&W Glass Skylight U-Factor Calculation			1300-16543		
	Frame Types:			Client:		
K&W Skylight			K&W Glass			
Calc. by	Simulation Date	Chk'd by	Report Date	Revision	Page:	
TW	Mar 4, 2022	TL	Mar 7, 2022	R0	4	

## GENERAL NOTES

- This report shall not be reproduced, neither in part nor in full, without the approval of Layton Consulting Ltd.
- Thermal simulations were conducted following NFRC Thermal Simulation procedures as well as CSA-A440.2-19 *Fenestration Energy Performance*.
- Simulation was completed using NFRC approved software – THERM 7.4 and WINDOW 7.4.
- This report relates only to the fenestration products simulated and are based on the CAD files and information provided by the client. Layton Consulting Ltd. does not verify that all the provided information is current and accurate to what is installed.
- Thermal simulation models may require some minor modifications made by the simulator, relative to the provided drawings, to account for software limitations.
- Rounding is per NFRC 601, NFRC Unit and Measurement Policy.
- Component values included in this report are not meant to be used directly for labelling purposes. Only those values approved and identified on a valid CMA Label Certificate are to be used for labelling purposes.

## PRODUCT LINE DESCRIPTION AND MATERIAL PROPERTIES

**Table 1: Frame Material Types & Properties Used for Components of Each System**

Component	Color	Material	$\lambda(W/m\cdot K)$
Spacer Type	~*~	TGI Warm Edge Spacer	~*~
Frame / Back Section		Aluminum Alloys (Anodized)	160
Pressure Plate		Aluminum Alloys (Anodized)	160
Beauty Cap		Aluminum Alloys (Anodized)	160
Curtainwall Bolt		*Stainless Steel Pressure Plate Bolt Spaced 9" o.c.	0.5
Glazing Gaskets		Ethylene Propylene Diene Monomer (EPDM)	0.25
		Silicone	0.35
Glazing pocket insert		Polyethylene Foam	0.05
Flashing		Aluminum Alloys (Anodized)	160
Anti-Rotation Block		Polystyrene-expanded	0.038

~\*~ See Spacer material details in next section.

All material properties are taken from NFRC 101-2020 [E1A8], unless otherwise stated in additional footnotes.

\*Curtainwall Bolt thermal conductance calculated using standard NFRC thermal bridge calculation template.





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Project: <b>K&amp;W Glass Skylight U-Factor Calculation</b>			Project No: 1300-16543		
Frame Types: K&W Skylight			Client: K&W Glass		
Calc. by TW	Simulation Date Mar 4, 2022	Chk'd by TL	Report Date Mar 7, 2022	Revision R0	Page: 5

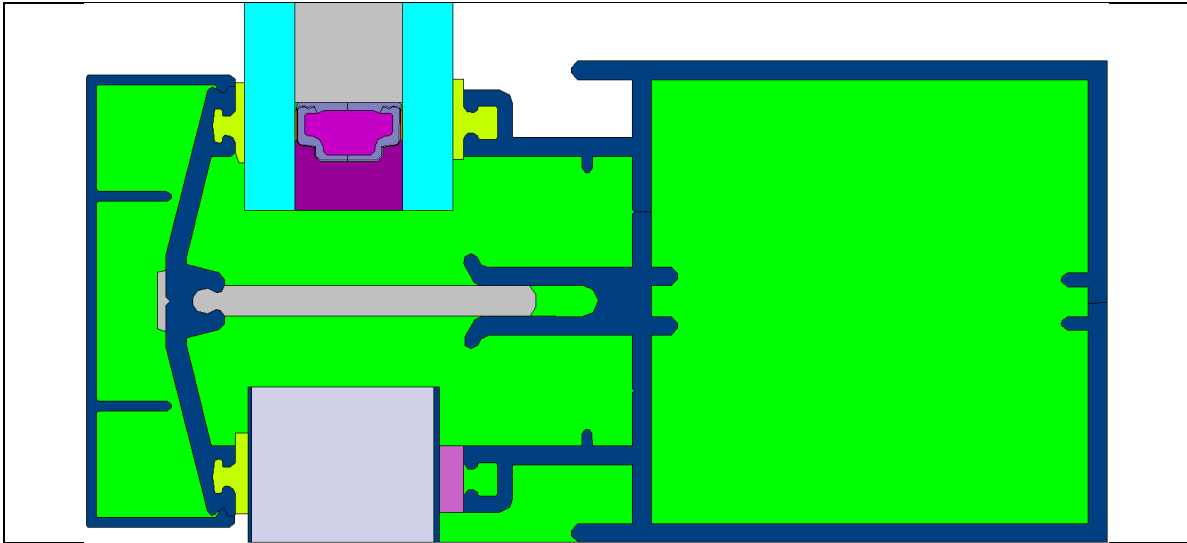


Figure 1: Jamb Model of the Skylight Frame to Show the Materials of Components Modelled

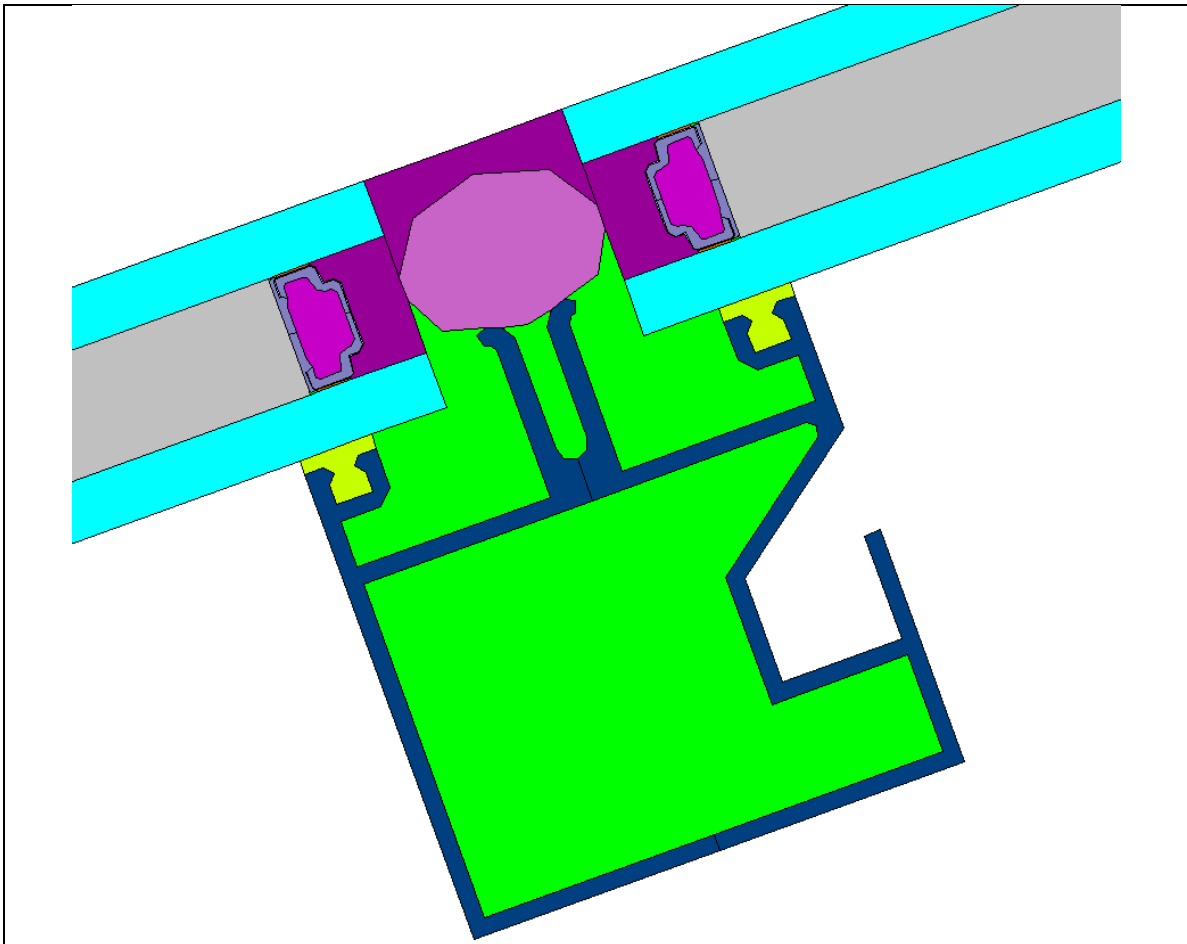


Figure 2: Purlin Model of the Skylight Frame to Show the Materials of Components Modelled

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	Frame Types: K&W Skylight			Client: K&W Glass	
	Calc. by TW	Simulation Date Mar 4, 2022	Chk'd by TL	Report Date Mar 7, 2022	Revision R0

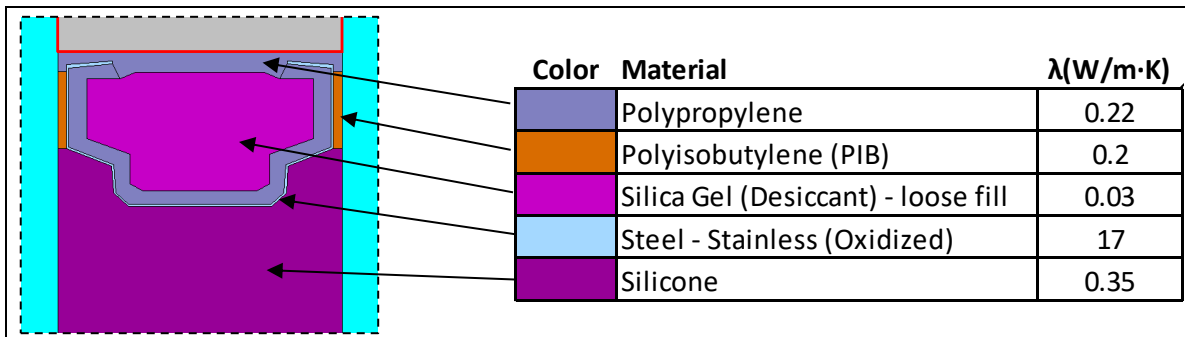



Figure 3: Spacer Material Details

**Insulated Glazing Unit (IGU) Details:**

SunGuard® SuperNeutral 68 on Clear (Surface #2,  $\epsilon = 0.039$ ) / 12.7mm Air (10%) - Argon (90%) Mix / Optifloat Clear -- 0.8mm .030" PVB Lamination -- Energy Advantage Low-E (Surface #6,  $\epsilon = 0.164$ ) (Total Thickness = 24.4mm)

**PROJECT'S AVERAGE FRAME SIZES**

To Calculate the overall U-value for the fenestration systems on the project a weighted average method was used. For this method the U-value of each fenestration system is multiplied by its respective percentage of the overall fenestration area. To properly calculate the U-value of reach system the width and height of each window of that system type are averaged to produce a project specific average frame size for each fenestration system. The average frame size is then used to calculate the U-value for that system. You can see the average frame sizes calculated, along with the area percentage for each fenestration product in the results table below.


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## RESULTS

The windows are modelled following NFRC procedures and the results are summarized in Table 2:

**Table 2: Thermal Modelling Result – Overall Project Fenestration U-Value**

Frame Type	Width x Height (in) Average	U-Value (W/m <sup>2</sup> -K)	U-Value (Btu/h-ft <sup>2</sup> -°F)	Area (ft <sup>2</sup> )	% of Total	SHGC	VT
Top, Side	25.5 x 70	2.237	0.394	49.6	13%	0.303	0.523
Top, Middle	25.5 x 70	2.210	0.389	148.8	38%	0.317	0.550
Bottom, Side	25.5 x 70	2.213	0.390	49.6	13%	0.301	0.519
Bottom, Middle	25.5 x 70	2.185	0.385	148.8	38%	0.315	0.545
<b>Totals:</b>		<b>2.204</b>	<b>0.388</b>	396.7	100%	0.313	0.541

 <p><b>LAYTON</b> CONSULTING LTD</p> <p>GLAZING, CLADDING, &amp; SPECIALTY STRUCTURAL ENGINEERING Suite 233 - 18525 53<sup>rd</sup> Ave., Surrey, BC, Canada, V3S 7A4</p>	Project: <b>K&amp;W Glass Skylight U-Factor Calculation</b>				Project No: 1300-16543	
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## APPENDIX



**Figure 4: NFRC Certification – Taylor Wight**

IGU Name: 6mm SN68 / 12.7 Ar / 6mm En-Adv + 030 PVB								
	ID	Name	Thick	Surf	Tsol	Tvis	E	Source
Glass 1	3110	SGSN68C6.grd	5.6	2	0.381	0.757	0.039	IGDB v15.4
Gap 1	9	Air (10%) - Argon (90%) Mix	12.7					
Glass 2	9800	CLEAR2.LOF	2.2		0.887	0.910		IGDB v17.4
Gap 2		.030" PVB Lamination	0.8					
Glass 3	9921	EnAdvLE3.LOF	3.0	6	0.740	0.842	0.164	IGDB v17.4
Overall thickness (mm): 24.35								
<b>Centre of Glass U-Factor Results (Frame not included):</b>								
Name	# of Layers	Tilt	Environmental Conditions	Overall Thickness	Uval	SHGC	Tvis	
				mm	W/m2-K			
6mm SN68 / 12.7 Ar / 6mm En-Adv + 030 PVB Skylight	2	20	NFRC 100-2010	24.70	1.663	0.357	0.634	

**Figure 5: Additional IGU Details**



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Frame Types: K&W Skylight			Client: K&W Glass		
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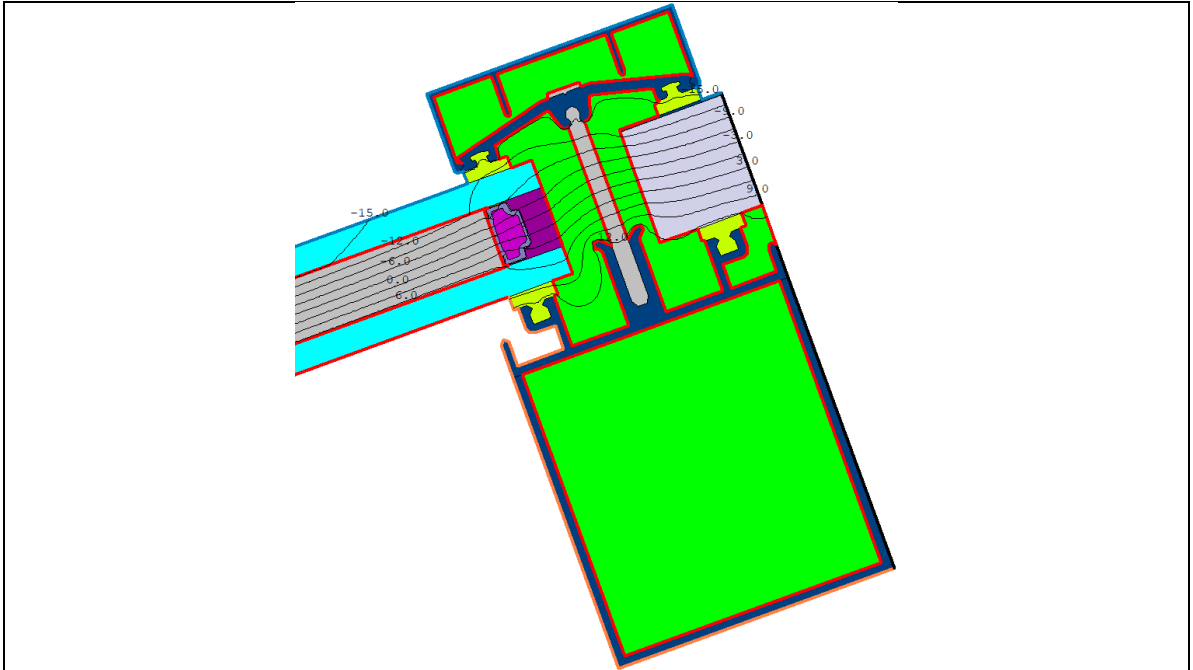


Figure 6: Thermal Modelling Result – Head (Full)

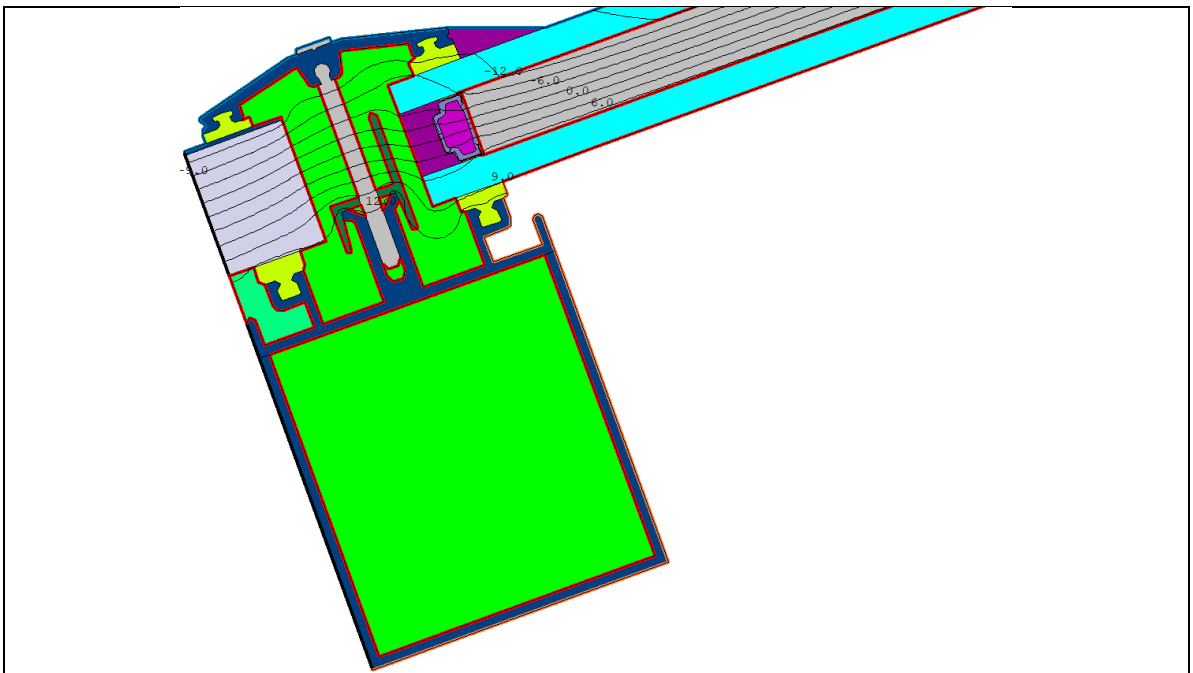


Figure 7: Thermal Modelling Result – Sill (Full)



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Frame Types: K&W Skylight			Client: K&W Glass		
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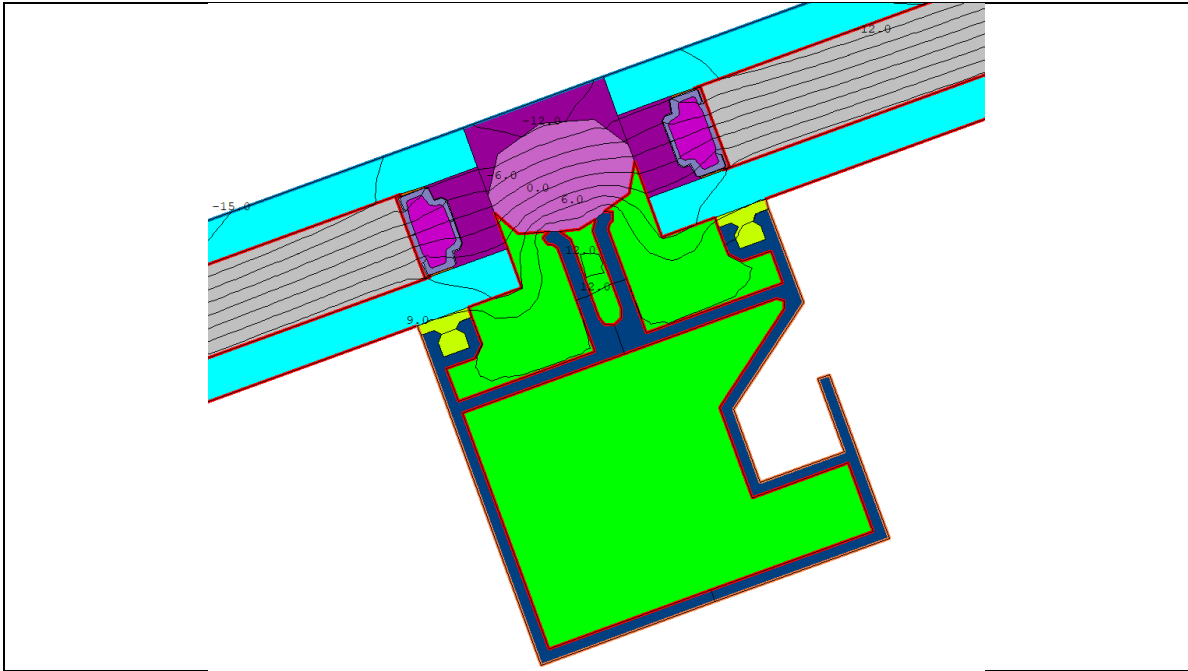


Figure 8: Thermal Modelling Result – Purlin

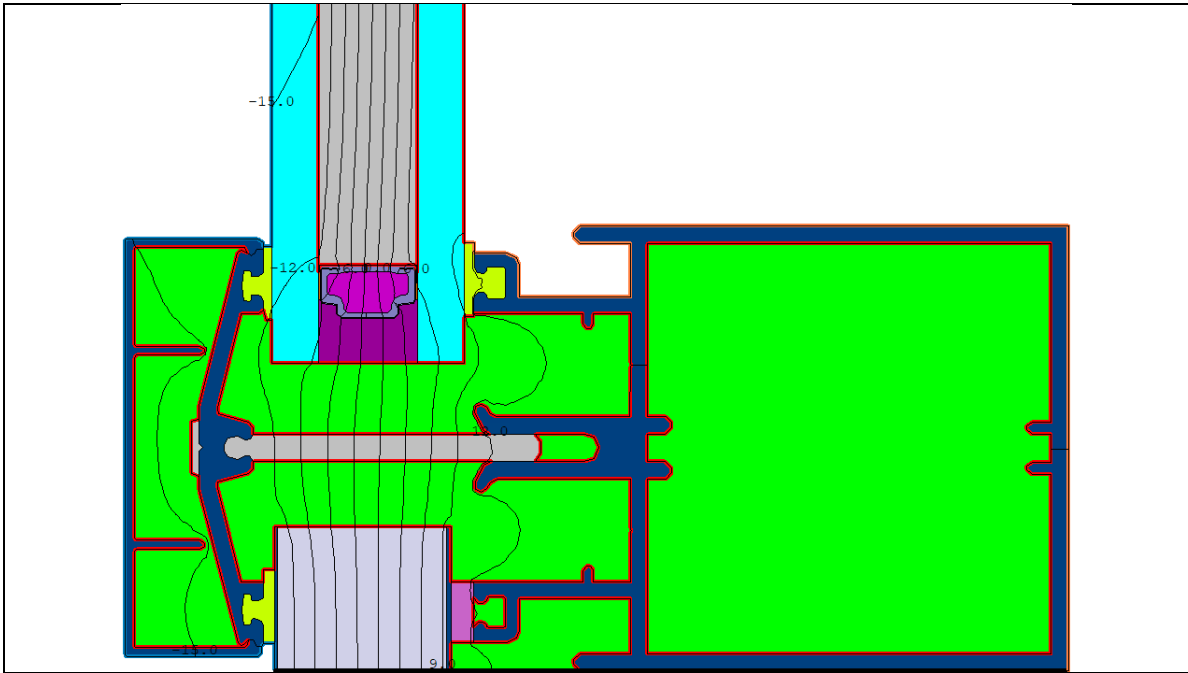


Figure 9: Thermal Modelling Result – Jamb





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Frame Types: K&W Skylight				Client: K&W Glass	
Calc. by TW	Simulation Date Mar 4, 2022	Chk'd by TL	Report Date Mar 7, 2022	Revision R0	Page: 11

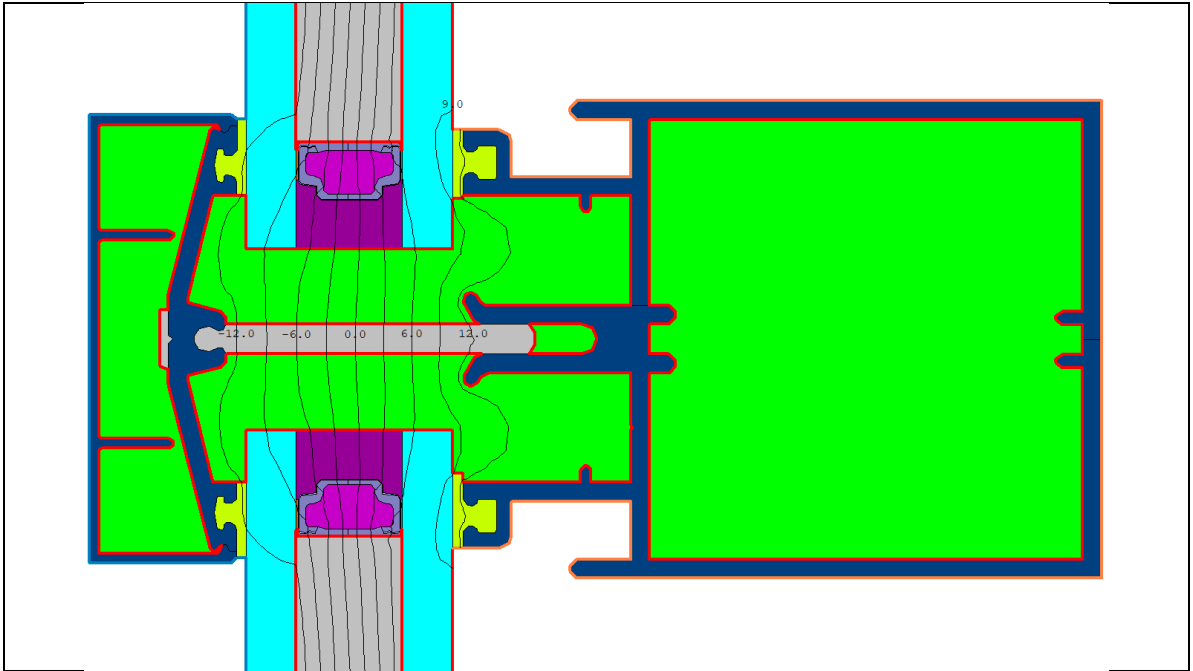
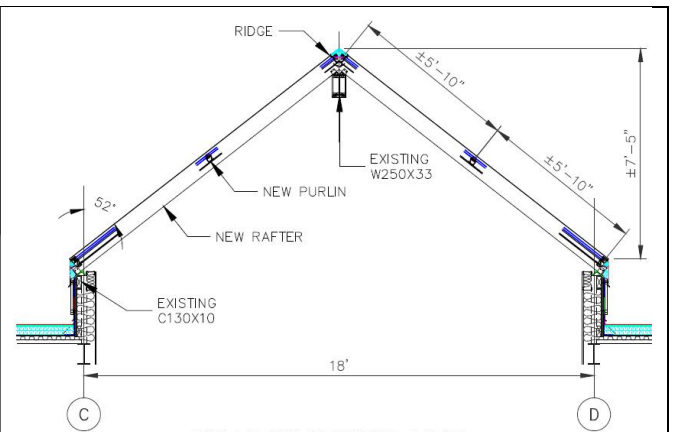
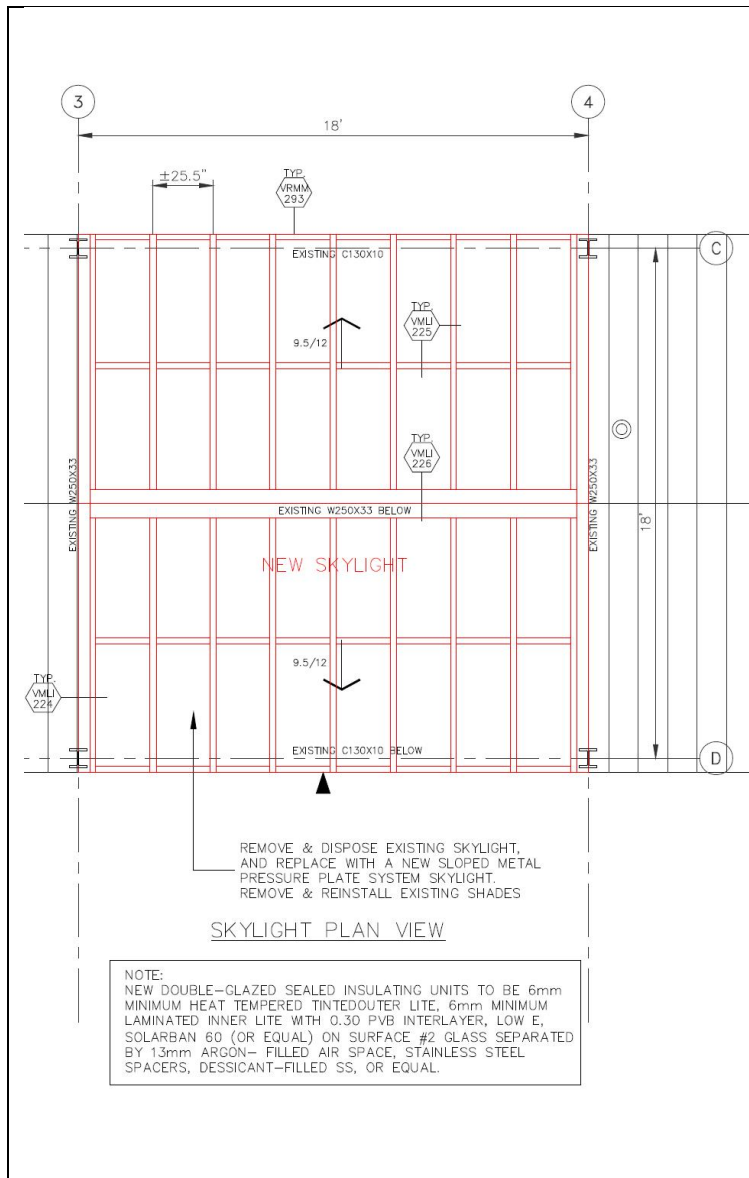


Figure 10: Thermal Modelling Result – Rafter

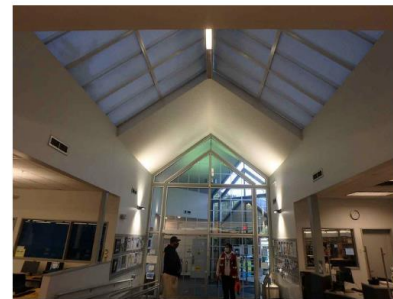


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Project: <b>K&amp;W Glass Skylight U-Factor Calculation</b>			Project No: 1300-16543		
Frame Types: K&W Skylight			Client: K&W Glass		
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ELEVATION PHOTO



INTERIOR PHOTO

Figure 11: Skylight Elevations




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Frame Types: K&W Skylight				Client: K&W Glass	
Calc. by TW	Simulation Date Mar 4, 2022	Chk'd by TL	Report Date Mar 7, 2022	Revision R0	Page: 13

**Table 3 : Lists of All Fenestration Types, Quantity, and Size**

Frame Type: <b>Top, Side</b>					
Glazing Type: <b>6mm SN68 / 12.7mm Ar / 6mm - Energy Adv - 030 PVB</b>					
Ave Width	Ave Height	% of Tot Area		Tot Area	
25.50	70.00	12.5%		49.58	
Width (in)	Height (in)	Qty.	Notes	Area (ft <sup>2</sup> )	
25.5	70	4	Head, Jamb, Rafter, Purlin	12.40	
Frame Type: <b>Top, Middle</b>					
Glazing Type: <b>6mm SN68 / 12.7mm Ar / 6mm - Energy Adv - 030 PVB</b>					
Ave Width	Ave Height	% of Tot Area		Tot Area	
25.50	70.00	37.5%		148.75	
Width (in)	Height (in)	Qty.	Notes	Area (ft <sup>2</sup> )	
25.5	70	12	Head, 2x Rafter, Purlin	12.40	
Frame Type: <b>Bottom, Side</b>					
Glazing Type: <b>6mm SN68 / 12.7mm Ar / 6mm - Energy Adv - 030 PVB</b>					
Ave Width	Ave Height	% of Tot Area		Tot Area	
25.50	70.00	12.5%		49.58	
Width (in)	Height (in)	Qty.	Notes	Area (ft <sup>2</sup> )	
25.5	70	4	Purlin, Jamb, Rafter, Sill	12.40	
Frame Type: <b>Bottom, Middle</b>					
Glazing Type: <b>6mm SN68 / 12.7mm Ar / 6mm - Energy Adv - 030 PVB</b>					
Ave Width	Ave Height	% of Tot Area		Tot Area	
25.50	70.00	37.5%		148.75	
Width (in)	Height (in)	Qty.	Notes	Area (ft <sup>2</sup> )	
25.5	70	12	Purlin, 2x Rafter, Sill	12.40	

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	<b>K&amp;W Glass Skylight U-Factor Calculation</b>			1300-16543		
	Frame Types:			Client:		
K&W Skylight			K&W Glass			
Calc. by	Simulation Date	Chk'd by	Report Date	Revision	Page:	
TW	Mar 4, 2022	TL	Mar 7, 2022	R0	14	

An Estimating spreadsheet was created to quickly and roughly estimate the U-Factor's of similar skylights in the future. This estimating spreadsheet should not be used to obtain final U-Factor results for projects, as it does not account for all variables when fully modelling a skylight on a project. However, it can be used for initial estimates as long as a very similar frame and glass combination are used.

**Table 4:** Estimating Spreadsheet Snapshot

K&W Glass Skylight				<i>Estimator Created by Layton Consulting Ltd.</i>			
					COG U-Factor (W/m <sup>2</sup> ·K)		
Glass Type:	6mm SN68 / 12.7mm Ar / 6mm - Energy Adv - 030 PV					1.663	
Width:	647.7 mm						
Height:	1778 mm						
		Width (mm)	Frame U-factor (W/m <sup>2</sup> ·K)	Edge U-factor (W/m <sup>2</sup> ·K)			
Top:	Head (full) P330	59.996	4.074	1.604			
Left:	Jamb (full) R300	56.995	4.471	1.549			
Right:	Rafter (half) R300	28.498	6.576	1.544			
Bottom:	Purlin (half sill) PG230	26.823	6.610	1.568			
U-Factor Estimate:	2.24 W/m <sup>2</sup> ·K						
Disclaimers:							
- This spreadsheet is for estimating purposes only, and the results calculated cannot be used for certification as not all factors have been accounted for.							
- These results are based on a skylight tilt of 20° from horizontal. The slope can have a significant effect on the U-factor, therefore if the slope is less than 20° a higher (worse) U-factor should be expected.							

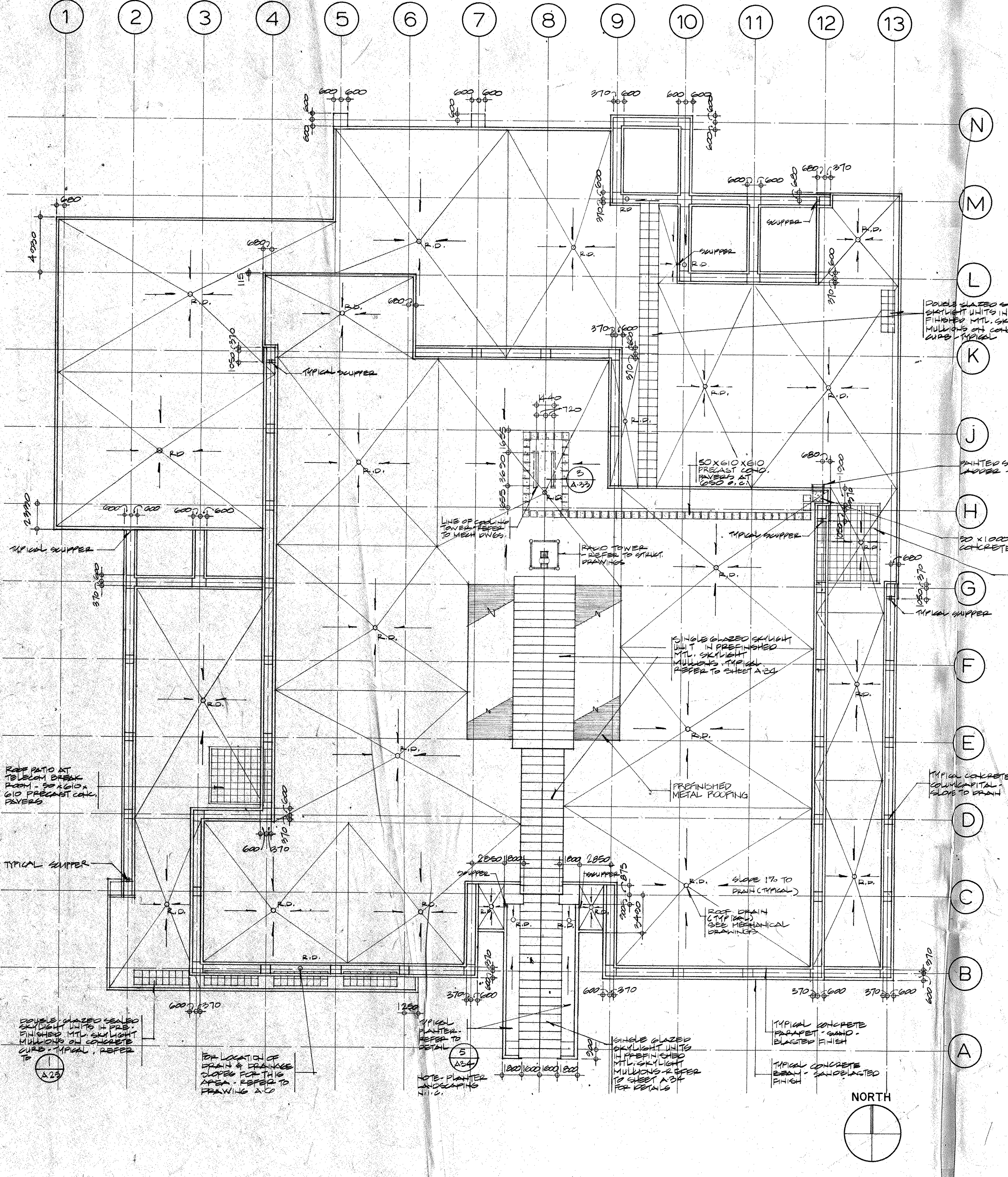
**Table 5:** Results comparison using the Estimating tool

Frame Type	Width x Height (in) Average	Using Window (NFRC)		Using the Estimating Tool		Area (ft <sup>2</sup> )	% of Total
		U-Value (W/m <sup>2</sup> ·K)	U-Value (Btu/h-ft <sup>2</sup> ·°F)	U-Value (W/m <sup>2</sup> ·K)	U-Value (Btu/h-ft <sup>2</sup> ·°F)		
Top, Side	25.5 x 70	2.237	0.394	2.236	0.394	49.6	13%
Top, Middle	25.5 x 70	2.210	0.389	2.208	0.389	148.8	38%
Bottom, Side	25.5 x 70	2.213	0.390	2.211	0.389	49.6	13%
Bottom, Middle	25.5 x 70	2.185	0.385	2.183	0.384	148.8	38%
<b>Totals:</b>		<b>2.204</b>	<b>0.388</b>	<b>2.202</b>	<b>0.388</b>	396.7	100%

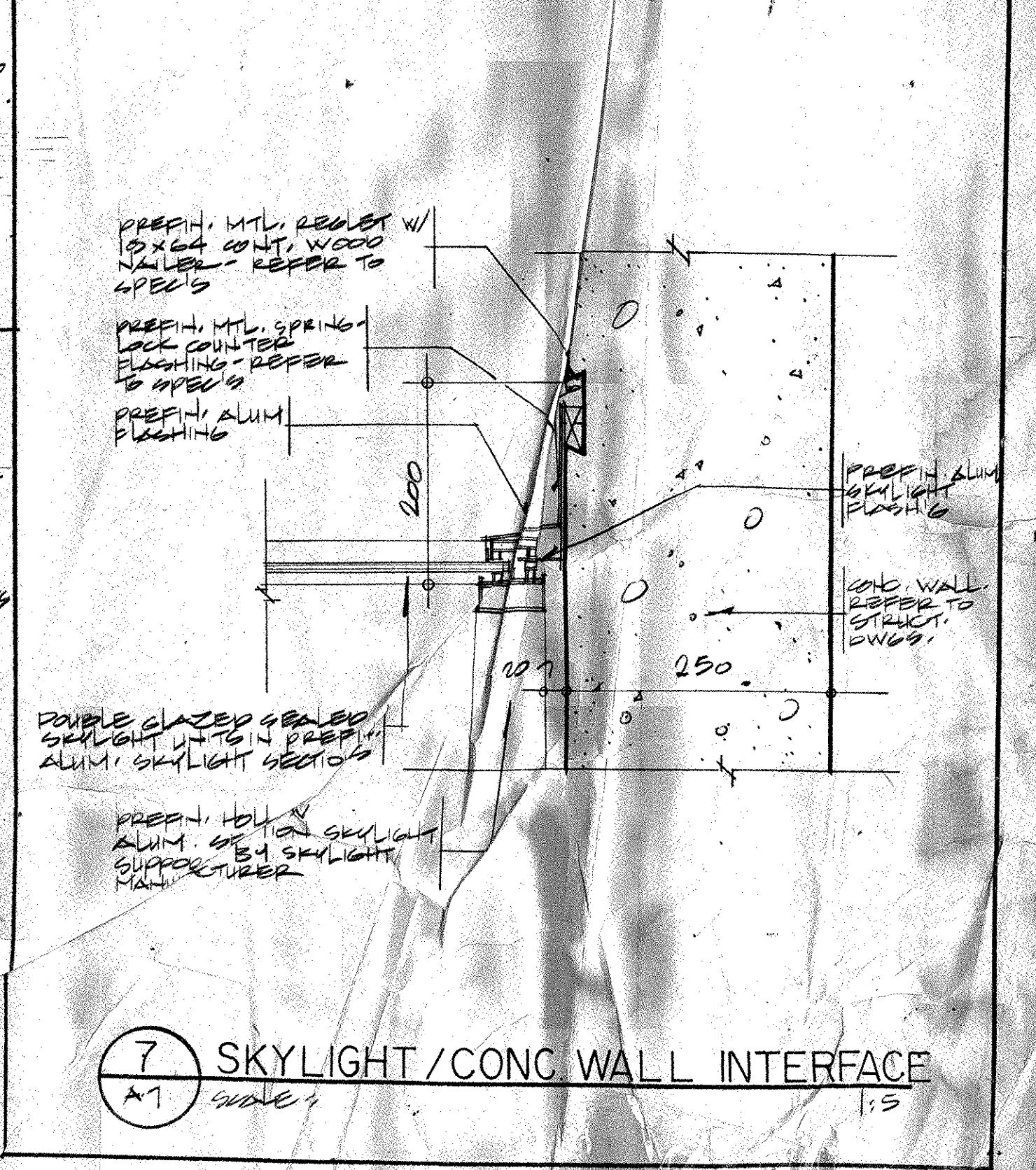
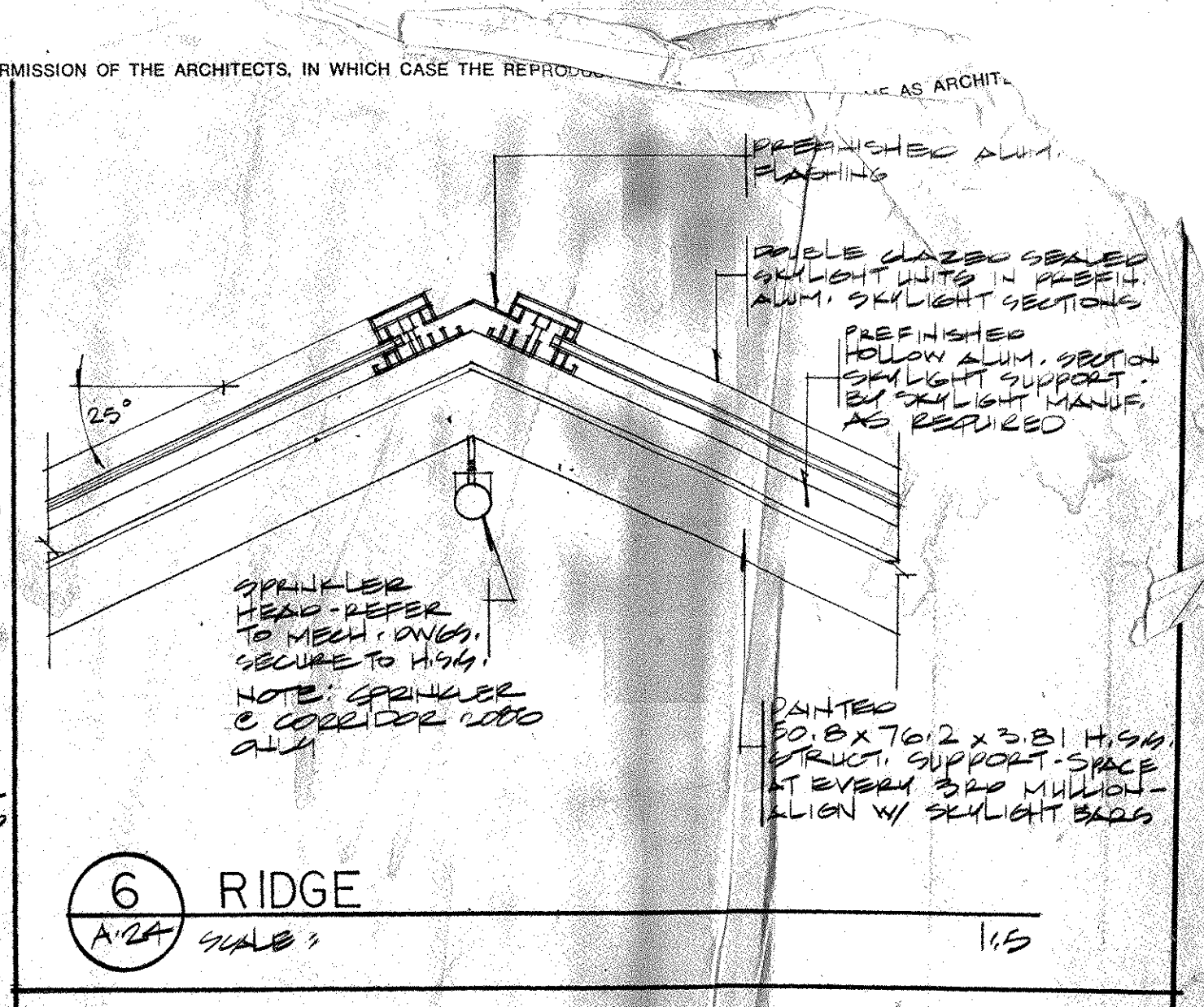
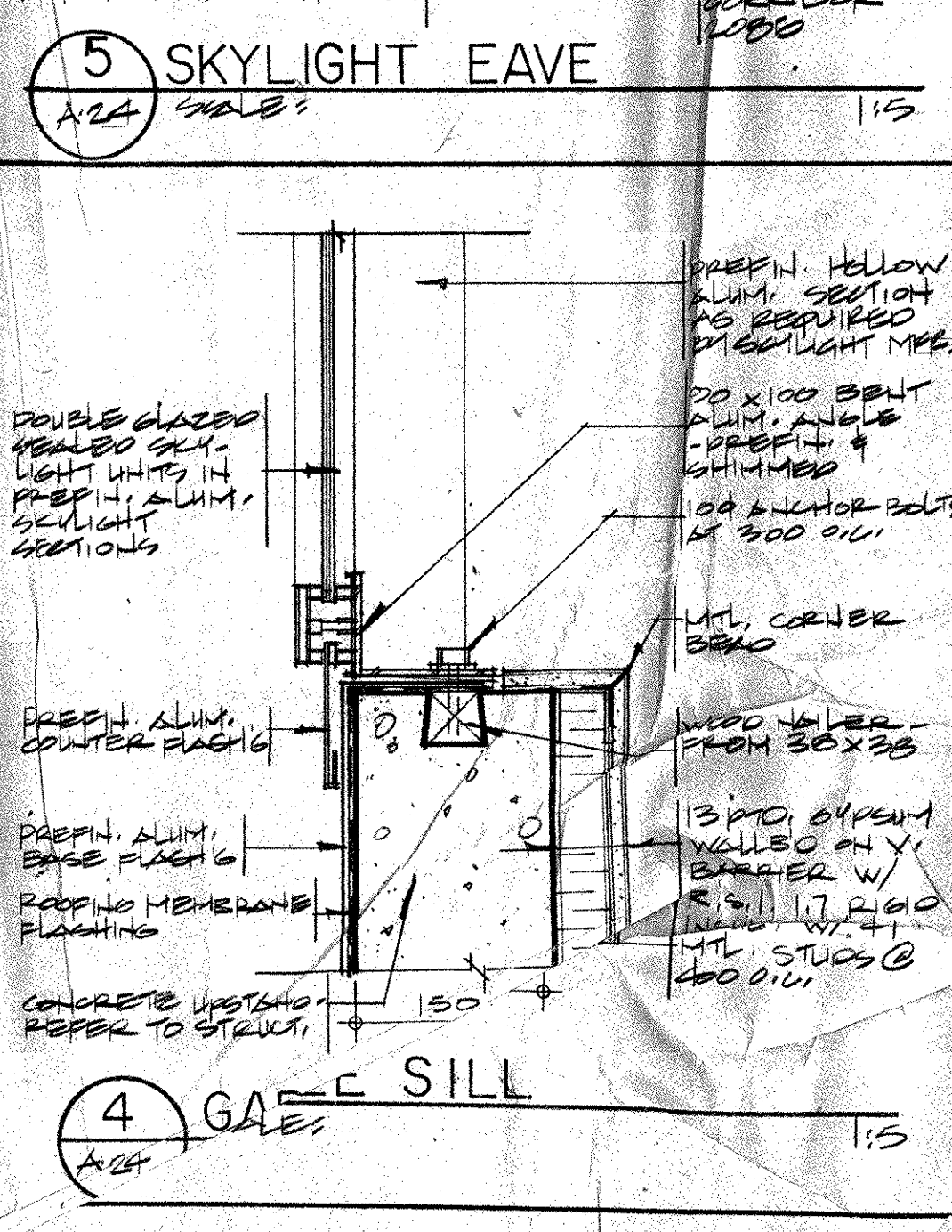
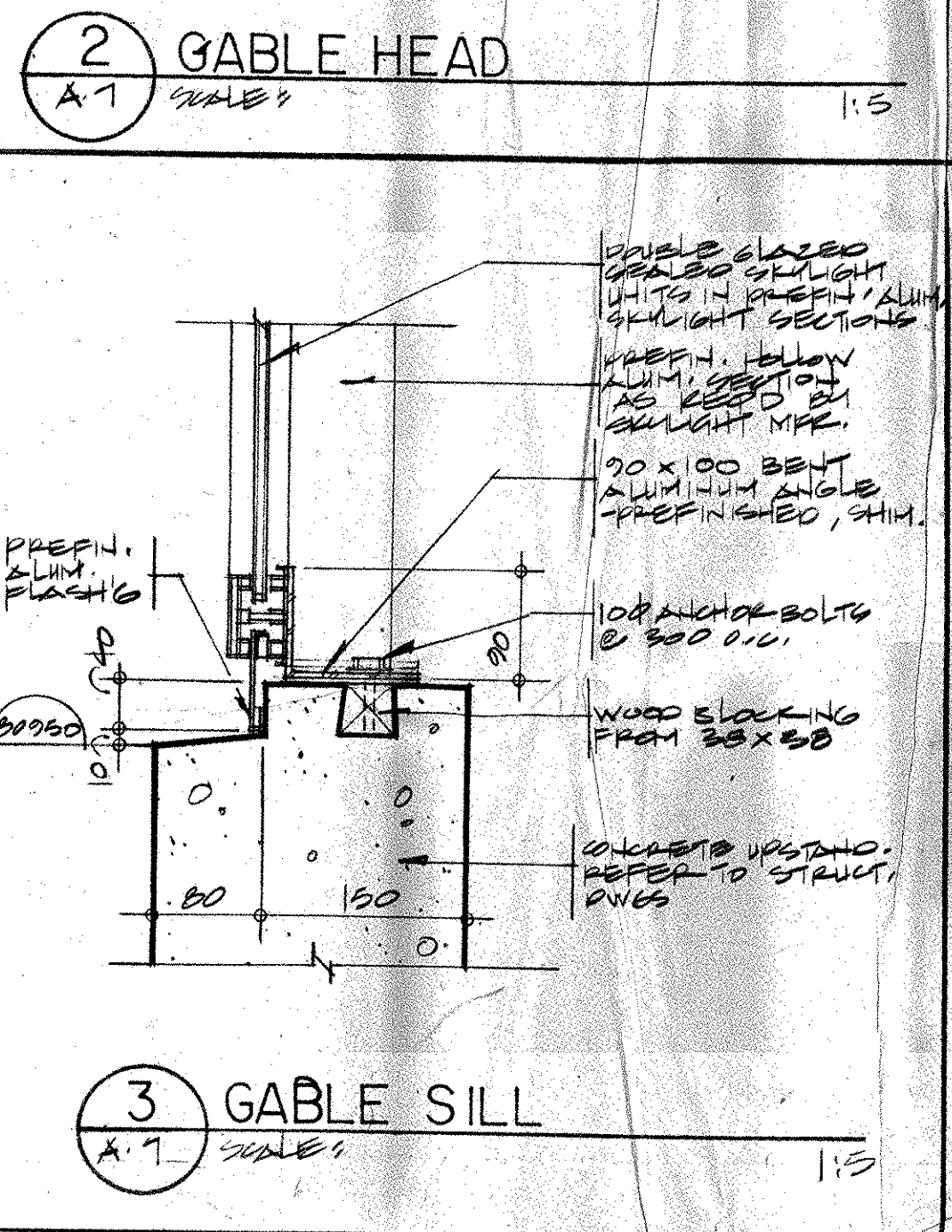
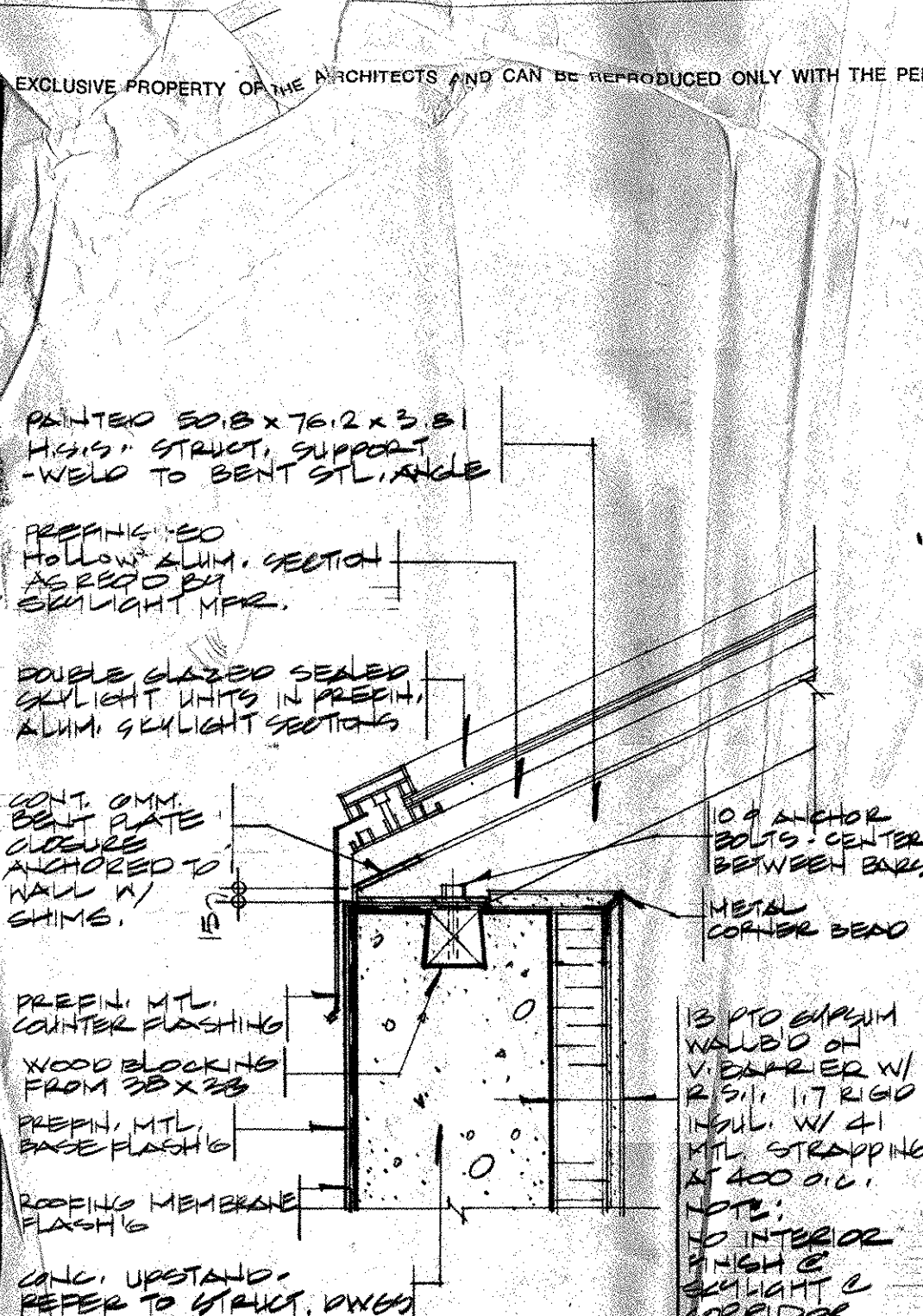
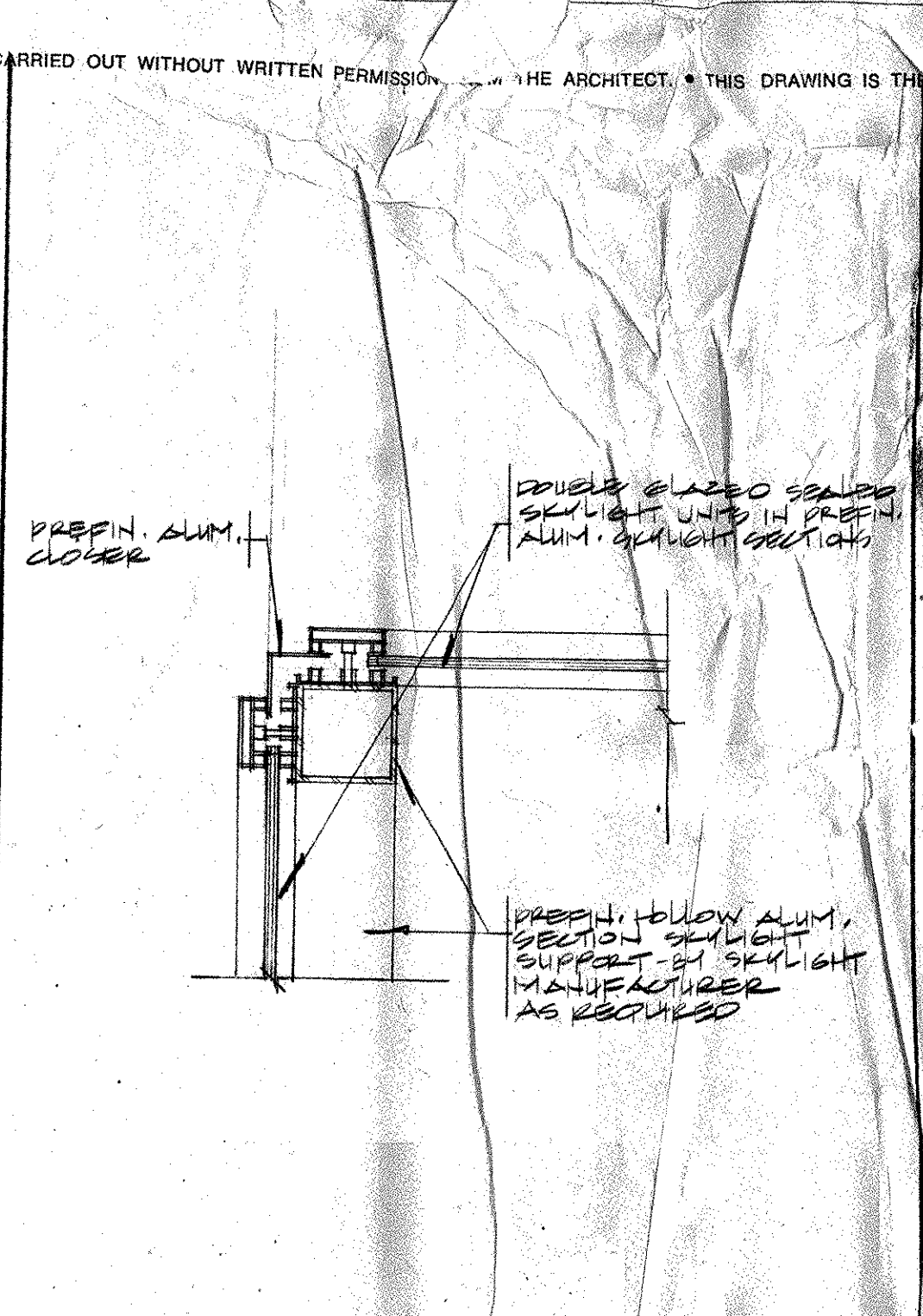
As shown in the results above, in this case, the estimating tool provided a U-Value that was quite close to U-Value calculated using the full method.



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1 ROOF PLAN  
SCALE: 1:200



No.	DESCRIPTION	REVISIONS	DATE	BY
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2	ISSUED FOR TENDER		APR 5/08	
1	ISSUED FOR BUDGET PERMIT			

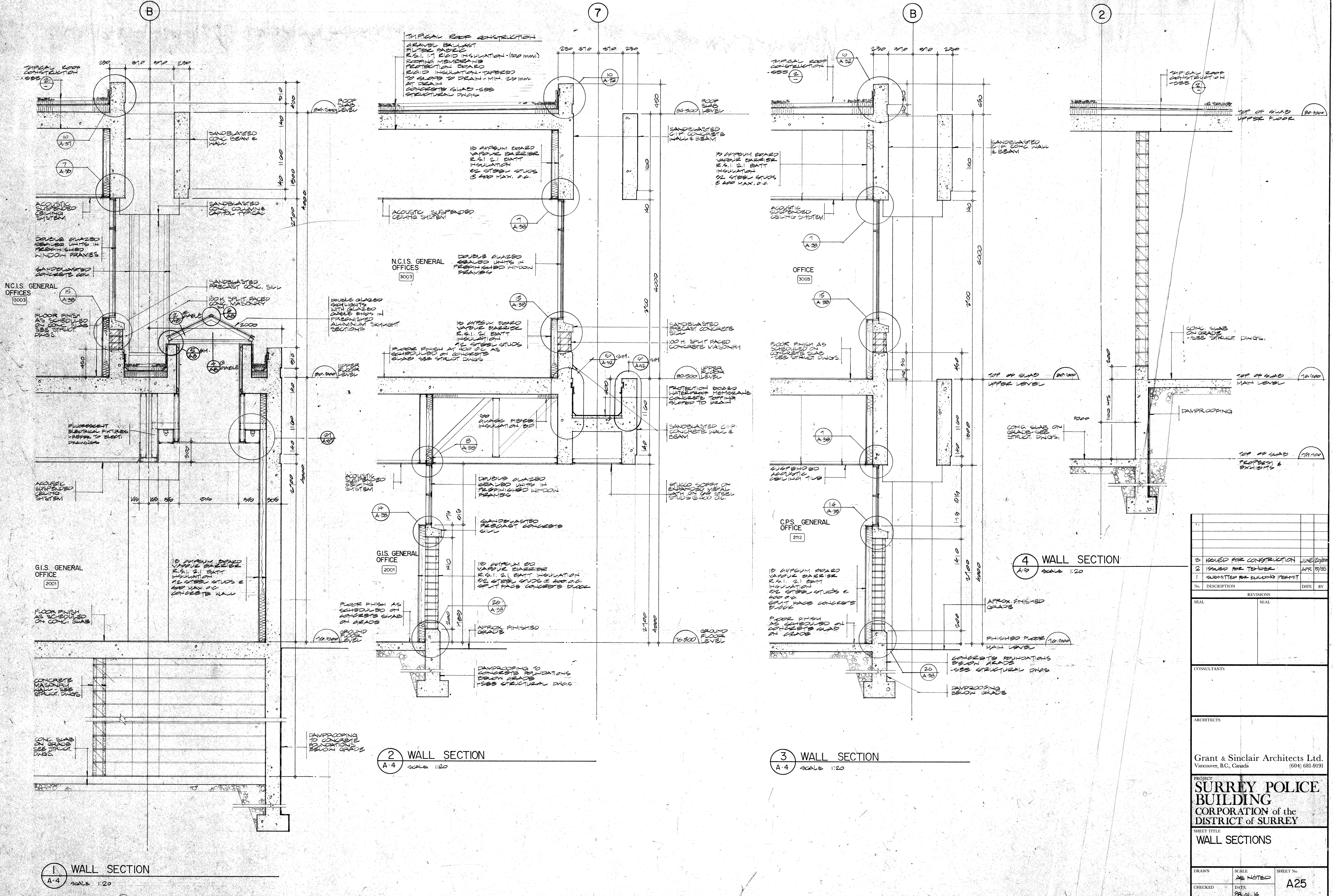
  

SEAL	SEAL

CONSULTANTS	
ARCHITECTS	
Grant & Sinclair Architects Ltd. Vancouver, B.C., Canada (604) 681-9191	
PROJECT <b>SURREY POLICE BUILDING CORPORATION of the DISTRICT of SURREY</b>	
SHEET TITLE <b>ROOF PLAN</b>	
DRAWN	SCALE
CHECKED	DATE
	SHEET No.
	DATE
	A8





1 WALL SECTION  
A-4 SCALE 1:20

2 WALL SECTION  
A-4 SCALE 1:20

3 WALL SECTION  
A-4 SCALE 1:20

4 WALL SECTION  
A-10 SCALE 1:20

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2	ISSUED FOR TENDER	APR 15/98	
1	SUBMITTED FOR BUILDING PERMIT		
No.	DESCRIPTION	DATE	BY
REVISIONS			
SEAL	SEAL		
CONSULTANTS			
ARCHITECTS			
Grant & Sinclair Architects Ltd. Vancouver, B.C., Canada (604) 681-9191			
PROJECT <b>SURREY POLICE BUILDING</b> CORPORATION of the DISTRICT of SURREY			
SHEET TITLE <b>WALL SECTIONS</b>			
DRAWN	SCALE	SHEET No.	
CHECKED	DATE		A25
	28.01.94		





# QUALITY AUDITING INSTITUTE

#16-211 Schoolhouse St, Coquitlam, B.C. V3K 4X9

Tel: (604) 527-8378 Fax: (604) 527-8368

Website Address: [www.qai.org](http://www.qai.org)

E-mail: [Info@qai.org](mailto:Info@qai.org)

April 15, 2014

Skylite Glazing Solutions Ltd.  
112-1772 Broadway Street  
Port Coquitlam, BC  
Canada, V3C 2M8

**SUBJECT:** In-Lab Testing – Skylite Glazing Solutions Ltd. - 44" x 44" Aluminum Fixed Skylight

Dear Mr. Simon Tsui,

This letter confirms that Quality Auditing Institute (QAI) has completed testing of one Fixed Aluminum Skylight from Skylite Glazing Solutions Inc. Testing was conducted on April 15, 2014 under sunny weather conditions. These products were tested to the requirements of ASTM E547 "Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors and Curtain Walls by Cyclic Static Air Pressure Difference" and AAMA/WDMA/CSA 101/I.S.2/A440-08 "NAFS North American Fenestration Standard/Specification for windows, doors, and skylights" and ASTM E283 "Standard Test Method for Determining Rate of Air Leakage through Exterior Windows, Curtain Walls, and Doors under Specified Pressure Differences across the Specimen". The following results were recorded:

Assembly:	Size:	Air Leakage Resistance Test			Water Penetration Resistance Test	Glass Thickness
		Infiltration	Exfiltration	Secondary Designator		
		(L/s/m <sup>2</sup> ) @ 75 Pa				
Aluminum Fixed Skylight	44" x 44"	0.000	0.000	Fixed	PG 100*	≈ 6mm (25mm Overall Thickness)

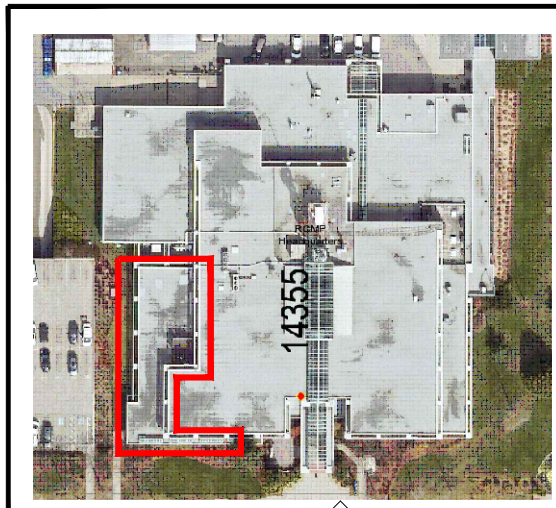
\* PG 100 is equivalent to a B7 as referred to in CSA A440-00 standard.

Should you have any questions, please do not hesitate to contact Quality Auditing Institute Ltd. at 604-527-8378.

Regards,  
Quality Auditing Institute Ltd

Jay Klassen, Test Technologist  
604-527-8378  
[jklassen@qai.org](mailto:jklassen@qai.org)

Enclosure: Skylite Glazing Solution Inc. – Assembly Drawings



**SITE PLAN**  
NOT TO SCALE

**EXISTING ROOF COMPOSITION(S):**

**ROOF AREA 1.1**  
 CONCRETE DECK  
 1 PLY SBS VAPOUR RETARDER  
 TAPERED EPS INSULATION (START ±2")  
 0.5" FIBREBOARD  
 ASPHALTIC BOARD  
 2 PLY SBS MEMBRANE

**ROOF AREA 1.2**  
 CONCRETE DECK  
 1 PLY SBS VAPOUR RETARDER  
 1.25" POLYISO. INSULATION  
 ASPHALTIC BOARD  
 2 PLY SBS MEMBRANE  
 24"x24"x1.8" CONCRETE PAVERS

**NEW ROOF COMPOSITION(S):**

**ROOF AREA 1.1**  
 EXISTING CONCRETE DECK  
 NEW 1 PLY VAPOUR RETARDER  
 NEW 2% TAPERED POLYISO. INSULATION  
 NEW 2" POLYISO. INSULATION  
 NEW COMPOSITE BASE SHEET BOARD  
 NEW 1 PLY SBS CAP MEMBRANE

**ROOF AREA 1.2**  
 EXISTING CONCRETE DECK  
 NEW 1 PLY VAPOUR RETARDER  
 NEW 1% TAPERED POLYISO. INSULATION  
 NEW 6.5" POLYISO. INSULATION  
 NEW COMPOSITE BASE SHEET BOARD  
 NEW 1 PLY SBS CAP MEMBRANE  
 RE & RE EXISTING 24"x24"x1.8" CONCRETE PAVERS WITH NEW PEDESTALS

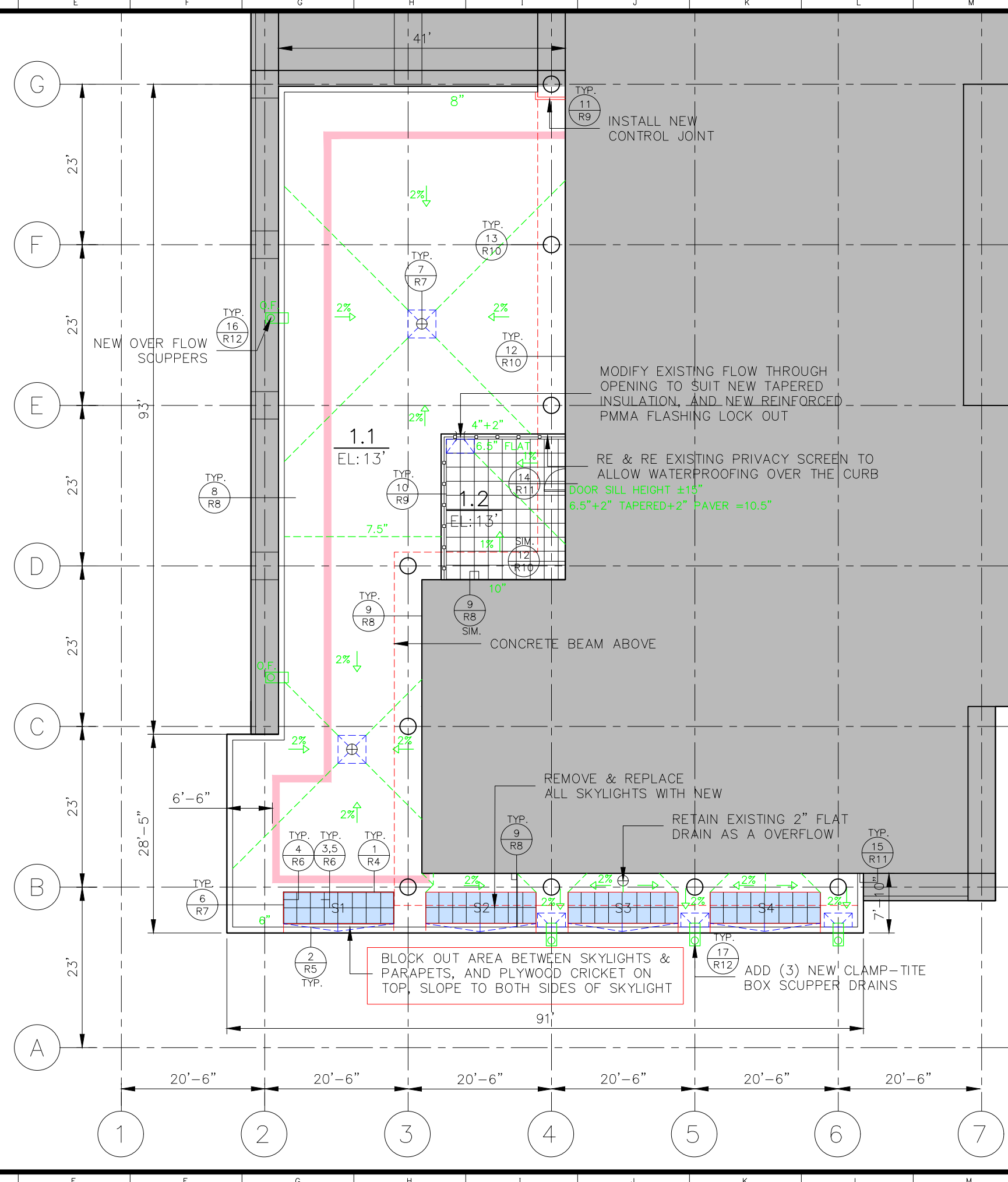
**ROOF AREA (SQ. FT.)**

1.1 - 4,020  
 1.2 - 370

**TOTAL ROOF AREA (SQ. FT.)**

4,390

SEAL: PERMIT TO PRACTICE NO. 1000288



LEGEND	
	ROOF AREAS NOT INCLUDED IN CONTRACT
	WARNING TRACK WITH 12" WIDE RED CAP STRIP
ROOF PROJECTIONS:	
	ANTENNA
	BREATHER
	CAPPED STACK
	CHANGE IN ELEV.
	CHIMNEY
	CONDUIT LINE
	CONTROL JOINT
	DRAIN
	EXHAUST FAN ON CURB
	EXPANSION JOINT
	EXPLOSION HATCH
	FLAGPOLE
	GAS PIPELINE
	GOOSENECK VENT
	GOOSENECK VENT ON OVERSIZED CURB
	HATCH
	HVAC UNIT
	HVAC UNIT ON CURB
	HVAC UNIT ON SLEEPERS
	LADDER
	LIGHT POST
	PIPE SUPPORT
	PITCH POCKET
	PLUMBING OR SOIL STACK
	RA ROOF ANCHOR
	SATELLITE DISH
	SCUPPER
	SECURITY CAMERA
	SKYLIGHT
	SLOPE
	SQUARE VENT
	SQUARE VENT ON OVERSIZED CURB
	TALLCONE OR "B" VENT
	TALLCONE OR "B" VENT ON CURB
	UNUSED OPENING
	WALKWAY PADS
DRAINAGE:	
	TAPERED INSULATION LAYOUT
	DIRECTION OF WATER DRAINAGE
	NEW ROOF DRAIN TO BE INSTALLED
	INSULATION SUMP (4'x4')
	INSULATION CRICKET

ISSUED FOR CONSTRUCTION	
ISSUED FOR TENDER	SEPT. 2022
ISSUED FOR REVIEW	AUG. 2022

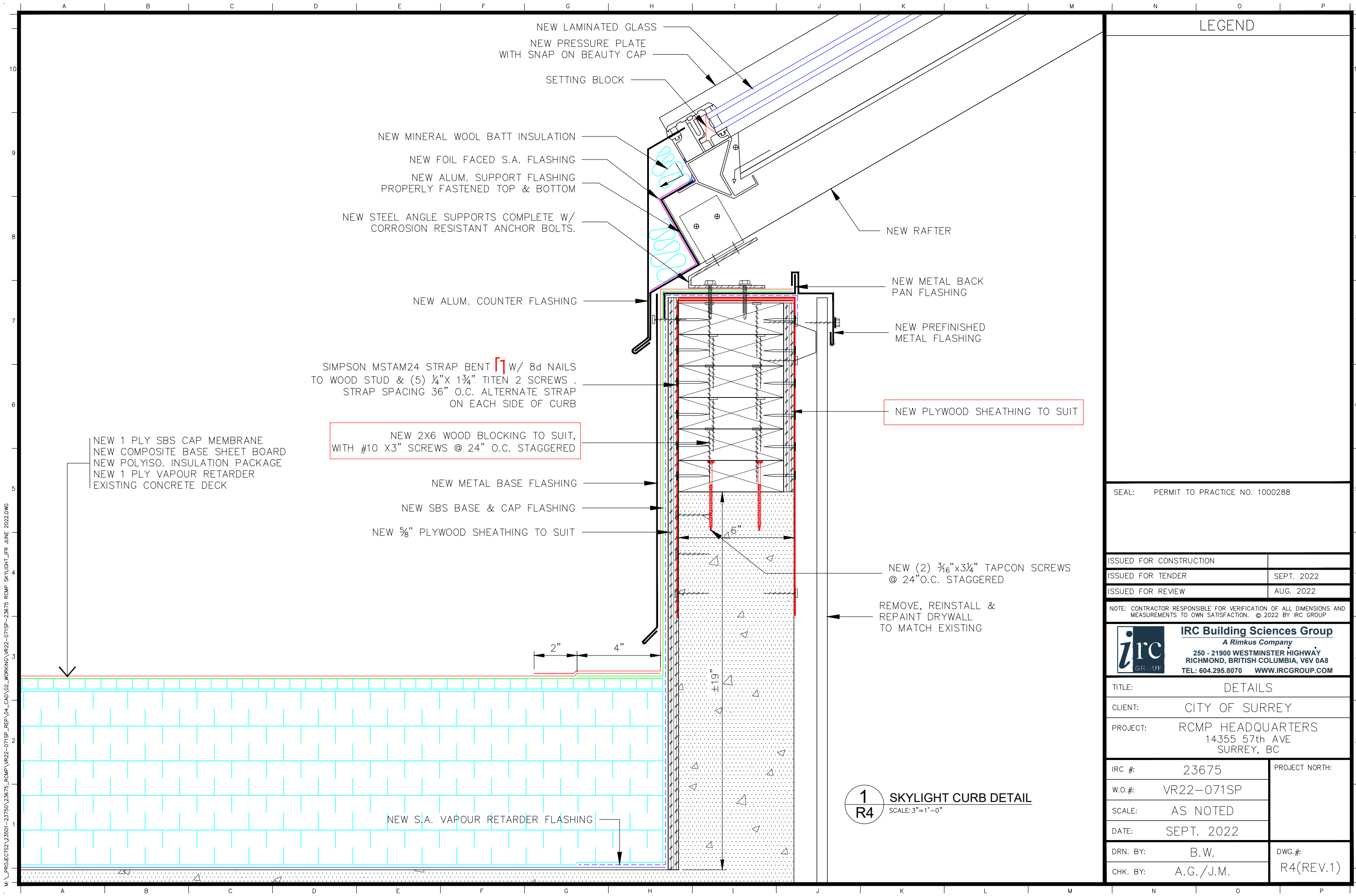
NOTE: CONTRACTOR RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS AND MEASUREMENTS TO OWN SATISFACTION. © 2022 BY IRC GROUP

**irc** **Building Sciences Group**  
 A Rimkus Company  
 250 - 21900 WESTMINSTER HIGHWAY  
 RICHMOND, BRITISH COLUMBIA, V6V 0A8  
 TEL: 604.295.8070 WWW.IRCGROUP.COM

TITLE:	ROOF PLAN
CLIENT:	CITY OF SURREY
PROJECT:	RCMP HEADQUARTERS 14355 57th AVE SURREY, BC

IRC #:	23675	PROJECT NORTH:	
W.O.#:	VR22-071SP		
SCALE:	1/16" = 1'-0"		
DATE:	SEPT. 2022		
DRN. BY:	B.W.	DWG.#:	R1(REV.1)
CHK. BY:	J.M.		





LEGEND

SEAL: PERMIT TO PRACTICE NO. 1000288

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ISSUED FOR TENDER	SEPT. 2022
ISSUED FOR REVIEW	AUG. 2022

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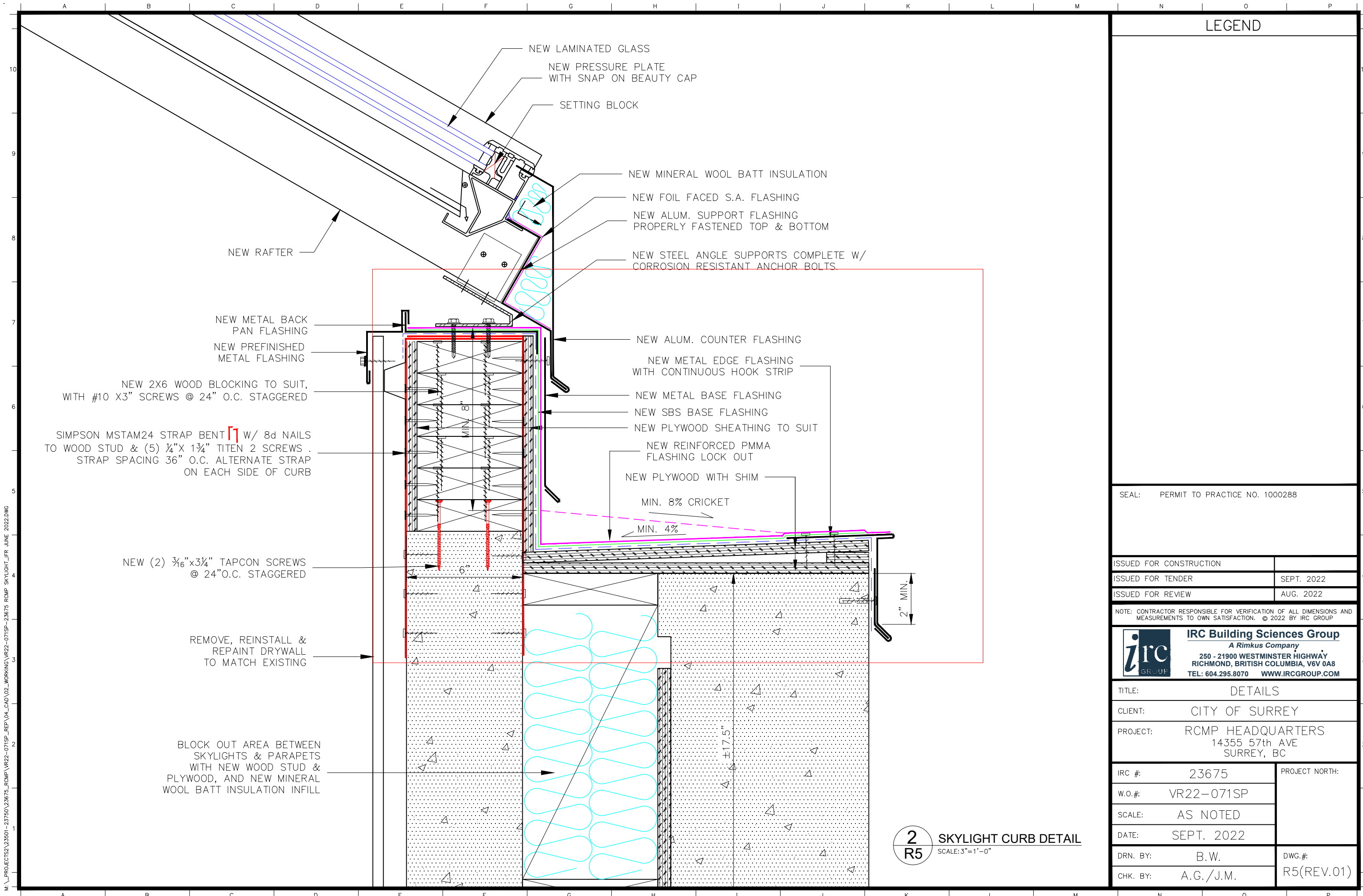
**irc** **IRC Building Sciences Group**  
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 250 - 21900 WESTMINSTER HIGHWAY  
 RICHMOND, BRITISH COLUMBIA, V6V 0A8  
 TEL: 604.295.8070 WWW.IRCGROUP.COM

TITLE:	DETAILS	
CLIENT:	CITY OF SURREY	
PROJECT:	RCMP HEADQUARTERS 14355 57th AVE SURREY, BC	

IRC #:	23675	PROJECT NORTH:
W.O.#:	VR22-071SP	
SCALE:	AS NOTED	
DATE:	SEPT. 2022	
DRN. BY:	B.W.	DWG.#: R4(REV.1)
CHK. BY:	A.G./J.M.	

**1**  
**R4** SKYLIGHT CURB DETAIL  
 SCALE: 3"=1'-0"

LEGEND



SEAL: PERMIT TO PRACTICE NO. 1000288

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ISSUED FOR TENDER	SEPT. 2022
ISSUED FOR REVIEW	AUG. 2022

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 A Rimkus Company  
 250 - 21900 WESTMINSTER HIGHWAY  
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TITLE:	DETAILS	
CLIENT:	CITY OF SURREY	
PROJECT:	RCMP HEADQUARTERS 14355 57th AVE SURREY, BC	

IRC #:	23675	PROJECT NORTH:
W.O.#:	VR22-071SP	
SCALE:	AS NOTED	
DATE:	SEPT. 2022	
DRN. BY:	B.W.	DWG.#: R5(REV.01)
CHK. BY:	A.G./J.M.	

**2** SKYLIGHT CURB DETAIL  
 R5 SCALE: 3"=1'-0"

M:\PROJECTS\23501-23750\23675-RCMP\_VR22-071SP-REP\04\_CAD\02\_WORKING\VR22-071SP-23675 RCMP\_SKYLIGHT\_IFR\_JUNE\_2022.DWG