ENVELOPE COMPLIANCE SUMMARY

2021 WSEC Compliance Forms for Commercial Buildings including Group R2, R3 & R4 over 3 stories and all R1

Project & Applicant Information	**Project Title**	Step by Step - Early Learning Center - 2021 WSEC	For Building Department Use: PRCNC20241019	**Date: Jun 23, 2024**
	Project Address	3303 8th ave S, BLDG E Puyallup, WA 98409		
	Applicant Name	Song Cho		
	Applicant Phone	509-432-4651		
	Applicant Email	songyi.cho@hotmail.com		
For questions about this report, contact WSEC Commercial Technical Support at 360-539-5300 or via email at com.techsupport@waenergycodes.com				

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning
Engineering | Public Works
Fire | Traffic

General Occupancy	All Commercial	**General Building Use Type(s)**	Education, Other	**Building Cond. Floor Area**	13,324
Project Scope	New Building	**Space Conditioning Categories**	Fully Conditioned	**Project Cond. Floor Area**	13,324
				Floors Above Grade	1
				Compliance Method	General Prescriptive
Envelope Project Description	Create an Early Learning Center, including Preschool, Toddler, Infant classrooms | Supporting office.				

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	Component performance	32.23% / 0%	None selected	No alternates selected	**COMPLIES**

Additional Energy Efficiency (AEC) Measures Included	No envelope or miscellaneous additional energy efficiency measures included in project	**Load Management (LDM) Measures Included**	No envelope or miscellaneous load management measures included in project
Air Barrier Testing	Standard building thermal envelope test	**Air Barrier Comments**	

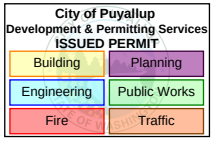
Project Title	**Step by Step - Early Learning Center - 2021 WSEC**	**Date**	**Jun 23, 2024**

Scope & Space Conditioning	**NEW BUILDING - FULLY CONDITIONED**			**Compliance Verification**	**COMPLIES**
Window-to-wall Ratio	32.23%	**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)**
Insulation entirely above deck	A4.1	A4.1	Exterior		R-38 (< 0.04%)		U-0.026	4,423
	Sloped Roof & Tapered Insulation: Not sloped			U-Factor Source:				
	U-Factor Source Description:							
Joist or single rafter	A4.1~4.2	A4.1~4.2	Exterior	R-38	R-10 (< 0.04%)		U-0.020	8,512
	U-Factor Source:			U-Factor Source Description:				
	Roof Framing Type: Standard			Roof Framing Depth (Inches):				
	Roof Framing Spacing (OC):			Roof Framing Material: Wood-framed				
	Ceiling/Attic Venting: Unvented							
Walls	**Location in Documents**	**Assembly ID**	**Assembly Location**	**Cavity**	**Continuous (% penetration)**	**Insulated Wall Furring**	**U-Factor**	**Net Area (SF)**
Wood-framed and other - Commercial	A4.1~4.2	A4.1~4.2	Exterior	R-30	R-0 (< 0.04%)		U-0.033	3,500
	Which code target does wall comply with?: Wall Assembly U-factor			U-Factor Source:				
	U-Factor Source Description:			Wall Framing Type: Standard				
	Framing Depth:			Other Framing Depth:				
	Framing Spacing (OC):							
Wood-framed and other - Commercial	A4.1~4.2	A4.1~4.2	Exterior	R-25	R-0 (< 0.04%)		U-0.025	5,488
	Which code target does wall comply with?: Wall Assembly U-factor			U-Factor Source:				

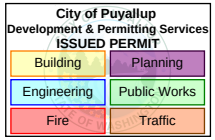
	U-Factor Source Description:			Wall Framing Type: Standard				
	Framing Depth:			Other Framing Depth:				
	Framing Spacing (OC):							
Slab-on-grade Floors	**Location in Documents**	**Assembly ID**	**Assembly Location**	**Slab Edge**	**Under Slab**		**F-Factor**	**Perimeter Length (SF)**
Unheated slab	A4.1~4.2	A4.1~4.2	At grade level	R-10			F-0.54	829
	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				
Opaque Doors	**Location in Documents**	**Assembly ID**	**Assembly Location**	**Door Insulation**			**U-Factor**	**Rough Opening (SF)**
Swinging	A2.11	A7.1	Exterior				U-0.37	84
	What percentage of this opaque door is glazing?: 50% or less			U-Factor Source:				
	U-Factor Source Description:			Is this a public entrance door?:				
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	A2.21~24	A7.1	Exterior		PF < 0.2	SHGC-0.38	U-0.34	498
	U-Factor & SHGC Source:			U-Factor Source Description:				
Fixed - All other types	A2.21~24	A7.1	Exterior		PF < 0.2	SHGC-0.33	U-0.26	2,417
	U-Factor & SHGC Source:			U-Factor Source Description:				
Glazed Doors	**Location in Documents**	**Assembly ID**	**Assembly Location**		**Shading (PF)**	**Fenestration SHGC**	**Fenestration U-Factor**	**Rough Opening (SF)**
Swinging entrance door	A2.21~24	A7.1	Exterior		PF < 0.2	SHGC-0.33	U-0.6	567
	U-Factor & SHGC Source:			U-Factor Source Description:				
	Is this a public entrance door?: Yes			Door enclosed within a vestibule?: No vestibule				
Garage door - > 50% glazed	A2.21~24	A7.1	Exterior		PF < 0.2	SHGC-0.33	U-0.5	832
	U-Factor & SHGC Source:			U-Factor Source Description:				



Project Title	Step by Step - Early Learning Center - 2021 WSEC	Date	Jun 23, 2024

U x A Calculation	NEW BUILDING - FULLY CONDITIONED				COMPLIES		
Opaque Envelope Assemblies		**PROPOSED**			**TARGET**		
Roof/Ceiling	**Assembly ID**	**Roof/Ceiling Assembly U-Factor**	**Net Area (SF)**	**U x A**	**Roof/Ceiling Assembly U-Factor**	**Net Area (SF)**	**U x A**
Insulation entirely above deck	A4.1	0.026	4,423.0	115.0	0.027	4,423.0 (1)	119.4
Joist or single rafter	A4.1~4.2	0.020	8,512.0	170.2	0.027	8,512.0 (1)	229.8
Walls	**Assembly ID**	**Wall Assembly U-factor**	**Net Area (SF)**	**U x A**	**Wall Assembly U-factor**	**Net Area (SF)**	**U x A**
Wood-framed and other - Commercial	A4.1~4.2	0.033	3,500.0	115.5	0.051	3,615.2 (1.0329)	184.4
Wood-framed and other - Commercial	A4.1~4.2	0.025	5,488.0	137.2	0.051	5,668.6 (1.0329)	289.1
Slab on Grade Floors		**PROPOSED**			**TARGET**		
Slab-on-grade Floors	**Assembly ID**	**F-Factor**	**Perimeter Length (LF)**	**U x A**	**F-Factor**	**Perimeter Length (LF)**	**U x A**
Unheated slab	A4.1~4.2	0.54	829.0	447.7	0.54	829.0 (1)	447.7
Fenestration Assemblies		**PROPOSED**			**TARGET**		
Opaque Doors	**Assembly ID**	**Door Assembly U-Factor**	**Assembly Rough Opening (SF)**	**U x A**	**Door Assembly U-Factor**	**Assembly Rough Opening (SF)**	**U x A**
Swinging	A7.1	0.37	84.0	31.1	0.37	86.8 (1.0329)	32.1
Vertical Fenestration	**Assembly ID**	**Fenestration U-Factor**	**Assembly Rough Opening (SF)**	**U x A**	**Fenestration U-Factor**	**Assembly Rough Opening (SF)**	**U x A**
Fixed - Class AW or site built	A7.1	0.34	498.0	169.3	0.34	463.6 (0.9309)	157.6
Fixed - All other types	A7.1	0.26	2,417.0	628.4	0.26	2,250.0 (0.9309)	585.0
Glazed Doors	**Assembly ID**	**Glazed Door U-Factor**	**Assembly Rough Opening (SF)**	**U x A**	**Glazed Door U-Factor**	**Assembly Rough Opening (SF)**	**U x A**
Swinging entrance door	A7.1	0.6	567.0	340.2	0.60	527.8 (0.9309)	316.7
Garage door - > 50% glazed	A7.1	0.5	832.0	416.0	0.28	774.5 (0.9309)	216.9

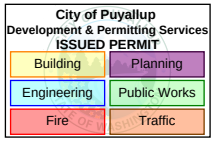
	Proposed Area	Proposed UxA	Target Area	Target UxA
Project Totals	**27,150**	**2,571**	**27,150**	**2,579**
				TARGET AREA ADJUSTING



Project Title	Step by Step - Early Learning Center - 2021 WSEC	Date	Jun 23, 2024

SHGC x A Calculation	NEW BUILDING - FULLY CONDITIONED					COMPLIES		
Fenestration Assemblies			PROPOSED			TARGET		
Glazed Doors	Assembly ID	PF	Glazed Door SHGC	Assembly Rough Opening (SF)	SHGC x A	Glazed Door SHGC	Assembly Rough Opening (SF)	SHGC x A
Swinging entrance door	A7.1	PF < 0.2	0.33	567.0	187.1	0.33	527.8 (0.9309)	174.2
Garage door - > 50% glazed	A7.1	PF < 0.2	0.33	832.0	274.6	0.33	774.5 (0.9309)	255.6
Vertical Fenestration	Assembly ID	PF	Fenestration SHGC	Assembly Rough Opening (SF)	SHGC x A	Fenestration SHGC	Assembly Rough Opening (SF)	SHGC x A
Fixed - Class AW or site built	A7.1	PF < 0.2	0.38	498.0	189.2	0.38	463.6 (0.9309)	176.2
Fixed - All other types	A7.1	PF < 0.2	0.33	2,417.0	797.6	0.38	2,250.0 (0.9309)	855.0

	Proposed Area	Proposed SHGC x A	Target Area	Target SHGC x A
Project Totals	4,314	1,449	4,016	1,461
				TARGET AREA ADJUSTING



LIGHTING COMPLIANCE SUMMARY

2021 WSEC Compliance Forms for Commercial Buildings including Group R2, R3 & R4 over 3 stories and all R1

Project & Applicant Information	**Project Title**	Step by Step - Early Learning Center - 2021 WSEC	For Building Department Use: City of Puyallup Development & Permitting Services ISSUED PERMIT (Building, Planning, Engineering, Public Works, Fire, Traffic) **Date: Sep 25, 2024**
	Project Address	3303 8th ave S, BLDG E Puyallup, WA 98409	
	Applicant Name	Song Cho	
	Applicant Phone	509-432-4651	
	Applicant Email	songyi.cho@hotmail.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**		Education, Other	**Building Cond. Floor Area**	13,324
General Project Types	New Building	**New Building or Addition Lighting Scope**	Interior Lighting Exterior Lighting	**Alteration Lighting Scope**		**Project Cond. Floor Area**	13,324
						Floors Above Grade	1
						Compliance Method	General Prescriptive
Lighting Project Description							

	Project Type	**Interior / Exterior** (Interior includes both interior & parking)	**Luminaire Replacement Scope**	**Compliance Method**	**LPA Calculation Adjustment**	**Compliance Verification**
Lighting Compliance Scope and Method	New Building	Interior Lighting		Building area	Reduced lighting power density option - 10%	**COMPLIES**
	New Building	Exterior Lighting			Not applicable to exterior	**COMPLIES**
Additional Energy Efficiency (AEC) Measures Included	Reduced lighting power density - 10% lower than LPA		**Load Management (LDM) Measures Included**		No lighting or electrical load management measures included in project	

Project Title	**Step by Step - Early Learning Center - 2021 WSEC**	**Date**	**Sep 25, 2024**
Lighting Power Calculation	**NEW BUILDING - INTERIOR LIGHTING**	**Compliance Verification**	**COMPLIES**
Compliance Method	**Building area**	**LPA Calculation Adjustment**	**LPA x 0.9**

Interior Lighting Power Allowance - Building Area

Building Areas	Gross Interior Area (SF)	LPA (Watts/SF)	Total Watts Allowed (SF x LPA x 0.9)	Total Proposed Watts By Building Area	Compliance Status by Building Area
School/university	13,025	0.70	8,206	7,931	COMPLIES

Proposed Lighting Power Density

Fixture Type/Application	Fixture ID	Building Area	New or Existing-to-Remain	Quantity of Fixtures, CLDs or Luminaires (#F)	Watts per Fixture, CLD or Luminaire (WpF)	Total Linear Feet (LF)	Watts per Linear Foot (WpLF)	Total Watts Proposed (#F x WpF) or (LF x WpLF)
Individual Fixtures								
Horizontal surface-mount	L2 / L2X	School/university	New	13	32			416
Recessed cove lighting	C2	School/university	New	8	37			296
Recessed downlight	B1 / B1X	School/university	New	69	15			1,035
Recessed downlight	L7 / L7X	School/university	New	15	37			555
Suspended	B2	School/university	New	4	20			80
Suspended	L1 / L1X	School/university	New	9	83			747
Suspended	L3 / L3X	School/university	New	20	50			1,000
Suspended	L4 / L4X	School/university	New	8	39			312
Suspended	L5 / L5X	School/university	New	8	76			608
Suspended	L6 / L6X	School/university	New	8	133			1,064
Suspended	L8 / L8X	School/university	New	5	139			695
Suspended	L4U	School/university	New	8	39			312
Suspended	L5A / L5AX	School/university	New	8	47			376
Wall-mounted	C1	School/university	New	13	31			403
Wall-mounted	C3	School/university	New	4	8			32

Project Title	**Step by Step - Early Learning Center - 2021 WSEC**	**Date**	**Sep 25, 2024**
Proposed Fixtures Details	**NEW BUILDING - INTERIOR LIGHTING**		

Fixture Type/Application	Fixture ID	Location in Documents	Lamp Type	Building Area	New or Existing-to-Remain
Individual Fixtures					
Horizontal surface-mount	L2 / L2X	E2 SERIES	LED	School/university	New
	Fixture Description: STRIP FIXTURE			Are these fixtures located within a daylight zone?: No	
	Do these fixtures require specific application lighting controls?: None required				
Recessed cove lighting	C2	E2 SERIES	LED	School/university	New
	Fixture Description: COVE LIGHTS			Are these fixtures located within a daylight zone?: No	
	Do these fixtures require specific application lighting controls?: None required				
Recessed downlight	B1 / B1X	E2 SERIES	LED	School/university	New
	Fixture Description: DOWNLIGHT			Are these fixtures located within a daylight zone?: Yes, controls provided	

	Daylight zone location(s): Sidelit daylight zones (primary and/or secondary)			Do these fixtures require specific application lighting controls?: None required		
Recessed downlight	L7 / L7X	E2 SERIES	LED	School/university	New	
	Fixture Description: RECESSED			Are these fixtures located within a daylight zone?: No		
	Do these fixtures require specific application lighting controls?: None required					
Suspended	B2	E2 SERIES	LED	School/university	New	
	Fixture Description: PENDANT			Are these fixtures located within a daylight zone?: Yes, controls provided		
	Daylight zone location(s): Sidelit daylight zones (primary and/or secondary)			Do these fixtures require specific application lighting controls?: None required		
Suspended	L1 / L1X	E2 SERIES	LED	School/university	New	
	Fixture Description: PENDANT			Are these fixtures located within a daylight zone?: Yes, controls provided		
	Daylight zone location(s): Sidelit daylight zones (primary and/or secondary)			Do these fixtures require specific application lighting controls?: None required		
Suspended	L3 / L3X	E2 SERIES	LED	School/university	New	
	Fixture Description: PENDANT			Are these fixtures located within a daylight zone?: Yes, controls provided		
	Daylight zone location(s): Sidelit daylight zones (primary and/or secondary)			Do these fixtures require specific application lighting controls?: None required		
Suspended	L4 / L4X	E2 SERIES	LED	School/university	New	
	Fixture Description: PENDANT			Are these fixtures located within a daylight zone?: Yes, controls provided		
	Daylight zone location(s): Sidelit daylight zones (primary and/or secondary)			Do these fixtures require specific application lighting controls?: None required		
Suspended	L5 / L5X	E2 SERIES	LED	School/university	New	
	Fixture Description: PENDANT			Are these fixtures located within a daylight zone?: Yes, controls provided		
	Daylight zone location(s): Sidelit daylight zones (primary and/or secondary)			Do these fixtures require specific application lighting controls?: None required		
Suspended	L6 / L6X	E2 SERIES	LED	School/university	New	
	Fixture Description: PENDANT			Are these fixtures located within a daylight zone?: Yes, controls provided		
	Daylight zone location(s): Sidelit daylight zones (primary and/or secondary)			Do these fixtures require specific application lighting controls?: None required		
Suspended	L8 / L8X	E2 SERIES	LED	School/university	New	
	Fixture Description: PENDANT			Are these fixtures located within a daylight zone?: Yes, controls provided		
	Daylight zone location(s): Sidelit daylight zones (primary and/or secondary)			Do these fixtures require specific application lighting controls?: None required		
Suspended	L4U	E2 SERIES	LED	School/university	New	
	Fixture Description: PENDANT			Are these fixtures located within a daylight zone?: Yes, controls provided		
	Daylight zone location(s): Sidelit daylight zones (primary and/or secondary)			Do these fixtures require specific application lighting controls?: None required		
Suspended	L5A / L5AX	E2 SERIES	LED	School/university	New	
	Fixture Description: PENDANT			Are these fixtures located within a daylight zone?: Yes, controls provided		
	Daylight zone location(s): Sidelit daylight zones (primary and/or secondary)			Do these fixtures require specific application lighting controls?: None required		
Wall-mounted	C1	E2 SERIES	LED	School/university	New	
	Fixture Description: VANITY			Are these fixtures located within a daylight zone?: No		
	Do these fixtures require specific application lighting controls?: None required					
Wall-mounted	C3	E2 SERIES	LED	School/university	New	
	Fixture Description: WALL WASHER			Are these fixtures located within a daylight zone?: No		
	Do these fixtures require specific application lighting controls?: None required					

Project Title	Step by Step - Early Learning Center - 2021 WSEC	Date	Sep 25, 2024
Lighting Power Calculation	**NEW BUILDING - EXTERIOR LIGHTING**	**Compliance Verification**	**COMPLIES**
Exterior Lighting Zone	**ZONE 2**	**Base Site Allowance**	**280**

Exterior Lighting Power Allowance

Exterior Surface	Surface Sub-Type	Surface Area (SF)	LPA (Watts/SF)	Linear Feet (LF)	LPA (Watts/LF)	Total Watts Allowed (LPA x SF) or (LPA x LF)	Total Proposed Watts	Compliance Status
Building grounds	Walkways < 10 feet wide	2,600	0.07			182		
					Base Site Allowance	280		
					Totals	462	416	COMPLIES

Proposed Exterior Lighting Power Density

Fixture Type	Fixture ID	Exterior Surface Type	Quantity of Fixtures (#F)	Watts or Wattage Limit per Fixture (WpF)	Total Linear Feet (LF)	Watts per Linear Foot (WpLF)	Total Watts Proposed (#F x WpF) or (LF x WpLF)
Individual Fixtures							
Pole top-mounted	P1 / P1X	Building grounds - Walkways < 10 feet wide	13	32			416
						Proposed Total LPD	**416**

Remaining Base Site Allowance Watts	**46**

Exterior Additional Lighting Power Allowance

Additional LPA Surface	Surface Sub-Type	Surface Area (SF)	LPA (Watts/SF)	# of Items	LPA (Watts per # of items)	Total Watts Allowed (LPA x SF) or (LPA x # of Items)	Total Proposed Watts by Surface Type	Proposed Watts Exceeding LPA	Compliance Status
Building façade		8,440	0.075			633	580		
							Total Proposed Watts Exceeding LPA	0	
							Remaining Base Site Allowance	46	COMPLIES

Proposed Exterior Additional Lighting Power Density

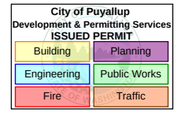
Fixture Type	Fixture ID	Additional LPA Surface Type	Quantity of Fixtures (#F)	Watts or Wattage Limit per Fixture (WpF)	Total Linear Feet (LF)	Watts per Linear Foot (WpLF)	Total Watts Proposed (#F x WpF) or (LF x WpLF)
Individual Fixture							
Canopy	E2	Building façade -	5	20			100
Facade	E4	Building façade -	6	4			24
Facade	E5	Building façade -	9	11			99
Wall-mounted	E1 / E1X	Building façade -	21	17			357

Project Title	**Step by Step - Early Learning Center - 2021 WSEC**	**Date**	**Sep 25, 2024**

Proposed Fixtures Details	**NEW BUILDING - EXTERIOR LIGHTING**

Fixture Type	Fixture ID	Location in Documents	Lamp Type	Exterior Surface Type	New or Existing-to-Remain
Individual Fixtures					
Pole top-mounted	P1 / P1X	E1.0	LED	Building grounds - Walkways < 10 feet wide	New
	Fixture Description: POLE TOP			Do these fixtures require specific exterior lighting controls?: Daylight sensing off controls	

Fixture Type	Fixture ID	Location in Documents	Lamp Type	Additional LPA Surface Type	New or Existing-to-Remain
Individual Fixture					
Canopy	E2	E2 SERIES	LED	Building façade -	New
	Do these fixtures require specific exterior lighting controls?: Daylight sensing off controls				
Facade	E4	E1.0	LED	Building façade -	New
	Do these fixtures require specific exterior lighting controls?: Daylight sensing off controls				
Facade	E5	E1.0	LED	Building façade -	New
	Do these fixtures require specific exterior lighting controls?: Daylight sensing off controls				
Wall-mounted	E1 / E1X	E2 SERIES	LED	Building façade -	New
	Do these fixtures require specific exterior lighting controls?: Daylight sensing off controls				



MECHANICAL COMPLIANCE SUMMARY

2021 WSEC Compliance Forms for Commercial Buildings including Group R1, R2, and Group R3 & R4 over 3 stories

Project & Applicant Information	**Project Title**	Step by Step Early Learning Center - 2021 WSEC	For Building Department Use:	**Date: Jun 21, 2024**
	Project Address	3303 8th AVE SE Building E Puyallup, WA 98372	City of Puyallup Development & Permitting Services ISSUED PERMIT Building / Planning Engineering / Public Works Fire / Traffic	
	Applicant Name	Rachel Benda		
	Applicant Phone	253-651-6780		
	Applicant Email	rbenda@middlebrookeng.com		

Mechanical Compliance Summary Scope - Compliance verification provided in this report is limited to code minimum efficiency requirements for mechanical equipment types defined in Tables C403.3.2(1) through C403.3.2(16) of the 2021 WSEC-C. This includes efficiency multipliers for economizer exceptions. Performance criteria for additional energy efficiency and load management measures ARE NOT included in this report. Additional documentation is required to demonstrate compliance with all other provisions of the energy code, including better than code efficiency criteria for Section C406. 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)**	Education, Preschool/Daycare	**Building Cond. Floor Area**	12,521
General Project Types	New Building	**New Building or Addition Mechanical Scope**	Central Plant Systems Single Zone Systems & Equipment	**Alteration Mechanical Scope**	**Project Cond. Floor Area**	12,521
					Floors Above Grade	1
					Overall Compliance Path	General Prescriptive
Mechanical Project Description	Install two VRF systems, as shown on plans. Install two DOAS systems, as shown on plans. DOAS system are provided with auxiliary electric heat per WSEC 403.1.4 exemption 16, sized at a 55F discharge temperature. Install packaged unit serving preschool with fabric supply duct. Space is served via natural ventilation and is not provided with a DOAS and heat recovery. Install electric resistance wall heaters in semi heated spaces. Freeze protection systems will have heat locked out above 45F per WSEC 403.1.4 exemption 15. Install radiant heaters in vestibules.					

Mechanical Compliance Scope and Method	**Project Type**	**Mechanical Scope**	**Economizer Exception(s) Applied?**	**DOAS Ventilation Provided?**		**Equipment Efficiency Compliance Verification**
	Building Addition	Central Plant Systems	Yes	NA		**COMPLIES**
	New Building	Single Zone Systems & Equipment	Yes	Yes		**COMPLIES**
Additional Energy Efficiency Measures (AEM)	Fault detection and diagnostics (FDD) systems			**Load Management Measures (LDM)**	No mechanical load management measures included in project	
Does building include occupancy classifications requiring DOAS?			Yes	**Does project include DOAS equipment?**		Yes
Based on project scope do TSPR requirements apply?			Yes	**Do all systems comply with Appendix D standard reference design or qualify for an exception to TSPR?**		No

Scope & Space Conditioning	**BUILDING ADDITION - CENTRAL PLANT SYSTEMS**	**Compliance Verification**	**COMPLIES**

VRF Multi-Split Systems Category - Heat pump outdoor unit

Cooling Equipment Efficiency Information

System ID	Cooling System Type	Specific Type	Cooling Capacity (Btu/h)	Econo Exception Multipliers (Full/IPLV)		Required Full Load Efficiency (Code Min + Econo)	Required Part Load Efficiency (Code Min + Econo)	Proposed Cooling Efficiency	CE Units	Proposed Part Load Efficiency	PL Units	Efficiency Compliance Verification
OU-02	VRF air-cooled HP	Heat pump w/ heat recovery	92,000	0	0	10.8	14.4	11.9	EER	19.3	IEER	COMPLIES
OU-01	VRF air-cooled HP	Heat pump w/ heat recovery	160,000	0	0	10.4	13.7	11.1	EER	21.4	IEER	COMPLIES

Heating Equipment Efficiency Information

System ID	Heating System Type	Specific Type	Heat Pump Heating Capacity (Btu/h)	Cooling Capacity (Btu/h) (Identical to Cooling Table)	Required Heat Pump Heating Efficiency	Required Low Water Temp Efficiency	Proposed Heat Pump Heating Efficiency	HE Units	Proposed Low Water Temp Efficiency	LWTH Units	Efficiency Compliance Verification
OU-02	VRF air-cooled HP, heating	Heat pump w/ heat recovery	108,000	92,000	3.3	2.25	3.6	COP	3.6	COP	COMPLIES
OU-01	VRF air-cooled HP, heating	Heat pump w/ heat recovery	180,000	160,000	3.2	2.05	3.2	COP	3.2	COP	COMPLIES

Equipment Details			
System ID	**Location in Project Documents - Plan/Detail #**	**Quantity of Fan Coil Units in VRF System**	**System/Equip Compliance Path**
OU-02	MH101,MH102,MH103,MH601,MH602	0	General Prescriptive
	Economizer Compliance Method: Economizer not required		Air-side economizer exception applied?: Exp 1 - DOAS paired with cooling system (Note equip location limitations)
	WSEC Equipment Efficiency Reference Table: Table C403.3.2(9) VRF Air-to-Air & Water Source Heat Pumps		
OU-01	MH101,MH102,MH103,MH601,MH602	0	General Prescriptive
	Economizer Compliance Method: Economizer not required		Air-side economizer exception applied?: Exp 1 - DOAS paired with cooling system (Note equip location limitations)
	WSEC Equipment Efficiency Reference Table: Table C403.3.2(9) VRF Air-to-Air & Water Source Heat Pumps		

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

Single Zone Air Systems Category - Air conditioner, packaged (PTAC, SPVAC, Room)

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 (%)
AHU-01		Variable air volume	IMC Natural Ventilation	0	Other System			

Air Systems & Equipment - Cooling

System/ Equip ID	Cooling System/Equip Type	Specific Type	Cooling Capacity per item (Btu/h)	Econo Exception Multiplier (Full)	Required Cooling Efficiency (Code Min + Econo)	Proposed Cooling Efficiency	CE Units	Efficiency Compliance Verification
AHU-01	Air conditioner, air cooled	Single package DX	258,790	0	10.0	10.4	EER	COMPLIES

Air Systems & Equipment Details

System/Equip ID	Discrete Area(s) Served	Location In Project Documents - Plan/Detail #	System/Equip Compliance Path
AHU-01	PRESCHOOL	MH101,MH102,MH103,MH601,MH602	General Prescriptive
	WSEC Equip Efficiency Reference Table - Cooling: Table C403.3.2(1) Unitary Air Conditioners & Condensing Units		
	Economizer Compliance Method: Air-side economizer provided		Heating Section/Auxiliary Heating Type: Electric resistance (or None)

Single Zone Air Systems Category - Dedicated outside air system (DOAS)

Air Systems Summary Information

System/Equip ID	Paired with other Systems/Equip	Ventilation Airflow Control	Ventilation Standard	Ventilation CFM	Ventilation energy recovery	Energy Recovery Efficiency (%)
DOAS-01,02	Paired w/ multiple systems and/or equipment	Constant volume	ASHRAE Standard 62.1	1180	Yes per C403.7.6 Energy Recovery	66.7

Air Systems & Equipment - Heating

System /Equip ID	Heating System/Equip Type	Specific Type	Heating Output Capacity (Btu/h)	Heat Pump Heating Capacity (Btu/h)	Cooling Capacity (Btu/h) (Identical to Cooling Table)	Required Heat Pump Heating Efficiency	Proposed Heat Pump Heating Efficiency	HPH Units	Efficiency Compliance Verification
DOAS-01,02	DOAS	Energy recovery ventilator (ERV)	0	0	0				COMPLIES

Air Systems & Equipment Details

System/Equip ID	Discrete Area(s) Served	Location In Project Documents - Plan/Detail #	System/Equip Compliance Path