ENVELOPE COMPLIANCE SUMMARY

2018 WSEC Compliance Forms for Commercial Buildings including Group R2, R3 & R4 over 3 stories and all R1

Project & Applicant Information	**Project Title**	Bradley Heights Apartments Clubhouse - 2018 WSEC	For Building Department Use: City of Puyallup Building ACCEPTED JMontgomery 05/16/2024 10:21:46 AM	**Date: Feb 13, 2024**
	Project Address	202 27th Ave SE Puyallup, WA 98374		
	Applicant Name	Arik Espineli		
	Applicant Phone	206-364-3343		
	Applicant Email	aespineli@robisonengineering.com		

For questions about this report, contact WSEC Commercial Technical Support at 360-539-5300 or via email at com.techsupport@waenergycodes.com

General Occupancy	All Commercial	**General Building Use Type(s)**	Entmt/Assembly, Other	**Building Cond. Floor Area**	5,286
Project Scope	New Building	**Space Conditioning Categories**	Fully Conditioned	**Project Cond. Floor Area**	5,286
				Floors Above Grade	1
				Compliance Method	Compliance Method 1 - General
Envelope Project Description					

Envelope Compliance Scope and Method	**Scope**	**Space Conditioning Category**	**Compliance Method**	**WWR/SRR per Category**	**UA Calculation Adjustment**	**Fenestration Alternates**	**Compliance Verification**
	New Building	Fully Conditioned	Prescriptive	18.81% / 0%	None selected	No alternates selected	**COMPLIES**

Air Barrier Testing	Air barrier testing included in project scope	**Air Barrier Comments**	

Project Title	**Bradley Heights Apartments Clubhouse - 2018 WSEC**	**Date**	**Feb 13, 2024**

Scope & Space Conditioning	**NEW BUILDING - FULLY CONDITIONED**			**Compliance Verification**	**COMPLIES**
Window-to-wall Ratio	18.81%	**Skylight-to-roof-ratio**	0%	**Vertical Fenestration Alternate**	No alternates selected

Opaque Envelope Assemblies

				Insulation R-Values				
Roof/Ceiling	**Location in Documents**	**Assembly ID**	**Assembly Location**	**Cavity**	**Continuous (% penetration)**	**2nd Layer (MB Roof)**	**U-Factor**	**Net Area (SF)**
Attic and other	D1	5	Exterior	R-49	(< 0.04%)			5,494
	U-Factor Source:			U-Factor Source Description:				
	Roof Framing Type (Standard, Advanced): Standard			Roof Framing Material: Wood-framed				
	Ceiling/Attic Venting:			Is this assembly exterior or interior?: Exterior				
Walls	**Location in Documents**	**Assembly ID**	**Assembly Location**	**Cavity**	**Continuous (% penetration)**	**Insulated Wall Furring**	**U-Factor**	**Net Area (SF)**
Wood-framed and other - Commercial	D1	1	Exterior	R-21	R-0 (< 0.04%)			4,403
	Which insulation code target does wall comply with?: R-21 Cavity + Intermediate Framing			U-Factor Source:				
	U-Factor Source Description:			Wall Framing Type (Standard, Inter., Advanced): Intermediate				
	Framing Depth:			Framing Spacing:				
	Is this assembly exterior or interior?: Exterior							
Slab-on-grade Floors	**Location in Documents**	**Assembly ID**	**Assembly Location**	**Slab Edge**	**Under Slab**		**F-Factor**	**Perimeter Length (SF)**
Unheated slab	D2	1	At grade level	R-15				445
	Slab Insulation Method: 2 ft vertical (from top of slab downward)			F-Factor Source:				
	F-Factor Source Description:							

Fenestration & Opaque Door Assemblies

				Insulation R-Values				

Vertical Fenestration	Location in Documents	Assembly ID	Assembly Location	Shading (PF)	Fenestration SHGC	Fenestration U-Factor	Rough Opening (SF)	
Fixed - Class AW or site built	D3	STOREFRONT	Exterior		PF < 0.2	SHGC-0.38	U-0.30	373
	U-Factor & SHGC Source:			U-Factor Source Description:				
	Is this assembly exterior or interior?: Exterior							
Fixed - Class AW or site built	D6	STOREFRONT	Exterior		PF < 0.2	SHGC-0.38	U-0.30	452
	U-Factor & SHGC Source:			U-Factor Source Description:				
	Is this assembly exterior or interior?: Exterior							
Glazed Doors	**Location in Documents**	**Assembly ID**	**Assembly Location**	**Shading (PF)**	**Fenestration SHGC**	**Fenestration U-Factor**	**Rough Opening (SF)**	
Swinging entrance door	D3	STOREFRONT	Exterior		PF < 0.2	SHGC-0.38	U-0.30	25
	U-Factor & SHGC Source:			U-Factor Source Description:				
	Is this assembly exterior or interior?: Exterior			Is this a public entrance door?: Yes				
	Door enclosed within a vestibule?: No vestibule							
Swinging entrance door	D3	STOREFRONT	Exterior		PF < 0.2	SHGC-0.38	U-0.30	170
	U-Factor & SHGC Source:			U-Factor Source Description:				
	Is this assembly exterior or interior?: Exterior			Is this a public entrance door?: Yes				
	Door enclosed within a vestibule?: No vestibule							

FULL SIZED LEDGIBLE COLOR REPORT IS REQUIRED TO BE PROVIDED BY THE PERMITTEE ON SITE FOR ALL INSPECTIONS

MECHANICAL COMPLIANCE SUMMARY

2018 WSEC Compliance Forms for Commercial Buildings including Group R2, R3 & R4 over 3 stories and all R1

Project & Applicant Information	**Project Title**	Bradley Heights Apartments Clubhouse - 2018 WSEC	For Building Department Use:	**Date: Jun 30, 2023**
	Project Address	202 27th Ave SE Puyallup, WA 98374		
	Applicant Name	Arik Espineli		
	Applicant Phone	206-364-3343		
	Applicant Email	aespineli@robisonengineering.com		

For questions about this report, contact WSEC Commercial Technical Support at 360-539-5300 or via email at com.techsupport@waenergycodes.com

General Occupancy	All Commercial		**General Building Use Type**	Entmt/Assembly, Other	**Building Cond. Floor Area**	4,439
General Project Types	New Building	**New Building or Addition Mechanical Scope**	Single Zone Systems & Equipment	**Alteration Mechanical Scope**	**Project Cond. Floor Area**	4,439
					Floors Above Grade	1
					Compliance Method	Compliance Method 1 - General
Mechanical Project Description						

Mechanical Compliance Scope and Method	**Project Type**	**Mechanical Scope**	**Economizer Exception(s) Applied?**	**DOAS Ventilation Provided?**	**Higher Equipment Efficiency Option Applied?**	**Equipment Efficiency Compliance Verification**
	New Building	Single Zone Systems & Equipment	Yes	Yes	NA	**COMPLIES**
Additional Efficiency Credits Included (AEC)			**Dedicated outside air system (DOAS) option**			
Does building include occupancy classifications requiring DOAS?	No		**Does project include DOAS equipment?**			Yes
Based on project scope do TSPR requirements apply?	No		**Do all systems comply with Appendix D standard reference design or qualify for an exception to TSPR?**			No

Scope & Space Conditioning	**NEW BUILDING - SINGLE ZONE SYSTEMS & EQUIPMENT**	**Compliance Verification**	**COMPLIES**

Single Zone Air Systems Category - Heat pump, unitary, thru-wall, SDHV

Air Systems Summary Information

System/Equip ID	Quantity of Items	Supply Airflow Control	Ventilation Standard	Ventilation CFM (Total if Multiple Items)	Ventilation Air Source	Paired with DOAS	Ventilation energy recovery	Energy Recovery Efficiency (%)
HP-1-1		Constant volume	IMC Ventilation	125	Other System		Provided but not required	60
HP-1-2		Constant volume	IMC Ventilation	25	Other System		Provided but not required	60
HP-1-3		Constant volume	IMC Ventilation	150	Other System		Provided but not required	63
HP-1-4, HP-1-5	2	Constant volume	IMC Ventilation	450	Other System		Provided but not required	60
HP-1-6, HP-1-7	2	Constant volume	IMC Ventilation	400	Other System		Provided but not required	63

Air Systems & Equipment - Cooling

System/ Equip ID	Cooling System/Equip Type	Specific Type	Cooling Capacity per item (Btu/h)	AEC Efficiency Multiplier	Econo Exception Multiplier (FL & PL)	Combined Efficiency Multiplier (AEC & Econo)	Proposed Cooling Efficiency	CE Units	Proposed Part Load Efficiency	PL Units	Efficiency Compliance Verification
HP-1-1	Heat pump, air cooled	Split system	30,000	1	1.0	1	16.0	SEER		IEER	COMPLIES
HP-1-2	Heat pump, air cooled	Split system	8,900	1	1.0	1	19.0	SEER		IEER	COMPLIES
HP-1-3	Heat pump, air cooled	Split system	18,000	1	1.0	1	16.7	SEER		IEER	COMPLIES
HP-1-4, HP-1-5	Heat pump, air cooled	Split system	30,000	1	1.0	1	16.0	SEER		IEER	COMPLIES
HP-1-6, HP-1-7	Heat pump, air cooled	Split system	30,000	1	1.0	1	16.0	SEER		IEER	COMPLIES

Air Systems & Equipment - Heating

System /Equip ID	Heating System/Equip Type	Specific Type	Heat Pump Heating Capacity (Btu/h)	Cooling Capacity (Btu/h)	AEC Efficiency Multiplier	Proposed Heat Pump Heating Efficiency	HPH Units	Proposed Low OSA Temp Efficiency	LTH Units	Efficiency Compliance Verification

HP-1-1	Heat pump, air cooled, heating	Split system	34,000	30,000	1	9.2	HSPF		COP	COMPLIES
HP-1-2	Heat pump, air cooled, heating	Split system	10,000	8,900	1	10.0	HSPF		COP	COMPLIES
HP-1-3	Heat pump, air cooled, heating	Split system	20,000	18,000	1	9.5	HSPF		COP	COMPLIES
HP-1-4, HP-1-5	Heat pump, air cooled, heating	Split system	34,000	30,000	1	9.2	HSPF		COP	COMPLIES
HP-1-6, HP-1-7	Heat pump, air cooled, heating	Single package	34,000	30,000	1	9.2	HSPF		COP	COMPLIES

Air Systems & Equipment Details			
System/Equip ID	**Area(s) Served**	**Location In Project Documents - Plan/Detail #**	
HP-1-1	LEASING	M0.3	
	System/Equip ID for a single or multiple items?: Single item		
	Heating Section/Auxiliary Heating Type: Electric resistance (or None)		Economizer Compliance Method: Applying air-side economizer exception
	Air-side economizer exception applied: Exp 1 - DOAS paired with cooling system (Note equip location limitations)		WSEC Equip Efficiency Reference Table - Cooling: Table C403.3.2(2) - Unitary and Applied Heat Pumps
	Proposed Low OSA Temp Efficiency:		LTH Units: COP
	WSEC Equip Efficiency Reference Table - Heating: Table C403.3.2(2) - Unitary and Applied Heat Pumps		
HP-1-2	MAINTENANCE OFFICE	M0.3	
	System/Equip ID for a single or multiple items?: Single item		
	Heating Section/Auxiliary Heating Type: Electric resistance (or None)		Economizer Compliance Method: Applying air-side economizer exception
	Air-side economizer exception applied: Exp 1 - DOAS paired with cooling system (Note equip location limitations)		WSEC Equip Efficiency Reference Table - Cooling: Table C403.3.2(2) - Unitary and Applied Heat Pumps
	Proposed Low OSA Temp Efficiency:		LTH Units: COP
	WSEC Equip Efficiency Reference Table - Heating: Table C403.3.2(2) - Unitary and Applied Heat Pumps		
HP-1-3	YOGA ROOM	M0.3	
	System/Equip ID for a single or multiple items?: Single item		
	Heating Section/Auxiliary Heating Type: Electric resistance (or None)		Economizer Compliance Method: Applying air-side economizer exception
	Air-side economizer exception applied: Exp 1 - DOAS paired with cooling system (Note equip location limitations)		WSEC Equip Efficiency Reference Table - Cooling: Table C403.3.2(2) - Unitary and Applied Heat Pumps
	Proposed Low OSA Temp Efficiency:		LTH Units: COP
	WSEC Equip Efficiency Reference Table - Heating: Table C403.3.2(2) - Unitary and Applied Heat Pumps		
HP-1-4, HP-1-5	FITNESS	M0.3	
	System/Equip ID for a single or multiple items?: Multiple items w/ identical heating & cooling capacity		
	Heating Section/Auxiliary Heating Type: Electric resistance (or None)		Economizer Compliance Method: Applying air-side economizer exception
	Air-side economizer exception applied: Exp 1 - DOAS paired with cooling system (Note equip location limitations)		WSEC Equip Efficiency Reference Table - Cooling: Table C403.3.2(2) - Unitary and Applied Heat Pumps
	Proposed Low OSA Temp Efficiency:		LTH Units: COP
	WSEC Equip Efficiency Reference Table - Heating: Table C403.3.2(2) - Unitary and Applied Heat Pumps		
HP-1-6, HP-1-7	GREAT ROOM	M0.3	
	System/Equip ID for a single or multiple items?: Multiple items w/ identical heating & cooling capacity		
	Heating Section/Auxiliary Heating Type: Electric resistance (or None)		Economizer Compliance Method: Applying air-side economizer exception
	Air-side economizer exception applied: Exp 1 - DOAS paired with cooling system (Note equip location limitations)		WSEC Equip Efficiency Reference Table - Cooling: Table C403.3.2(2) - Unitary and Applied Heat Pumps
	Proposed Low OSA Temp Efficiency:		LTH Units: COP
	WSEC Equip Efficiency Reference Table - Heating: Table C403.3.2(2) - Unitary and Applied Heat Pumps		