

Project Summary

PROJ-SUM

2018 Seattle Energy Code Compliance Forms for Commercial Buildings including R2, R3, & R4 over 3 stories and all R1 Revised Oct 2021 rev. 3

General Info <i>This PROJ-SUM form shall be provided as a cover sheet for all compliance form submittals. Project Title shall match plans title block.</i>	Project Title: St Luke's Affordable	Date: 11/3/2023
	Project Street Address: 2035 NW 58th St	For SDCI Use
	Project City, County, Zip: Seattle, WA, 98107	
	Project Owner or Rep: Diocese of Olympia, Inc	
	Jurisdiction: City of Seattle	

Project Description <i>Select all that apply to the scope of project.</i> <i>Select Addition + Existing or Alteration + Existing if the existing building will be combined with the addition or alteration to demonstrate compliance per Section C502.1 or C503.1.</i>	New Construction and Additions <input checked="" type="checkbox"/> New Building <input type="checkbox"/> Building Addition		
	Existing Building Retrofit <input type="checkbox"/> Alteration <input type="checkbox"/> Change of Occupancy <input type="checkbox"/> Change in Space Conditioning <input type="checkbox"/> Historic Building <input type="checkbox"/> Substantial Alteration		
	Building Elements Scope - Select all that apply <input checked="" type="checkbox"/> All <input type="checkbox"/> Building Envelope <input type="checkbox"/> Mechanical Systems <input type="checkbox"/> Service Hot Water Systems <input type="checkbox"/> Lighting Systems <input type="checkbox"/> Electrical Systems		

Occupancy Type	<input type="radio"/> All Commercial <input checked="" type="radio"/> Group R - R2, R3, & R4 over 3 stories and all R1 <input type="radio"/> Mixed Use		
	Mixed Use - Building is greater than three stories above grade and it has both Commercial and Group R occupancies.		
	Mixed Occupancy - Building is three stories or less above grade and it has both Commercial and Group R2, R3 or R4 occupancies. Select All Commercial to document compliance for the commercial areas of the building. The residential spaces shall comply with the WSEC Residential Provisions.		

Space Conditioning Categories <i>Select all that apply to the scope of project</i>	<input checked="" type="checkbox"/> Fully Conditioned <input type="checkbox"/> Unconditioned ³ <input type="checkbox"/> Refrigerated Spaces (Warehouse and/or Walk-in ¹) <input type="checkbox"/> Low energy ³ <input type="checkbox"/> Semi-heated ² <input type="checkbox"/> Greenhouse ⁴ <input type="checkbox"/> Personal wireless service <input type="checkbox"/> Equipment building <input type="checkbox"/> Standalone elevator hoistway		

Floor Area and Stories	Floors Above Grade	Building Gross Conditioned Floor Area	Project Gross Conditioned Floor Area
	8	76,730	76730.0

General Compliance Path	<input checked="" type="radio"/> Prescriptive/Component Performance <input type="radio"/> Total Building Performance <input type="radio"/> Target Performance Path		
	Prescriptive / Component Performance - Projects shall demonstrate compliance with all applicable mandatory and prescriptive requirements of this code. Refer to C401.2, Item 1 for more information. Compliance forms to include with a Prescriptive submittal: All applicable ENV, LTG, and MECH.		
	Total Building Performance - Projects complying via total building performance (TBP) shall include a summary of results from a whole building energy model per Section C407 and shall demonstrate compliance with all applicable mandatory provisions in this Code. Refer to Section C401.2, Item 2 for more information. Compliance forms to include with a TPB submittal: All applicable ENV, LTG, and MECH, and the Energy Analysis Summary.		
	Target Performance Path - Projects complying via the Target Performance Path (TPP) shall include a summary of results from a whole building energy model per Section C407 and shall demonstrate compliance with all applicable mandatory provisions of C407.2. Refer to Section C401.3 for more information. Compliance forms to include with a TPP submittal: All applicable ENV, LTG, and MECH, and the Energy Analysis		

- Note 1 - Refrigerated Spaces** - They shall comply with the envelope and refrigeration equipment requirements in Section C410. Warehouse coolers and freezers shall also comply with the envelope requirements in C402. C410 takes precedence for overlapping requirements.
- Note 2 - Semi-heated Spaces** - If heated with equipment other than electric resistance of limited capacity and not cooled may take an exemption for wall insulation. All other envelope assemblies shall comply with the thermal envelope provisions. See C402.1.1.2 for details.
- Note 3 - Low Energy spaces** including unconditioned spaces are exempt from all provisions in WSEC Section C402 Building Envelope, however all other applicable provisions in the Code do apply including lighting, mechanical, service water heating, etc.
- Note 4 - Eligible greenhouses** are defined as spaces that maintain a specialized sunlit environment that is used exclusively for cultivation, protection and maintenance of plants. Cooling with outside air and/or evaporative cooling is allowed, but cooling equipment that requires a condensing unit is NOT eligible. Radiant heating systems, gas or propane fired condensing heating systems and heat pumps with cooling disabled are allowed but all other heating systems are not.

C406 Additional Efficiency Package Option Summary

PROJ-C406

2018 Seattle Energy Code Compliance Forms for Commercial Buildings including R2, R3, & R4 over 3 stories and all R1

Revised Oct 2021 rev. 3

General Info This PROJ-C406 form shall be provided as a cover sheet for all compliance form submittals. Project Title shall match plans title block.	Project Title: St Luke's Affordable	Date: 11/3/2023
	Project Street Address: 2035 NW 58th St	For SDCI Use
	Project City, County, Zip: Seattle, WA, 98107	
	Project Owner or Rep: Diocese of Olympia, Inc	
	Jurisdiction: City of Seattle	

<p>A minimum of 8 credits are required for new construction, and change in space conditioning or occupancy projects.</p> <p>Select all packages included in the current project scope. Also select packages complied with under previous projects (shell and core, other tenant spaces in building, etc) that apply to this permit.</p> <p>Buildings with multiple tenant spaces may comply with different options (mix & match).</p> <p>Options are required for all space conditioning types.</p> <p>Include discipline specific information for C406 options in ENV-SUM and LTG-SUM.</p> <p>Refer to SBCC website for official interpretations regarding C406 provisions.</p>	Efficiency Package	Occupancy Type			Current Scope	Completed in Shell and Core Permit	
		Primary	Secondary	Tertiary			
		Group R-2					
		Credits Claimed					
		C406.2 More efficient HVAC performance				<input type="checkbox"/>	<input type="checkbox"/>
		C406.3.1 Reduced lighting power - 10%	1			<input checked="" type="checkbox"/>	<input type="checkbox"/>
		C406.3.2 Reduced lighting power - 20%				<input type="checkbox"/>	<input type="checkbox"/>
		C406.4 Enhanced digital lighting controls				<input type="checkbox"/>	<input type="checkbox"/>
		C406.5 On-site renewable energy				<input type="checkbox"/>	<input type="checkbox"/>
		C406.5 On-site renewable energy (1/3)				<input type="checkbox"/>	<input type="checkbox"/>
		C406.5 On-site renewable energy (2/3)				<input type="checkbox"/>	<input type="checkbox"/>
		C406.6 Dedicated outside air systems (DOAS)	2			<input checked="" type="checkbox"/>	<input type="checkbox"/>
		C406.7 High performance DOAS				<input type="checkbox"/>	<input type="checkbox"/>
		C406.8 Reduced service water heating energy use				<input type="checkbox"/>	<input type="checkbox"/>
		C406.9 Reduced service water heating energy use (R-1/R-2)	5			<input checked="" type="checkbox"/>	<input type="checkbox"/>
C406.10 Enhanced envelope performance				<input type="checkbox"/>	<input type="checkbox"/>		
C406.11 Reduced air infiltration				<input type="checkbox"/>	<input type="checkbox"/>		
Total Credits For Each Occupancy Type		8					
Area of Occupancy Type		75197					
Area-weighted Average Credits		8.0					
C406 Comments:							

Envelope Summary

ENV-SUM

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Project Info <i>Compliance forms do not require a password to use. Instructional and calculating cells are write-protected.</i>	Project Title: St Luke's Affordable	Date: 11/3/2023
	<i>Applicant Information. Provide contact information for individual who can respond to inquiries about compliance form information provided.</i>	
	Company Name: VIA - A Perkins Eastman Studio	For SDCI Use
	Company Address: 1809 7th Ave Ste. 800 Seattle, WA 98101	
	Applicant Name: Steve Fischer	
	Applicant Phone: 206 933-5553	
Applicant Email: s.fischer@perkinseastman.com		

Project Description	<input checked="" type="checkbox"/> New Building <input type="checkbox"/> Addition <input type="checkbox"/> Alteration <input type="checkbox"/> No Envelope Scope
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Envelope Project Scope <i>Select all that apply.</i>	<input type="checkbox"/> All Commercial <input checked="" type="checkbox"/> Group R - Commercial <input type="checkbox"/> Mixed Use - Commercial + Group R <input type="checkbox"/> Semi-heated <input type="checkbox"/> Refrigerated Cooler <input type="checkbox"/> Refrigerated Freezer <input type="checkbox"/> Equipment Building
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Envelope Description <i>Provide brief description of the project and relevant supporting documentation.</i> <i>If project includes multiple Target Insulation Allowance areas, and/or is demonstrating compliance as an Addition + Existing, Alteration + Existing, or Addition + Alteration + Existing project, provide a brief summary of the approach to</i>	The scope of the project is to remodel existing 1600 s.f. building for the Blind Tiger Offices. The project is demonstrating compliance as an Alteration + Existing project. The building will pursue component performance. Above grade walls and slab to remain. Roof, fenestration, and below grade walls to be altered or replaced.
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Air Barrier Testing <i>Air barrier testing is required for all new construction projects. Testing criteria is 0.25 cfm/ft² under test pressure of 0.3 inch w.g. To comply with C406.11, demonstrate that measured air leakage does not exceed 0.17 cfm/ft².</i>	<input checked="" type="checkbox"/> Air barrier testing per Section C402.5.1.2 included in project scope <input type="checkbox"/> Additional Efficiency Package Option - C406.11 Reduced Air Infiltration <input type="checkbox"/> Testing not required. Explanation:
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Compliance Documentation Scope and Method

Scope of This Calculation	<input checked="" type="checkbox"/> New Building <input type="checkbox"/> Addition <input type="checkbox"/> Alteration <input type="checkbox"/> No Envelope Scope
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Target Insulation Allowance <i>Sets the title and calculations in the compliance forms. Selection required to enable forms.</i>	<input checked="" type="radio"/> Fully Conditioned - Commercial, Group R, Mixed Use <input type="radio"/> Semi-heated <input type="radio"/> Refrigerated Cooler <input type="radio"/> Refrigerated Freezer <i>If project includes more than one Target Insulation Allowance area, and/or if project includes addition and alteration areas complying independently, for each area complete an ENV-SUM form Rows 16-55 and either an ENV-PRESCRIPTIVE form, or ENV-UA + ENV-SHGC forms if demonstrating compliance via component performance.</i>
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Envelope Compliance Path <i>Selection required to enable forms.</i>	<input type="radio"/> Prescriptive <input checked="" type="radio"/> Component Performance
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Component Performance Calculation Adjustments	<input type="checkbox"/> Change of Occupancy (C503.2) / Conditioning (C505)/C407 - 10% higher UA allowed <input type="checkbox"/> Substantial Alteration (C503.8) - 15% higher than C402.1.5 UA allowed <input type="checkbox"/> Additional Efficiency Package Option - C406.8 Enhanced Envelope - 15% lower UA allowed
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Envelope Summary, pg. 2

ENV-SUM

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Project Title: **St Luke's Affordable** Date: **11/3/2023**

Additions

☐ Addition stand alone ☐ Addition + Existing

Addition stand alone - Complete Vertical Fenestration and Skylight Area Calculation. Enter total existing-to-remain wall, roof, vertical fenestration and skylight areas as EXISTING. Enter total addition envelope assembly areas as NEW. If resulting total building WWR exceeds 30% and/or SSR exceeds 5%, refer to C502.2.1 and C502.2.2 for prescriptive compliance alternatives. If complying via component performance, complete ENV-UA per instructions for addition stand alone projects.

Addition + existing - Complete ENV-UA per instructions for addition + existing projects.

Alterations -

☐ Replacement windows only, or resulting ☐ Total building WWR increased by alteration

Fenestration and Skylight

☐ Replacement skylights only, or resulting total building SRR ≤ original SRR ☐ Total building SRR increased by alteration

WWR and SRR not increased - Vertical Fenestration and Skylight Area Calculation not required.

WWR and/or SRR increased - Complete Vertical Fenestration and Skylight Area Calculation. Enter total existing-to-remain wall, roof, vertical fenestration and skylight areas as EXISTING. Enter total altered envelope assembly areas as NEW. If resulting total building WWR exceeds 30% and/or SSR exceeds 5%, refer to C503.3.2 and C503.3.3 for prescriptive compliance alternatives. If complying via component performance,

Vertical Fenestration and Skylight Area Calculation

Prescriptive Path - Enter envelope sf values directly into this section of ENV-SUM for vertical fenestration, skylights, net walls and roof. For Additions and Alterations, refer to these sections in ENV-SUM for further instructions.

Component Performance - When this Envelope Compliance Path is selected, write-protection of this section is enabled. Enter envelope sf values for all assemblies into the ENV-UA form. Envelope information from

	Total Vertical Fenestration Area (rough opening)	NET Exterior Above Grade Wall Area	Total Skylight Area (rough opening)	NET Exterior Roof Area
New	9654	31535	0	10300
Existing	0	0	0	0
Total	9,654	31,535	0	10,300
	Vertical Fenestration-to-Wall Ratio (WWR) 23.4%		Skylight-to-Roof Ratio (SRR)	

Exempt Single Glass

Always enter exempt glazing area here.

Area

Enter area here and: if complying prescriptively exempt area MUST also be included in total vertical fenestration in cell D30; if complying via component performance do not enter exempt glazing on ENV-UA or ENV-SHGC.

Mechanical Equipment Penetrations

Always enter mech. equipment area here.

Area

Vertical Fenestration Area Compliance

Vertical Fenestration Area

VERTICAL FENESTRATION AREA COMPLIES WITH MAXIMUM ALLOWANCE

Skylight Area Compliance

Skylight Area

NO SKYLIGHT PROPOSED. COMPLIES WITH MAXIMUM ALLOWANCE.

Maximum Prescriptive Vertical Fenestration (0%)

35% per C402.4.1.1

Vertical Fenestration Alternates

☐ High performance fenestration U-factors and SHGC per C402.4.1.1.2
☐ 50% or more of CONDITIONED floor area is within DLZ per C402.4.1.1.1

Show locations of qualifying daylight zone areas and ft² on project plans.

For Daylight Zone Area Calculations -

- Sidelight areas include primary + secondary daylight zone areas.
- Include overlapping toplight and sidelight daylight zone areas under Toplight.

Daylight Zone Calculations

Daylight Zone Fenestration Alternate Not Selected. No Calculations Required	Sidelight Daylight Zone Area	Toplight Daylight Zone Area	Percent Daylight Zone Area

Street Level Retail

If C402.4.1 Street Level Retail glazing exception taken for any portion of building read Street Level Retail instructions on Readme

Street Level Retail

☐

Enter gross wall area per C402.4.1 exception requirements: **n/a**

Enter total window area in Street Level Retail qualified wall: **n/a**

Area of window transferred from other areas: **n/a**

Envelope Summary, pg. 3

ENV-SUM

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Project Title: St Luke's Affordable		Date: 11/3/2023			
Single Story Spaces Requiring Skylights <i>In these spaces a minimum of 50% of the floor area shall be within a skylight daylight zone (DLZ). Refer to C402.4.2 for requirements.</i> <i>SRR = Skylight to roof ratio</i>	<i>List all enclosed spaces that exceed 2,500 ft², have ceiling height greater than 15 ft, and are space types required to comply with this provision. Indicate aperture with "AP" prefix (AP 1.1%)</i>				
	Space	Area (ft ²)	DLZ Area (ft ²)	SRR or Aperture	Exception
Envelope Exemptions					
Low Energy and Semi-heated Spaces <i>Low energy spaces per C402.1.1.1 are exempt from the thermal envelope provisions. Uncooled, semi-heated spaces heated by systems other than electric resistance are exempt from wall insulation provisions only per C402.1.1.2.</i> <i>List all installed equipment in spaces claiming this exemption to verify eligibility based on installed peak heating and cooling capacity per sf.</i>					
Equipment Buildings <i>Equipment buildings are exempt from the thermal envelope provisions per C402.1.2.</i> <i>The following shall be met to be eligible: building size ≤ 500 sf, average wall/roof U-factor ≤ U-0.20, electronic equipment load ≥ 7 watts/sf, heating system output capacity ≤ 17,000 btu/h. Cooling system capacity not limited. Heat pumps can be larger than 17,000Btuh if cooling efficiency is 15% better than Table C403.3.2(2).</i>		Wall Insulation R-Value	Roof Insulation R-Value	Overall Average U-Factor	
	Equipment Building Envelope				
	Electronic equipment power (watts/sf)				
	Cooling system capacity (Btu/hr)				
	Heating system output capacity (Btu/hr)				
	Heat pump system capacity (Btu/hr)				
	Heat pump system cooling efficiency				
Heat pump code required cooling efficiency					

Envelope Requirements Summary, Part 1

ENV-REQ

2018 Seattle Energy Code Compliance Forms for Commercial Buildings including R2, R3, & R4 over 3 stories and all R1 Revised Oct 2021 rev. 3

Minimum Requirements
for Prescriptive Compliance

This table summarizes prescriptive compliance requirements for opaque elements and fenestration. Refer to Tables C402.1.3, C402.1.4 and C402.4 in the 2018 Seattle Energy Code for important footnotes that apply to these tables. Refer to Section C402 for all applicable requirements that apply for each envelope element type and applicable exceptions. Refer to Section C410 for all applicable information for refrigerated spaces.

Prescriptive Path	Table C402.1.3 Insulation Minimum R-Value		Table C402.1.4 Assembly Maximum U-factor		
	Occupancy Group	All Other	Group R	All Other	Group R
Opaque Elements					
Roofs					
Insulation Entirely above Deck	R-38 c.i.	R-38 c.i.	U-0.027	U-0.027	
Metal Building (with thermal spacer block) ^{Note 3}	R-25 + R-22 Ls	R-25 + R-22 Ls	U-0.027	U-0.027	
Attic and Other	R-49	R-49	U-0.021	U-0.021	
Joist or single rafter	R-49	R-49	U-0.027	U-0.027	
Walls, Above-grade					
Mass	Exterior R-16 c.i. ^{Note 6} , or Interior R-13 + R6 c.i. wood stud, or Interior R-13+R-10 c.i. metal stud		U-0.057	U-0.057	
Mass transfer deck slab edge	No R-Value for prescriptive compliance		U-0.200	U-0.200	
Slab penetrating thermal envelope wal	No R-Value for prescriptive compliance		U-0.100	U-0.100	
Metal Building	R-19 c.i., or R-13 + R-13 c.i.		U-0.052	U-0.052	
Steel Framed	R-13 + R-10c.i.	R-19 + R-8.5 c.i.	U-0.055	U-0.055	
Wood Framed and Other	R-13 + R-7.5 c.i.	R-13 + R-7.5 c.i., or R-20 + R3.8 c.i., or R25	U-0.051	U-0.054	
Below Grade Wall ^{Note 4}	Exterior: R-10 c.i. Interior: R-19 wood stud, or R-13 +R-6 c.i. metal stud		U-0.070	U-0.070	
Floors					
Mass	R-30 c.i.	R-30 c.i.	U-0.031	U-0.031	
Steel Joist	R-38 + R-10 c.i.	R-38 + R-10 c.i.	U-0.029	U-0.029	
Wood Joist	R-38	R-38	U-0.025	U-0.025	
Concrete column / wall penetrating floor	No R-Value for prescriptive compliance		U-0.55	U-0.55	
Concrete slab directly above electrical vault	No R-Value for prescriptive compliance		N.R.	N.R.	
Slab-On-Grade Floors					
Unheated	R-10 for 24 in. (from top of slab)		F-0.54	F-0.54	
Heated ^{Note 5}	R-10 perimeter & under entire slab		F-0.55	F-0.55	
Opaque Doors					
Swinging	U-0.37	U-0.37	U-0.37	U-0.37	
Nonswinging (except garage door < 14% glazed)	R-4.75	R-4.75	U-0.34	U-0.34	
Garage door < 14% glazing	No R-Value for prescriptive compliance		U-0.31	U-0.31	
Fenestration					
	Assembly Maximum U-factor ^{Notes 1,2}				
	Table C402.4 - 0-35% of wall area, or 35%-40% per Section C402.4.1.1 DLZ		Section C402.3.1.4 High Performance Fenestration Option - 0-40% of wall area		
Vertical Fenestration					
Class AW (fixed)	U-0.34		U-0.30		
Class AW (operable)	U-0.36		U-0.36		
Entrance doors	U-0.60		U-0.60		
All other (fixed)	U-0.26		U-0.22		
All other (operable)	U-0.28		U-0.24		
Skylights					
Skylights	U-0.45		U-0.45		
Fenestration					
	Assembly Maximum SHGC Factor				
Vertical Fenestration	PF<0.2: north - SHGC=0.51; all other SHGC=0.38 0.2 ≤ PF < 0.5: north - SHGC-0.56; all other - SHGC-0.45 PF ≥ 0.5: north - SHGC-0.61; all other - SHGC-0.61		PF<0.2: north - SHGC=0.46; all other SHGC=0.34 0.2 ≤ PF < 0.5: north - SHGC-0.50; all other - SHGC-0.40 PF ≥ 0.5: north - SHGC-0.55; all other - SHGC-0.55		
Skylights	SHGC-0.32		SHGC-0.32		
C410.2 Refrigerated Spaces Insulation					
	Insulation Minimum R-Value		Assembly Maximum U-factor		
Freezers - Walk-in and Warehouse					
Roof / Ceiling	R-32		U-0.030		
Wall	R-32		U-0.030		
Door	R-32		U-0.030		
Door - transparent reach-in	triple-pane, heat-reflective treated or gas				
Floor	R-28		U-0.035		
Coolers - Walk-in and Warehouse					
Roof / Ceiling	R-25		U-0.039		
Wall	R-25		U-0.039		
Door	R-25		U-0.039		
Door - transparent reach-in	double-pane, heat-reflective treated & gas fill, or comply with freezer door req.				
Floor	R-25		U-0.040		

Definitions:

Ls = Liner system -- A continuous membrane installed below the purlins and uninterrupted by framing members. Uncompressed, unfaced insulation rests on top of the membrane between the purlins. Refer to Section A102.2.5.4.

c.i. = Continuous insulation -- Insulation that is continuous across all structural members without thermal bridges other than service openings and penetrations by metal fasteners with a x-sectional area of less than 0.04% of the opaque surface area of the assembly (0.12% if the fasteners are stainless steel). Components with more than 0.04% metal penetrations (0.12% if stainless steel) may be eligible to follow the alternate CI values below.

int = Intermediate framing -- Includes insulated headers, corners and interior partition wall to exterior wall intersections. Refer to Section A103.2 for framing definitions.

Footnote Summary:

Each table in the 2018 SEC has footnotes applicable to specific information provided in the table. This footnote summary provides only abbreviated details from these footnotes. **Refer to 2018 Seattle Energy Code for complete footnote information.**

Note 1 - Assembly descriptions can be found in Chapter 2 and Appendix A.

Note 2 - Use of assembly U-factors, C-factors and F-factors from Appendix A and Chapter 3 are required unless otherwise allowed by the provisions of this Code.

Note 3 - For metal building roofs where using R-value compliance method, a thermal spacer block with a minimum R-value of 3.5 is required. Otherwise use the U-factor compliance method.

Note 4 - Reserved.

Note 5 - Heated slab F-factors shall be determined specifically for heated slabs. Unheated slab F-factors shall not be used.

Note 6 - Reserved. (CMU walls must comply with full mass wall requirements in Seattle.)

Note 7 - Components with continuous insulation but with metal penetrations / connections may be eligible for alternate continuous insulation R-values if all provisions in applicable footnote are met. Refer to alternate prescriptive R-values in table below and Footnote J in Table C402.1.3 for eligibility requirements.

Alternate continuous insulation nominal R-values

This alternate nominal R-value compliance option is allowed for projects complying with all of the following:

1. The ratio of the cross-sectional area, as measured in the plane of the surface, of metal penetrations of otherwise continuous insulation to the opaque surface area of the assembly is greater than 0.0004 (0.04%), **but less than 0.0008 (0.08%), for use of Column B equivalents, and greater than or equal to 0.0008 (0.08%),** but less than 0.0012 (0.12%), **for use of Column C equivalents.**

a. Where all metal penetrations are stainless steel, Column B is permitted to be used for penetrations greater than 0.12% but less than 0.24% of opaque surface area, and Column C is permitted to be used for penetrations greater than or equal to 0.24% but less than 0.48% of opaque surface area.

2. The metal penetrations of otherwise continuous insulation are isolated or discontinuous (e.g., brick ties or other discontinuous metal attachments, offset brackets supporting shelf angles that allow insulation to go between the shelf angle and the primary portions of the wall structure). No continuous metal elements (e.g., metal studs, z-girts, z-channels, shelf angles) penetrate the otherwise continuous portion of the insulation.

3. Building permit drawings shall contain details showing the locations and dimensions of all the metal penetrations (e.g.,

Column A Assemblies with continuous insulation (see definition)	Column B Alternate option for assemblies with metal penetrations, greater than 0.04% but less than 0.08%	Column C Alternate option for assemblies with metal penetrations, greater than or equal to 0.08% but less than 0.12%
R-9.5ci	R-11.9ci	R-13ci
R-11.4ci	R-14.3ci	R-15.7ci
R-13.3ci	R-16.6ci	R-18.3ci
R-15.2ci	R-19.0ci	R-21ci
R-30ci	R-38ci	R-42ci
R-38ci	R-48ci	R-53ci
R-13 + R-7.5ci	R-13 + R-9.4ci	R-13 + R-10.3ci
R-13 + R-10ci	R-13 + R-12.5ci	R-13 + R-13.8ci
R-13 + R-12.5ci	R-13 + R-15.6ci	R-13 + R-17.2ci
R-13 + R-13ci	R-13 + R-16.3ci	R-13 + R-17.9ci
R-19 + R-8.5ci	R-19 + R-10.6ci	R-19 + R-11.7ci
R-19 + R-14ci	R-19 + R-17.5ci	R-19 + R-19.2ci
R-19 + R-16ci	R-19 + R-20ci	R-19 + R-22ci
R-20 + R-3.8ci	R-20 + R-4.8ci	R-20 + R-5.3ci
R-21 + R-5ci	R-21 + R-6.3ci	R-21 + R-6.9ci

Component Performance Path, pg. 1

ENV-UA

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Project Title: St Luke's Affordable							Date: 11/03/2023			
Target Insulation Allowance: Fully Conditioned Space - Commercial, Group R, Mixed Use							For SDCI Use			
Calculation Adjustments None										
Fenestration Area as % gross above-grade wall area 23.4% Max. Target: 35.0%										
Skylight Area as % gross roof area Max. Target: 5.0%										
Vertical Fenestration Alternates: None Selected on ENV-SUM										
For Stand-alone Projects ^{14,15} Vertical Fenestration							User Note			
Existing-to-remain Areas Skylights							Net Wall			
							Net Roof			
Envelope Component				Proposed UA			Target UA			
Cavity+CI		Plan/Detail #	U-factor Source & Table # ²	U-factor	x Area (A)	= UA (U x A)	U-factor	x Area (A)	= UA (U x A)	
Roofs	Deck	R= 54	A9103/ R312A		0.018	10300	189.5	0.027	10300	278.1
		R=						Above Deck Insulation U-0.027		
		R=								
	Mtl Bld	R=						0.027		
		R=						Metal Building U-0.027		
		R=								
	Joist/Rft	R=						0.027		
		R=						Joist/single rafter U-0.027		
		R=								
	Attic/Oth	R=						0.021		
		R=						Single raft, attic, other U-0.021		
		R=								
Opaque Walls - Above Grade ^{4,6,7}	Steel Frm	R= 21 + 6 c.i.	A9101/ W101	2018 WSEC Table A103.3.6.1(1)	0.068	6380	433.8	0.055	6380	350.9
		R=						Steel/metal frame U-0.055		
		R=								
	Mtl Bld	R=						0.052		
		R=						Metal Building U-0.052		
		R=								
	Wood/Oth	R= 25	A9101/ W222	2018 WSEC Table A103.3.1(5)	0.051	21904	1117.1	0.051	21904	1117.1
		R=						Wood Frame, other U-0.051		
		R=								
	Mass	R= 15	A9101/W000 & W030		0.061	230	14.0	0.057	2364	134.7
		R= 15	A9101/W000 & W030		0.061	2134	130.2	Mass Wall U-0.057		
		R=								
Transfer	R=						0.200			
	R=						Mass Transfer Deck U-0.20			
	R=									
Intr. Slab	R= 6 c.i.	A8004/1&3	Appendix A: Table A103.3.7.2	0.134	625	83.8	0.100	625	62.5	
	R=						Slab piercing wall ins U-0.10			
	R=									
Below Grd	Wall ⁴	R=					0.070			
		R=					Assumed to be Mass Wall U-0.07			
		R=								
Floors ⁸	Mass	R= 30	A9104/C2		0.029	3790	109.9	0.031	3790	117.5
		R=						Mass Floor U-0.031		
		R=								
	Mtl Joist	R=						0.029		
		R=						Joist/Framing, metal U-0.029		
		R=								
Wd Joist	R=						0.025			
	R=						Joist/Framing, wood U-0.025			
	R=									

Page 1 Subtotal

Area¹

UA

45363

2078

Area¹

UA

45363

2061

Component Performance Path, pg. 2

ENV-UA

2018 Seattle Energy Code Compliance Forms for Commercial Buildings including R2, R3, & R4 over 3 stories and all R1

Revised Oct 2021 rev. 3

Project Title: St Luke's Affordable						Date: 11/03/2023				
Fenestration Area as % gross above-grade wall area 23.4% Max. Target: 35.0%						For Building Department Use				
Skylight Area as % gross roof area Max. Target: 5.0%										
Building Component				Proposed UA			Target UA			
Ins. R		Plan/Detail #	F-factor Source & Table # ⁹	F-factor	x Perimeter	= FP(F x P)	F-factor	x Perimeter	= FP (F x P)	
Slab-on-grade ⁸	Unheated	R= 10	A9103/ F001B	C402.1.4	0.540	658	355.3	0.540	658	355.3
		R=						Slab-On-Grade U-0.55		
		R=								
	Heated	R=						0.550		
		R=						Heated Slab-On-Grade U-0.54		
Schedule ID			U-factor Source ^{10,11}	U-factor	x Area (A)	= UA (U x A)	U-factor	x Area (A)	= UA (U x A)	
Doors ^{6,9}	Swinging	A9201	C402.1.4	0.370	262	96.9	0.370	262	96.9	
							Opaque Swing Doors U-0.37			
	Garage							0.600		
							Garage Door, <14% Glaz. U-0.60			
	Other						0.340			
Vertical Fenestration ^{6,11}	AW, fixed						0.34			
							AW, Fixed U-0.34			
	AW, op.						0.36			
							AW, Operable U-0.36			
	Mtl entry						0.60			
							Metal Frame, Entrance Dr U-0.60			
	Other, fix.	A9210		0.260	6860	1783.6	0.26	7014	1823.6	
							Non-AW, Fixed U-0.26			
	Other, op.	A9210 (Storefront)		0.40	154	61.6	0.28	2640	739.2	
A9210			0.26	2550	663.0	Non-AW, Operable U-0.28				
All Types ¹¹	A9210 (Storefront)		0.40	90	36.0	0.45				
						All types U-0.45				
Refrigerated Space Freezer Floors				Proposed UA			Target UA			
CI		Plan/Detail #	U-factor Source & Table # ²	U-factor	x Area (A)	= UA (U x A)	U-factor	x Area (A)	= UA (U x A)	
Freezer Floor	R=									
	R=						Freezer Floor			
	R=									

	Area ¹	UA	Area ¹	UA
Page 2 Subtotal	10574	2996	10574	3015
Page 1 Subtotal	45363	2078	45363	2061
Project Total	55937	5075	55937	5076

TO COMPLY - The Proposed Total UA shall not exceed the Target Total UA.

Component Performance Compliance (UA)

UA COMPLIES

Refrigerated Space Windows In Doors^{12, 13}

		Plan/Detail #	Description	Cooler / Freezer	Double Pane Glass	Triple Pane Glass	Inert Gas Filled	Heat Reflective Treated Glass
Glazing in Doors	In Door							
	Reach in							

Note 1 - If vertical fenestration or skylight area exceeds maximum allowed per C402.4.1, then Target Area Adjustment of all applicable envelope elements will be calculated automatically by the compliance form. Refer to Target Area Adjustments worksheet for this calculation.

Note 2 - Opaque assembly U-factors shall come from Appendix A or be calculated per approved method as specified in C402.1.5.1.

Note 3 - Reserved.

Note 4 - Semi-heated spaces - For spaces eligible for this wall insulation exception, the UA calculation excludes all wall assemblies. However, wall area values are required to run the window-to-wall ratio calculation. Enter into form all wall types in the semi-heated space. Enter the sf area of each wall type and enter "1" for the U-factor.

Note 5 - Mass transfer slab edges must be covered with an assembly having an overall U-factor of 0.2.

Note 6 - Demising walls, doors, and vertical fenestration separating spaces with different degrees of space conditioning (unconditioned, semi-heated, fully conditioned) shall be included only on the ENV-UA form for the space with the greatest degree of space conditioning.

Note 7 - Enter mechanical equipment penetrations (C402.1.4.2) as the wall type of the surrounding wall. If total penetration area is less than or equal to 1% of net above grade wall (ENV-SUM, E34), the proposed U-factor shall be equal to that of the surrounding wall and does not need to be separately listed. If total penetration area is greater than 1% of net wall then the penetrations must be entered separately and the proposed U-factor shall be U-0.5.

Note 8 - Concrete columns and walls penetrating the floor insulation and concrete slab floors directly above electrical vaults do not need to be listed as floors or slabs. These components comply without insulation while the remaining floor must be fully insulated.

Note 9 - Slab-on-grade F-Factors shall come from Appendix A or calculated per approved method as specified in C402.1.5.1.

Note 10 - Opaque door U-factors shall come from Appendix A or calculated per approved method as specified in C402.1.5.1. A door is defined as opaque if less than 50% of the door area has glazing.

Note 11 - Fenestration assembly U-Factors shall be the manufacturer's NFRC product rating, which includes the glazing and frame, or shall be the default value per Section C303.1.3.

Note 12 - Refrigerated Coolers - Target U-factors for cooler roof, wall and door assemblies are per C410. Enter proposed information under the most similar assembly type. Target F-factors for slab-on-grade floors are per C402. Target U-factors for floors that separate a cooler from a non-cooler space (unconditioned and conditioned) are per C402. Target U-factors for vertical fenestration (not within cooler doors) are per C402. Enter only the opaque portion of refrigerated space doors. Windows within doors and reach-in display case doors shall comply with C410 prescriptive requirements.

Note 13 - Refrigerated Freezers - Target U-factors for freezer roof, wall and door assemblies are per C410. Enter proposed information under the most similar assembly type. Target U-factor for insulated freezer floors is per C410. Insulation is required under the entire freezer floor. Enter proposed information in the Freezer Floor section. If the freezer floor assembly rests on top of a standard floor, the vertical edge of the freezer floor shall be entered as a section of freezer wall. If freezer floor insulation is installed as integral to or applied underneath a slab-on-grade or exposed floor, this floor area shall be thermally broken from the surrounding floor. Enter proposed thermal break information in the Freezer Floor section and note it as In-Floor Thermal Break. Enter only the opaque portion of freezer doors. Windows within doors and reach-in display case doors shall comply with C410 prescriptive requirements.

Note 14 - Stand alone projects - Enter total existing-to-remain sf areas for net above grade walls (including opaque doors), net roof, vertical fenestration and skylights in section provided at top of ENV-UA form. Enter UA information for new envelope assemblies in Building Components section.

Note 15 - Addition + Existing, Alteration + Existing, Addition + Alteration + Existing projects - Enter sf areas and estimated U-factors for all existing-to-remain envelope assemblies in Building Components section. Identify these assemblies as EXISTING in U-factor Source & Table # column. Enter UA information for new addition and altered envelope assemblies in Building Components section. Existing and new information will

Vertical Fenestration Target Area Adjustment Calculations

All projects utilizing the street level retail glazing exception and those sharing window allowance with street level projects must submit the Maximum Target Vertical Fenestration Calculation.

If vertical fenestration area exceeds maximum allowed per Section C402.4.1, then Target Area Adjustment of all applicable envelope elements is required. This worksheet automatically calculates these adjustments and updates target areas in the ENV-UA and ENV-SHGC worksheets. Information shown in this worksheet is for reference only and is write-protected. Submit this Target Area Adjustment form with ENV-UA and ENV-SHGC forms.

VF = Vertical fenestration (exclude SLG) SG = Exempt Single Glazing AG = Above-grade wall (exclude SLW) SLW = Street level gross wall below ceiling height and 20' per C402.3.1	NW = Net above grade wall including opaque doors (excludes fenestration) Gross Exterior Above-Grade Wall Area = VF + NW DR = Opaque doors (NOT USED IN CITY FORM - Include area with net wall) SLG = Area of window in Street level qualified wall SLT = Window area transferred to Street Level Retail wall from other areas
--	---

Proposed Areas

	Vertical Fenestration	Exempt Single Glaze	Street Level Retail Transfer	Net Above Grade Wall
Project Areas ->	VF= 9654.0	SG=	SLT= n/a	NW= 31535.0
Existing Non-project Areas ->	VF=			NW=

Maximum Target Vertical Fenestration Calculation

Gross Exterior AG Wall Area		Max Vert. Fen. % (C402.3.1)		Maximum Target Vert. Fen. Area
41189.0	X	35.0%	÷ 100	= 14416.2
Base Target Vert. Fen. Area		Window area transferred to Street Level Retail (SLT)		Maximum Target Vert. Fen. Area
14416.2	−			= 14416.2
			÷ Gross Exterior AG Wall	= Maximum Target Vert. Fen. %
			41189.0	= 35.0%

Vertical Fenestration Component Performance Target Area Adjustment Calculation

Total Vertical Fenestration		Maximum Target		Delta Vertical Fenestration		Excess Vertical Fenestration
9654.0	−	14416.2	=	-4762.2	↕ greater	=
				-4762.2		
Project Vertical Fenestration		Excess Vertical Fenestration		Target Vertical Fenestration		Total Vertical Fenestration
9654.0	−		=	9654.0	÷	9654.0
						= Target VF Multiplier
						= 1.00
Net AG Wall Area		Excess Fenestration		Target Net Wall Area		Net Wall
31535.0	+		=	31535.0	÷	31535.0
						= Target Net Wall Mult.
						= 1.00
Multiplier applied to all Proposed Vertical Fenestration Areas to calculate Target Vertical						
Multiplier applied to all Proposed Opaque Above-Grade Wall Areas to calculate Target Above-Grade Wall Area						

Target Areas - UA Commercial

Vertical Fenestration	Proposed Area	Target VF Mult.	Target Area
Type AW, fixed		X	=
Type AW, operable		X	=
Metal frame, entrance door		X	=
Other, non-AW, fixed	7014.0	X 1.00	= 7014.0
Other, non-AW, operable	2640.0	X 1.00	= 2640.0
Above-grade Wall	Proposed Area	Target Net Wall Mult.	Target Area
Steel Frame	6380.0	X 1.00	= 6380.0
Metal Building		X	=
Wood / Other frame	21904.0	X 1.00	= 21904.0
Mass	2364.0	X 1.00	= 2364.0
Mass Transfer Deck		X	=
Intermediate Slab piercing wall insulation	625.0	X 1.00	= 625.0
Sum of Proposed	40927.0	Sum of Target	40927.0

Target areas in shaded boxes are applied to target areas on ENV-UA

Sum of target above-grade wall and vertical fenestration areas are calculated to equal the sum of proposed

Target Areas - SHGC x A

Non-North Vertical Fenestration	Proposed Area	Target VF Mult.	Target Area
PF < 0.2	6710.0	X 1.00	= 6710.0
0.2 ≤ PF < 0.5		X	=
PF ≥ 0.5		X	=
North Vertical Fenestration	Proposed Area	Target VF Mult.	Target Area
PF < 0.2	2944.0	X 1.00	= 2944.0
0.2 ≤ PF < 0.5		X	=
PF ≥ 0.5		X	=

SHGC target areas in shaded boxes are applied to target areas on ENV-SHGC

Skylight Target Area Adjustment Calculations

If skylight area exceeds maximum allowed per Section C402.4.1, then Target Area Adjustment of all applicable envelope elements is required. This worksheet automatically calculates these adjustments and updates target areas in the ENV-UA and ENV-SHGC worksheets. Information shown in this

SKY= Skylight	NR - Net roof (excludes skylight)	Gross Exterior Roof Area = SKY + NR
---------------	-----------------------------------	-------------------------------------

Proposed Areas

		Skylight (Horizontal Fenestration)	Opaque Roof
Project Areas ->	SKY=		NR= 10300.0
Existing Non-project Areas ->	SKY=		NR=

Gross Exterior Roof Area		Max Skylight % (C402.3.1)			Maximum Skylight Fenestration Area
10300.0	X	5.0%	÷	100	= 515.0

Total Skylight Area	-	Maximum Target	=	Delta Skylight Area					
		515.0		-515.0		0			
						⇅ greater			
						-515.0			

Total Skylight Area	-	Excess Skylight	=	Target Skylight Area	÷	Total Skylight Area	=	Target SKY Multiplier

Multiplier applied to all Proposed Skylight Areas to calculate Target Skylight Area

Net Roof Area	+	Excess Skylight	=	Target Net Roof Area	÷	Net Roof	=	Target Net Roof Mult.
10300.0				10300.0		10300.0		1.00

Multiplier applied to all Proposed Opaque Roof Areas to calculate Target Roof Area

Target Areas - UA and SHGC x A

Skylight	Proposed Area	Target SKY Mult.	Target Area
All			

Roof	Proposed Area	Target Net Roof Mult.	Target Area
Insulation Above Deck	10300.0	1.00	10300.0
Metal Building			
Joist / Single Rafter			
Attic / All Others			

Sum of Proposed	10300.0	Sum of Target	10300.0
-----------------	---------	---------------	---------

Target areas in shaded boxes are applied to target areas on ENV-UA

Sum of target roof and skylight areas are calculated to equal the sum of proposed

SHGC Calculation

ENV-SHGC

2018 Seattle Energy Code Compliance Forms for Commercial Buildings including R2, R3, & R4 over 3 stories and all R1

Revised Oct 2021 rev. 3

Project Title: St Luke's Affordable		Date: 11/03/2023																														
Target Insulation Allowance: Fully Conditioned Space - Commercial, Group R, Mixed Use		For SDCI Use																														
Fenestration Area as % gross above-grade wall area 23.4% Max. Target: 35%																																
Skylight Area as % gross roof area Max. Target: 5%																																
Vertical Fenestration Alternates: None Selected on ENV-SUM																																
Notes: 1 - Proposed vertical fenestration and skylight areas entered in ENV-SHGC must match proposed fenestration areas in ENV-UA. 2 - If Target Area Adjustment is required per ENV-UA, then target areas will be automatically adjusted in ENV-SHGC. Refer to Target Area Adjustments worksheet for this calculation. 3 - Fenestration assembly SHGC shall be the manufacturer's NFRC product rating, or shall be the default value per Section C303.1.3. 4 - Fenestration that separates conditioned space from a non-conditioned space shall be included in this worksheet.																																
User Note																																
<table border="1"> <thead> <tr> <th colspan="2">Skylights</th> <th colspan="2">Proposed SHGC</th> <th colspan="2">Target SHGC</th> </tr> <tr> <th>Sch. ID</th> <th>Provide SHGC source and fenestration schedule ID</th> <th>SHGC</th> <th>x Area (A) = SHGC x A</th> <th>SHGC</th> <th>x Area (A) = SHGC x A</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td>0.32</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>SHGC</td> <td>0.32</td> </tr> <tr> <td colspan="3">Skylight Totals</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			Skylights		Proposed SHGC		Target SHGC		Sch. ID	Provide SHGC source and fenestration schedule ID	SHGC	x Area (A) = SHGC x A	SHGC	x Area (A) = SHGC x A					0.32						SHGC	0.32	Skylight Totals					
Skylights		Proposed SHGC		Target SHGC																												
Sch. ID	Provide SHGC source and fenestration schedule ID	SHGC	x Area (A) = SHGC x A	SHGC	x Area (A) = SHGC x A																											
				0.32																												
				SHGC	0.32																											
Skylight Totals																																

All Non-North Vertical Fenestration+				Proposed SHGC		Target SHGC ++			
Sch. ID	Provide SHGC source and fenestration schedule ID	PF	SHGC	x Area (A) = SHGC x A	PF Category	SHGC	x Area (A) = SHGC x A		
W3-W9, W13-W17	VPI Windows Fixed, A9210		0.22	4900	1078	PF < 0.2	0.38	6710	2549.8
W1, W2, W10-W12	VPI Windows Operable, A9210		0.18	1630	293	0.2 ≤ PF < 0.5	0.46		
2	Kawneer Storefront Framing Trifab 451, A9210		0.18	180	32	PF ≥ 0.5	0.61		
					++ If projection factor (PF) credits are applied to the proposed design, Target SHGC will sum fenestration area by PF category.				
+ If PF credit is applied, then vertical fenestration must be entered in the correct table according to orientation. If credit is not applied then all vertical fenestration can be entered in either table.				Non-North Window Totals		6710.0		1403.8	
						6710.0		2549.8	

North Vertical Fenestration+				Proposed SHGC		Target SHGC++			
Sch. ID	Provide SHGC source and fenestration schedule ID	PF	SHGC	x Area (A) = SHGC x A	PF Category	SHGC	x Area (A) = SHGC x A		
W6, W8, W13, W16	VPI Windows Fixed, A9210		0.22	2460	541	PF < 0.2	0.51	2944	1501.4
W2, W10, W12	VPI Windows Operable, A9210		0.18	420	76	0.2 ≤ PF < 0.5	0.56		
2	Kawneer Storefront Framing Trifab 451, A9210		0.18	64	12	PF ≥ 0.5	0.61		
					++ If projection factor (PF) credits are applied to the proposed design, Target SHGC will sum fenestration area by PF category.				
North Window Totals				2944.0		628.3			
						2944.0		1501.4	

TO COMPLY - The Proposed Total SHGC x A shall not exceed the Target Total SHGC x A.

Area	SHGC x A	Area	SHGC x A
Total (Skylight + Window)	9654.0	2032.1	9654.0
			4051.2

Component Performance Compliance (SHGC)

SHGC COMPLIES

Building Permit Plans Checklist, pg. 1

ENV-CHK

2018 Seattle Energy Code Compliance Forms for Commercial Buildings including R2, R3, & R4 over 3 stories and all R1

Revised Oct 2021 rev. 3

Project Title:St Luke's Affordable

Date11/3/2023

The following information is necessary to check a building permit application for compliance with the building envelope requirements in the Seattle Energy Code, Commercial Provisions.

Applicability (yes,no,na)	Code Section	Component	Compliance information required in permit documents	Location in Documents	SDCI Notes
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SCOPE

na	C402.1.1.1	Low energy spaces	Identify low energy spaces on plans; include calculations if applicable that demonstrate eligibility for envelope provisions exemption		
na	C402.1.1.2	Semi-heated spaces	Identify semi-heated spaces on plans, include mechanical heating system type and calculations that demonstrate eligibility for wall insulation exemption		
na	C402.1.1.3	Greenhouse spaces	Identify greenhouse spaces on plans; include non-opaque assembly information and mechanical heating system type if applicable, that demonstrates eligibility for envelope provisions exemption		
na	C402.1.2	Equipment buildings	Provide building sf area, average wall and roof U-factor, installed electrical and mechanical equipment information and heating setpoint restriction, that demonstrates eligibility for envelope provisions exemption		
na	C402.1.2.1	Standalone elevator hoistways	Provide building area, average wall and roof U-factor, installed mechanical equipment information and heating setpoint restriction, that demonstrates eligibility for envelope provisions exemption		
na	C410.2	Walk-in cooler and freezer spaces	Identify walk-in cooler and freezer spaces on plans; including site assembled, site constructed and prefabricated units		
na	C410.2	Warehouse cooler and freezer spaces	Identify warehouse cooler and freezer spaces on plans		
na	C101.4.1	Mixed residential & commercial building	Identify spaces with different occupancy requirements on plans		
na	C503.2	Change of space conditioning	Identify on plans existing unconditioned spaces changing to semi-heated or conditioned space, and existing semi-heated spaces changing to conditioned space, and uncooled spaces changing to cooled; provide calculations for existing and final level of space conditioning		
na	C503.8	Substantial alterations	Identify on plans building areas undergoing substantial alteration.		
na	C505.1	Change of occupancy	Identify on plans existing F, S and U-occupancy spaces undergoing a change in occupancy		
			Group R spaces permitted before July 1, 2002 that are undergoing a change to a commercial occupancy shall be identified on plans		
			Non-Group R occupancy spaces undergoing a change to Group R shall be identified on plans		

ENVELOPE PROVISIONS

yes	C103.2 C103.6.3 C402.1.3 C402.1.4 C402.1.5	Compliance documentation	Indicate envelope insulation compliance path and provide applicable forms; ENV-PRESCRIPTIVE or ENV-UA / ENV-SHGC for component performance	See NREC Form	
			If complying via component performance, demonstrate that the Proposed Total UA is equal to or less than the Allowable Total UA	See NREC Form	
			If complying via total building performance, demonstrate that the Proposed Total UA is equal to or less than 110% of the Allowable Total UA.	NA	
yes	C303.1.1 C303.1.2	Insulation identification	Indicate identification mark shall be applied to all insulation materials and insulation installed such that the mark is readily observable during inspection	See Arch Set	
yes	C303.1.3 C402.4.3	Fenestration product rating	Indicate fenestration products shall be labeled with NFRC U-factor, SHGC, VT and leakage rating, or if products do not have an NFRC rating, indicate applicable Chapter 3 default values	See A9210	
yes	C303.2	General insulation installation	Indicate installation methods, thicknesses, densities and clearances to achieve the intended R-value of all insulation materials;	See A9101	
			Where two or more layers of rigid insulation will be used, indicate that edge joints between layers are staggered, or exception taken	See A9101	
yes	C103.2 C402.2.1	Roof assembly insulation	Indicate R-value(s) of cavity/continuous insulation on roof sections;	See A9103	
			Indicate framing materials on roof sections;	See A9103	
			Indicate method of framing for ceilings below vented attics and vaulted ceilings per A102.2 (std, adv);	NA	
			Provide area weighted average U-factor calculation for insulation whose thickness varies by 1 inch or less;	See A9103	
			Indicate effective U-factors of tapered insulation entirely above deck per A102.2.6; include roof configuration and slope, maximum R-value at peak and minimum R-value at low point for all roof surfaces	See A9103	
			Indicate R-values for thermal spacers and each insulation layer, and liner system (LS) method for metal building roofs	NA	
na	C402.2.1.1	Skylight curb insulation	Indicate curb insulation R-value on roof section if not included in skylight NFRC rating		
yes	C402.2.1.2	Rooftop HVAC equipment curbs	Indicate rooftop HVAC equipment curb insulation R-value on roof section	See A2111	
yes	C103.2 C402.2.3 C402.2.4 C303.2.1	Above/below grade wall insulation	Indicate R-value(s) of cavity/continuous insulation on wall sections;	See A9101	
			Indicate framing materials on wall sections;	See A9101	
			Indicate method of framing for wood construction per A103.2 (std, int, adv);	See A9101	
			Indicate material density category, wall weight and heat capacity for qualifying mass walls;	NA	
			Indicate method of protection of exposed exterior basement/crawlspace wall insulation	NA	

Building Permit Plans Checklist, pg. 2

ENV-CHK

2018 Seattle Energy Code Compliance Forms for Commercial Buildings including R2, R3, & R4 over 3 stories and all R1					
Project Title: St Luke's Affordable				Date	11/3/2023
Applicability (yes,no,na)	Code Section	Component	Compliance information required in permit documents	Location in Documents	Building Department Notes
yes	C103.2 C402.4.4	Opaque doors	Indicate rated U-factor (swinging) or R-value (non-swinging - roll-up/sliding) on wall sections or in door schedules - applies to doors with less than 50% glazed area	See A9201	
na	C402.4.4	Garage doors	Indicate rated U-factor for sectional and tilt-up garage doors on wall sections or in door schedules along with the percent glazing; garage doors with 14%-50% glazing shall comply as opaque nonswinging doors		
yes	C402.1.3 C402.1.4	Continuous Insulation	For all assemblies containing continuous insulation indicate the type of fasteners being used, the material used in the fastener, other penetrations of the insulation, and provide a calculation of the total area of penetrations as a percent of the component area.	See A9101-A9104	
yes	C402.2.5	Floor over outdoor or unconditioned space insulation	Indicate R-value(s) of cavity/continuous insulation on floor sections;	See A9103	
			Indicate framing material on floor sections;	See A9103	
			Indicate material density category and weight of qualifying mass floors	NA	
yes	C402.2.6 C303.2.1	Slab-on-grade floor insulation	Indicate R-value of continuous insulation on wall section or foundation detail;	See A9103	
			Indicate insulation extends down vertically and/or horizontally the required distance from top of slab;	See A9103	
			Indicate method of protection of exposed exterior slab edge insulation	See A9103	
na	C402.2.6 C303.2.1	Radiantly heated slab on-grade floor insulation	Indicate R-value of continuous insulation on wall section or foundation detail;		
			Indicate insulation extends down vertically from top of slab and then horizontally under the entire slab;		
			Indicate method of protection of exposed exterior slab edge insulation		
na	C402.2.8	Radiant heating system insulation	Indicate insulation R-value behind radiant panels, U-bend/headers and bottom surface of radiantly heated floors (other than radiantly heated slab-on-grade)		
na	C402.2.9	Cantilevered balconies	Provide R-10 thermal break at cantilevered concrete decks and balconies. For UxA calculation or energy modeling where no thermal break is provided, use the "exposed concrete" value from Table A103.3.7.2.		
na	C402.2.10	Intersection between fenestration frame and opaque wall	Align outer glass layer within 2 inches of continuous insulation layer. Insulate any space between fenestration frame and exterior of wall framing with R-3 insulation.		
na	C402.4, Exception	Single glazing for security or revolving doors	Up to 1% of exterior wall area can be single glazing, where used for security or revolving doors.		
yes	C402.4.1 C502.2.1 C503.3.2	Vertical fenestration maximum area	Provide total gross sf area of all above grade wall elements and rough opening sf area of all vertical fenestration elements in the building, for the prescriptive max allowed window-to-wall ratio (WWR) calculation in the WSEC envelope compliance reports; demonstrate compliance for each space conditioning category separately	See NREC Form	
na	C402.4.1, Exception	Street level retail glazing	For street level retail or other occupancies where Seattle Land Use Code requires transparency, up to 75% of the street-level wall can be glazing		
na	C402.4.1.1 C405.2.4.1 C502.2.1	Increased prescriptive maximum vertical fenestration area with daylight zones and controls	Provide calculations showing that not less than 50% of the total conditioned floor area is within a daylight zone; demonstrate compliance for each space conditioning category separately		
			Indicate in envelope plans that all lighting fixtures located within daylight zones shall be provided with daylight responsive controls per Section C405.2.4.1		
			Indicate that the VT of vertical fenestration is at least 1.1 times the rated SHGC or no less than VT-0.55, whichever is greater		
na	C402.4.1.3 C502.2.1 C503.3.2	Increased prescriptive maximum vertical fenestration area with high-performance glazing	Indicate high performance U-factors and SHGC values in fenestration schedules;		
			Indicate if an area-weighted U-factor is used for multiple fenestration elements within the same fenestration category per Table C402.4; provide U-factor calculations		
na	C402.1.5	Wall/vertical fenestration target area adjustment	Indicate if component performance with target area adjustment will be used to account for vertical fenestration area in excess of the prescriptive maximum allowed; include target area adjustment in WSEC envelope compliance reports		
na	C402.4.1 C502.2.2 C503.3.3	Skylight maximum area	Provide total gross sf area of roof, and rough opening sf area of all skylight elements in the building, for the prescriptive max allowed skylight-to-roof ratio (SRR) calculation in the WSEC envelope compliance reports; demonstrate compliance for each space conditioning category separately		
na	C402.1.5.2	Roof/skylight target area adjustment	Indicate if component performance with target area adjustment will be used to account for skylight area in excess of the prescriptive maximum allowed; include target area adjustment in WSEC envelope compliance reports		
yes	C402.4 C402.4.3.4 C303.1.3	U-factors, SHGC and VT for all fenestration assemblies	Indicate U-factors, SHGC and VT values in fenestration schedules;	See A9210	
			Indicate if an area-weighted U-factor is used for multiple fenestration elements within the same fenestration category per Table C402.3; provide U-factor calculations	NA	
			Indicate if values are NFRC or default; if default then specify frame type, glazing layers, gap width, low-e coatings, gas-fill	See A9210	
na	C402.4.3	Permanent shading devices	For windows with overhangs or permanent projection shading devices, provide projection factor calculations (Equation C4-6) and associated minimum SHGC for north and non-north orientations		

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ENV-CHK

2018 Seattle Energy Code Compliance Forms for Commercial Buildings including R2, R3, & R4 over 3 stories and all R1

Project Title: St Luke's Affordable				Date	11/3/2023
Applicability (yes,no,na)	Code Section	Component	Compliance information required in permit documents	Location in Documents	Building Department Notes
na	C402.4.2	Single story spaces requiring skylights	Provide list of enclosed, single story spaces that exceed 2,500 sf; for each space identify the space use, floor area, floor to ceiling height, whether skylights are installed, and any exception taken;		
			Provide calculations for percentage of conditioned floor area located within a toplit daylight zone; if exception is taken for spaces where the total floor area minus the sidelit zone area is less than 2,500 sf, include percentage of conditioned floor area located within a sidelit daylight zone in calculations		
			Provide calculations for percentage of skylight area in each space over 2,500 SF, OR;		
			Provide calculations for skylight effective aperture (Equation C4-5) for each space over 2,500 SF;		
			Indicate haze factor of skylight glazing material or diffuser		
na	C410.2	Walk-in and warehouse cooler and freezer envelope	Indicate insulation R-value in cooler and freezer wall and ceiling assemblies		
			Indicate cooler and freezer door insulation R-value; indicate method of minimizing infiltration (strip doors, curtains, spring-hinged doors, etc); provide automatic door closure (or note exception taken)		
			For transparent reach-in doors and fixed windows, indicate number of glass panes (double or triple pane); identify whether the interstitial spaces between panes is filled with inert gas or if panes are heat-reflective treated glass		

ADDITIONAL EFFICIENCY PACKAGE OPTION - ENHANCED ENVELOPE PERFORMANCE

na	C406.8	Enhanced envelope performance	To comply with additional efficiency package option, demonstrate envelope insulation compliance via component performance; provide ENV-UA / ENV-SHGC compliance forms; verify that building total UA is 15% lower than the Code target UA		
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AIR LEAKAGE

yes	C402.5.1.1	Air barrier construction and sealing	Identify location and provide diagram of continuous air barrier in plans and sections;	See G0000	
			Provide details for all joints, transitions in materials, penetrations in air barrier and note method of sealing (caulked, gasketed, or other approved method)	See G0000	
na	C402.5.3	Rooms containing open combustion fuel burning appliances used for space conditioning	Indicate that room(s) containing non-direct vent appliances is isolated from conditioned space by the thermal envelope with a sealed air barrier, including doorway gasketing and sealing around ductwork and piping penetrations;		
			Indicate walls, floor and ceiling of the room envelope are insulated to the same level required for exterior envelope, and combustion air ductwork that passes thru conditioned space is insulated to at least R-8		
na	C402.5.4	Access openings and doors to shafts, chutes, stairways and doors	Indicate locations of all doors and access openings to shafts, chutes, stairways and elevator lobbies;		
			Indicate method of sealing of these openings (gasketing, weatherstripping, other sealing method); or exception taken		
yes	C402.5.5 C403.3.7.8	Outdoor air intakes, exhausts and relief openings	Indicate locations of all stairway enclosure, elevator shaft and building pressurization relief openings, outside air intakes and exhaust openings;	See Mech Set	
			Note in envelope plans that all relief, outside air intake and exhaust openings shall be provided with dampers in accordance with Mechanical Section C403.7.8	See Mech Set	
yes	C402.5.8	Recessed lighting in building envelope	Indicate method of sealing between light fixture housing and wall or ceiling;	See Elec Set	
			Note in envelope plans that all recessed lighting fixtures shall be IC rated and have an air leakage rating not greater than 2 cfm per ASTM E283 test; include these requirements in lighting fixture schedules	See Elec Set	
na	C402.5.6	Loading dock seals	Indicate weather seal at cargo and loading dock doors		
yes	C402.5.7	Vestibules	Indicate locations and dimensions of vestibules for building entrances; also indicate vestibule information for exit-only doors in buildings where separate doors for entering and exiting are provided;	See A2101	
			Indicate locations of all building entrances and exit-only doors provided with an air curtain in lieu of a vestibule;	NA	
			Indicate exception and criteria utilized for all building entrances and exit-only doors that do not have a vestibule or air curtain;	NA	
			Indicate required performance for air curtains installed per Exception 7;	See G Set	
			For unconditioned vestibules, indicate which envelope assembly (interior or exterior) complies with the requirements for a conditioned space	NA	
			Indicate where doors are provided only to access outdoor seating areas	NA	
			Indicate in project documents that building enclosure air leakage testing is required for WSEC compliance;	See G Set	
			Provide area calculations that account for all six sides of the air barrier boundaries;	See G Set	
			For commercial buildings, indicate that building enclosure air leakage testing shall be performed per ASTM C779 (or equivalent method approved by the code official) and the target leakage rate is 0.25 cfm/ft2 (1.5 L/s*m2) at 0.3 in. wg (75 Pa);	NA	
			If the building is mixed residential / commercial and three stories or less above grade plane, indicate which building enclosure air leakage test procedure will be used for the Group R-2 / R-3 areas (Section R402.4.1.2 or C402.5.1.2); if per R402.4.1.2, indicate that the target leakage rate is 5 air changes per hour at 0.2 in. wg (50 Pa)	NA	
yes	C103.2 C402.5.1.2 R402.4.1.2	Building air leakage test	Include the following requirements in project documents: (1) Submit building enclosure air leakage test reports to jurisdiction and owner; (2) If initial test result exceeds 0.25 cfm/ft2 (1.5 L/s*m2), indicate that inspection and all practical corrective actions be completed and documented in the air leakage test report and the building shall be re-tested; (3) Indicate that corrective measures and retesting must be repeated until the test result is 0.40 cfm/ft2 (2.0 L/s*m2) or less; (4) Include air barrier test report in project close out documentation provided to building owner	See G Set	

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ENV-CHK

2018 Seattle Energy Code Compliance Forms for Commercial Buildings including R2, R3, & R4 over 3 stories and all R1

Revised Oct 2021 rev. 3

Project Title: St Luke's Affordable				Date	11/3/2023
Applicability (yes,no,na)	Code Section	Component	Compliance information required in permit documents	Location in Documents	Building Department Notes

ADDITIONAL EFFICIENCY PACKAGE OPTION - REDUCED AIR INFILTRATION

na	C406.9	Reduced air infiltration	To comply with additional efficiency credit, indicate in project documents that the building enclosure air leakage test results shall not exceed 0.17 cfm/ft2 at 0.3 in. wg (75 Pa); all documentation requirements per C103.2 and C402.5.1.2 apply		
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ALTERATIONS

na	C503.1	Roof alteration - insulation	For a roof alteration where existing ceiling cavities are exposed, indicate cavities are insulated to full depth at minimum nominal value of R-3.0 per inch		
	C503.3.1		For a roof covering replacement where insulation is installed entirely above the roof deck, indicate insulation complies with requirements for new construction per Tables C402.1.3 or C402.1.4		
na	C503.1	Wall and floor alteration - insulation	For a wall or floor alteration (floor over outdoor or unconditioned space) where existing envelope cavities are exposed, indicate cavities are insulated to full depth at minimum nominal value of R-3.0 per inch		
na	C503.3.2	Addition of vertical fenestration	Where the addition of new vertical fenestration results in a window-to-wall ratio (WWR) exceeding the prescriptive maximum allowed per C402.4.1, demonstrate method of compliance (prescriptive vertical fenestration alternate, component performance with target area adjustment for the alteration area and existing-to-remain areas combined, or total building performance per C407); demonstrate for each space conditioning category separately		
na	C503.3.3	Addition of skylights	Where the addition of new skylights results in a skylight-to-roof ratio (SRR) exceeding the prescriptive maximum allowed per C402.4.1, demonstrate method of compliance (component performance compliance with target area adjustment for the alteration area and existing-to-remain areas combined, or total building performance per C407), demonstrate for each space conditioning category separately		
na	C103.2	Change in space conditioning or occupancy compliance documentation	Indicate envelope alteration thermal performance compliance path (prescriptive or component performance with 110% allowance); provide WSEC envelope compliance reports		
	C103.6.3		If complying via total building performance with 110% allowance, provide a list of all proposed envelope component types, areas and U-values		
na	C503.2	Substantial alterations	Where a project is determined to be a substantial alteration, indicate which compliance path from Section C503.8.3 is selected and provide required calculations		
	C505.1				
PROJECT CLOSE OUT DOCUMENTATION					
yes	C103.6.3	Project close out documentation requirements	Indicate in plans that project close out documentation is required including applicable WSEC envelope compliance forms and calculations, and fenestration NFRC rating certificates	See G0000	

If "no" is selected for any question, provide explanation: