

Lighting Summary

LTG-SUM

2015 Washington State Energy Code Compliance Forms for Commercial Buildings including R2, R3, R4 over 3 stories and all R1 Revised Nov 2017

Project Info <i>Compliance forms do not require a password to use. Instructional and calculating cells are write-protected.</i>	Project Title: Aegis I Mixed Used Bldg 'B'		Date										
	Applicant Information. Provide contact information for individual who can respond to inquiries about compliance form information provided.												
	Company Name: Aegis I Mixed Use Bldg 'B'		For Building Department Use										
	Company Address: 312 E. Evergreen Blvd., Vancouver, WA 98660												
	Applicant Name: Studio 3 Architects												
	Applicant Phone: 503.390.6500												
Applicant Email:													
Project Description		<input checked="" type="checkbox"/> New Building <input type="checkbox"/> Addition <input type="checkbox"/> Alteration <input type="checkbox"/> No Lighting Scope Include PROJ-SUM form (included in envelope forms workbook) with lighting compliance forms.											
Interior Lighting System Description <input checked="" type="checkbox"/> Interior Lighting Plans Included		Electrical lighting system comprised of 90% or better LED light fixtures and both manual & automatic controls as required by code, faor all interior and exterior common use spaces. Residential dwelling units are separately metered asn not included in this reposrt.											
Interior Lighting Power Allowance Method		<input type="checkbox"/> Building Area Method <input checked="" type="checkbox"/> Space-by-space Method Select method used in project.											
Interior Lighting Controls		<input checked="" type="checkbox"/> All C405.2.1 - C405.2.8 Lighting Controls <input type="checkbox"/> C405.2 Exception 5 Luminaire Level Lighting Controls (LLLC) <input type="checkbox"/> Additional Efficiency Package Option C406.4 Enhanced Digital Lighting Controls To comply with C406.4, no less than 90% of the total installed interior lighting power shall comply with the required controls per C406.4.											
Dwelling Unit Interior Lighting		Permanently installed interior lighting fixtures in dwelling units comply with: <div style="float: right;"> <input type="radio"/> No Dwelling Units </div> <div> <input type="radio"/> C405.2 thru C405.5 Commercial Lighting Controls and LPA <input checked="" type="radio"/> C406.3 High Efficacy Lighting <input type="radio"/> R404.1 Residential High Efficacy Lighting. </div> Dwelling unit lighting complies with WSEC Residential provisions in lieu of WSEC Commercial provisions.											
Exterior Lighting System Description <input checked="" type="checkbox"/> Exterior Lighting Plans Included		Exterior lighting shall be comprised of pole mounted and building mounted area lights . All fixtures to have LED lamps, night-sky friendly and controlled via photocell for dusk-till-dawn operation. The parking area pole lights shall include occupancy dimming for additional energy reduction.											
Building Additions Refer to Section C502.2.6 for additional requirements.		<table border="1"> <thead> <tr> <th>Compliance Method</th> <th>Interior lighting</th> <th>Exterior lighting</th> </tr> </thead> <tbody> <tr> <td>Lighting systems in addition area comply with all applicable provisions as a stand alone new construction project</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Lighting systems in addition are combined with existing building lighting systems to demonstrate compliance</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </tbody> </table> <p>Addition is combined with existing: For interior lighting projects, include new + existing-to-remain interior lighting fixture wattage in Proposed Lighting Wattage table in LTG-INT-BLD or LTG-INT-SPACE form. For exterior lighting projects, include new + existing-to-remain exterior lighting fixture wattage in Proposed Tradable and Proposed Non-Tradable Lighting Wattage tables in LTG-EXT form.</p>			Compliance Method	Interior lighting	Exterior lighting	Lighting systems in addition area comply with all applicable provisions as a stand alone new construction project	<input type="checkbox"/>	<input type="checkbox"/>	Lighting systems in addition are combined with existing building lighting systems to demonstrate compliance	<input type="checkbox"/>	<input type="checkbox"/>
Compliance Method	Interior lighting	Exterior lighting											
Lighting systems in addition area comply with all applicable provisions as a stand alone new construction project	<input type="checkbox"/>	<input type="checkbox"/>											
Lighting systems in addition are combined with existing building lighting systems to demonstrate compliance	<input type="checkbox"/>	<input type="checkbox"/>											

Lighting Summary, cont.

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Project Title: **Aegis I Mixed Used Bldg 'B'** Date

Change of Space Use

- ☐ Existing interior lighting systems in areas under-going a change in space use are upgraded to comply with LPAs for the new space types per Tables C405.4.2(1) or C405.4.2(2).

Identify interior spaces requiring LPD upgrade to the current Code in Proposed Lighting Wattage table in LTG-INT-BLD or LTG-INT-SPACE form.

Interior and Exterior Lighting Alterations

Select all Lighting Power and Lighting Control elements that apply to the scope of the retrofit project. If project includes a combination of spaces where less than 50% of the existing fixtures are replaced in some spaces, and 50% or more of the fixtures are replaced in others, then provide separate lighting power compliance forms for the two retrofit conditions. Spaces undergoing the same type of retrofit may be combined into one lighting power compliance form.

Refer to Section C503.6 for additional requirements.

All alteration lighting controls shall be commissioned per C408.3.

- ☐ No changes are being made to the interior or exterior lighting systems and existing space uses and configuration are not changed.

Lighting Power	Interior lighting	Parking garage	Exterior lighting
50% or more of existing are replaced	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Less than 50% of existing are replaced	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lamp and/or ballast replacement only – existing total wattage not increased	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>50% or more replaced - Total lighting power of new + existing-to-remain fixtures shall comply with total LPA per Sections C405.4.2 and C405.5.2. Include new + existing-to-remain fixtures in Proposed Lighting Wattage table in LTG-INT-BLD, LTG-INT-SPACE or LTG-EXT form.</p> <p>Less than 50% replaced - Total lighting power of new + existing-to-remain fixtures shall not exceed the total lighting power prior to alteration. Include new + existing-to-remain fixtures in the Proposed Lighting Wattage table in LTG-INT-BLD, LTG-INT-SPACE or LTG-EXT form.</p> <p>50% threshold applies to number of luminaires for interior spaces and parking garages, and total installed wattage for exterior luminaires.</p>			
Lighting Controls	Interior lighting	Parking garage	Exterior lighting
New wiring installed to serve added fixtures and/or fixtures relocated to new circuit(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
New or moved lighting panel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Interior space is reconfigured - luminaires unchanged or relocated only	<input type="checkbox"/>		
<p>New wiring or circuit - For interior lighting, provide required manual controls per C405.2.3, occupancy sensor controls per C405.2.1, daylight responsive controls per C405.2.4 and application specific lighting controls per C405.2.5. For exterior lighting, provide required controls per C405.2.7.</p> <p>New or moved panel - Provide all applicable lighting controls as noted for New Wiring and automatic time switch controls per C405.2.2.</p> <p>Reconfigured interior space - Provide all required lighting controls that apply to a new interior space. Application specific lighting control provisions per C405.2.5 do not apply to reconfigured spaces.</p>			

Interior Lighting - Space-By-Space Method

LTG-INT-SPACE

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Project Title: Aegis I Mixed Used Bldg 'B'			Date
Calculation Area <small>NOTE 9</small>	<input type="radio"/> New Construction <input type="radio"/> Addition - stand alone <input type="radio"/> Addition + existing <input type="radio"/> Spaces where < 50% of luminaires are replaced <input type="radio"/> Spaces where ≥ 50% of luminaires are replaced <input type="radio"/> Spaces where the Use is changing (C505)		For Building Department Use
	LPA Calculation Type: <input checked="" type="radio"/> Standard <input type="radio"/> Additional Efficiency Package Option C406.3 Reduced Interior Lighting Power <i>To comply with C406.3, the Proposed LPD shall be 25% lower than the Target LPA. Refer to C406.3 for additional requirements.</i>		
			User Note

Maximum Allowed Lighting Wattage NOTE 1

Location (plan #, room #)	Space Type	Ceiling Height <small>NOTE 2</small>	Gross Interior Area in ft ²	Allowed Watts per ft ²	Watts Allowed (watts/ft ² x area)
E2.01-E2.06	Lobby: all other	14	2662	0.720	1917
	Corridor: all other	8	8650	0.530	4585
	Electrical/mechanical	9	2499	0.760	1899
	Restroom: all other	8	79	0.780	62
	Storage room	14	1325	0.500	663
	Stairwell	8	2145	0.550	1180
	Gymnasium/fitness center: Exercise area	10	1076	0.580	624

Total Area **18436**

Retail Display Allowance from LTG-INT-DISPLAY

Lobby Art/Exhibit Display Allowance from LTG-INT-DISPLAY NOTE 8

Allowed Watts **10929**

Proposed Lighting Wattage NOTE 3

Location (plan #, room #)	Fixture Description <small>NOTE 4, 5, 6</small>	Number of Fixtures	Watts/Fixture <small>NOTE 7</small>	Watts Proposed
Lobby	C1 LED cove light 2w/lf	40	2	80
	C3 4" dia, LED recessed downlight	32	10	320
	LF14 9" dia LED surface downlight	14	16	224
	LF2 4ft linear pendant	6	56	336
	LF6 LED mini penadan	4	8	32
	C5 4" dai Adj LED downlight	3	8	24
	LF5 LED pendant	3	24	72
Corridors	C1 LED cove light 2w/lf	552	2	1104
	C3 4" dia. LED recessed downlight	29	10	290
	LF11 Wall Sconce	60	13	780
	LF14 9" dia. LED surface downlight	39	16	624
	C4 5" dia. LED recessed downlight	15	13	195
	C5 4" Adj LED Dwnlight	24	8	192
MECH/ELECT RMS	A1 4ft general purpose LED strip	23	24	552
RESTROOMS	C2 5" dia surface LED downlight	2	10	20
	LF7 Vanity light	1	7	7
BIKE STORAGE	LF12 linear LED pendant	6	112	672
	C2 5" dia surface LED downlight	2	10	20
STAIRWELLS	B1 4ft LED surface wraparound	24	19	456
FITNESS	LF12 linear LED pendant	9	112	1008
Proposed Retail Display Lighting from LTG-INT-DISPLAY				
Total Proposed Watts may not exceed Total Allowed Watts for Interior Lighting				7008

Interior Lighting Power Allowance

COMPLIES

Note 1 - List all unique space types per Table C405.4.2(2) that occur in the project scope. Select space type category from drop down menu.

Note 2 - Indicate ceiling height for atriums and spaces utilizing the ceiling height adjustment per Table C405.4.2(2), Footnotes d thru f.

Note 3 - List all proposed lighting fixtures including exempt lighting equipment and existing-to-remain fixtures.

Note 4 - For proposed Fixture Description, indicate fixture type, lamp type (e.g. T-8), number of lamps in the fixture, and ballast type (if included). For track lighting, list the length of the track (in feet) in addition to the fixture, lamp, and ballast information.

Note 5 - For lighting equipment eligible for exemption per C405.4.1, note exception number and leave Watts/Fixture blank.

Note 6 - Existing-to-remain fixtures shall be included in the Proposed Lighting Wattage table in the same manner as new fixtures. Identify as existing in fixture description.

Note 7 - For proposed Watts/Fixture enter the luminaire wattage for installed lamp and ballast using manufacturer or other approved source. For luminaires with screw-in lamps, enter the manufacturer's listed maximum input wattage of the fixture (not the lamp wattage). For low voltage lighting, enter the wattage of the transformer. For line voltage track/busway systems, enter the larger of the attached luminaire wattage or 50 watts/lineal foot, or enter the wattage limit of permanent current limiting device.

Note 8 - Lobby Art/Exhibit Display Allowance is independent of the Maximum Allowed Lighting Wattage. Enter all proposed lobby art/exhibit display fixtures in LTG-INT-DISPLAY form only.

Note 9 - Calculation Area Details:

- a. Lighting fixtures in a building addition may comply as a stand alone project, or they may be combined with the overall existing building lighting systems to demonstrate compliance. Refer to C502.1.
- b. For alterations and building additions, provide Space Types and gross interior areas in the Maximum Allowed Lighting Wattage table. If a building addition will comply as combined with the overall existing building lighting systems, include all applicable existing Space Types and gross interior areas.
- c. If less than 50% of existing lighting fixtures will be replaced, provide total existing lighting wattage (prior to alteration) in the space provided in the Maximum Allowed Lighting Wattage table.
- d. If lighting alteration project includes some building areas or spaces where < 50% of luminaires are replaced, and other areas or spaces where ≥ 50% of luminaires are replaced, then these areas or spaces may be documented separately. If multiple forms will be completed to demonstrate compliance for the total scope of the alteration project, describe scope covered in form in User Note section.

Exterior Lighting

LTG-EXT

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Project Title: Aegis I Mixed Used Bldg 'B'		Date: _____	
Exterior Lighting Zone	<input type="radio"/> Zone 1 <input checked="" type="radio"/> Zone 2 <input type="radio"/> Zone 3 <input type="radio"/> Zone 4 <i>Exterior Lighting Zone selection required to enable LTG-EXT form. Zones are defined in Table C405.5.2(1) and specified by the jurisdiction.</i>	For Building Department Use	
Calculation Area	<input checked="" type="radio"/> New construction <input type="radio"/> Addition - stand alone <input type="radio"/> Addition + existing <input type="radio"/> Alteration with < 50% ext. wattage replaced <input type="radio"/> Alteration with ≥ 50% ext. wattage replaced		
Building Grounds <i>Applies to individual luminaires > 100 Watts</i>	<input type="checkbox"/> Efficacy > 80 lumens/watt <input type="checkbox"/> Exemption _____ <input type="checkbox"/> Controlled by motion sensor		

Tradable Maximum Allowed Lighting Wattage ^{NOTE 1}				Base Site Allowance:	600
Tradable Surfaces	Surface Description	Area (ft ²), perimeter (lf) or # of items	Allowed Watts per ft ² or per lf	Allowed Watts x ft ² (or x lf) ^{NOTE 2}	
Main Entry Door	Building Main Entrance	12	20W/LF door	240	
Other Entry Door	Secondary building & retail entrances	24	20W/LF door	480	
Uncovered Parking and drives	Parking lot & drive	46552	0.06 W/ft ²	2793	
Total Allowed Tradable + Site Allowance Watts:					4114

Tradable Proposed Lighting Wattage ^{NOTE 3}

Tradable Surface	Fixture Description ^{NOTE 4, 5}	Number of Fixtures	Watts per Fixture ^{NOTE 6}	Watts Proposed
Main Entry Door	S3a LED downlight	4	27	108
Other Entry Door	S4 4" dia LED downlight	6	14	84
Uncovered Parking and drives	S1 LED post top area light	4	57	228
Uncovered Parking and drives	S2 twin head pole mount area light	6	38	228
Total Proposed Tradable Watts:				648

Total proposed tradable watts may not exceed the sum of total allowed tradable watts plus the base site allowance. Any base site allowance not needed to make tradable watts comply can be applied to individual non-tradable categories.

Non-Tradable Maximum Allowed Lighting Wattage ^{NOTE 1}

Site Allowance Remaining: 600

Non-Tradable Surfaces	Surface Description	Area (ft ²), perimeter (lf) or # of items	Allowed Watts per ft ² , lf or item	Allowed Watts x ft ² (or x lf) ^{NOTE 2}
Bldg. Façade	Façade Lighting	115	0.075 W/ft ²	9

Non-Tradable Proposed Lighting Wattage ^{NOTE 3, 7}

Non-Tradable Surface	Fixture Description ^{NOTE 4, 5}	Number of Fixtures	Watts per Fixture ^{NOTE 6}	Watts Proposed
Bldg. Façade	S3b LED wall sconce	37	10	370

Non-tradable proposed watts may not exceed allowed watts for any individual surface unless the total excess watts for all non-tradable surfaces are less than the remaining site allowance.

Non-Tradable Watts Exceeding LPA: 361

Remaining Site Allowance: 239

Exterior Lighting

COMPLIES WITH MAX. ALLOWANCE

- Note 1** - List all exterior surfaces per Table C405.5.2(2) that occur in the project scope. Select exterior surface categories from drop down menu.
Note 2 - **Unlit Message** - Enter lighting fixture information for this surface in Proposed Lighting Wattage table to generate Lighting Power Allowance.
Note 3 - List all proposed lighting fixtures including existing-to-remain fixtures.
Note 4 - For proposed Fixture Description, indicate fixture type, lamp type, number of lamps in the fixture, and ballast type (if applicable).
Note 5 - Existing-to-remain fixtures shall be included in the Tradable and Non-Tradable Proposed Lighting Wattage tables in the same manner as new fixtures. Identify as existing in fixture description.
Note 6 - For proposed Watts/Fixture enter the luminaire wattage for installed lamp and ballast using manufacturer or other approved source. For luminaires with screw-in lamps, enter the manufacturer's listed maximum input wattage of the fixture (not the lamp wattage). For low voltage lighting, enter the wattage of the transformer.
Note 7 - Automated Teller and Night Depositories - For each location, enter the number of ATM machines or depositories within that location. If there are multiple locations in the project, enter each location individually in the Non-Tradable Maximum Allowed Lighting Wattage table and identify the location in the Surface Description section.

Lighting, Motor, and Electrical Permit Checklist, Pg. 1

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Project Title: **Aegis I Mixed Used Bldg 'B'**

Date

The following information is necessary to check a permit application for compliance with the lighting, motor, and electrical requirements in the Washington State Energy Code, Commercial Provisions.

Applicability (yes,no,na)	Code Section	Component	Compliance information required in permit documents	Location in Documents	Building Department Notes
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LIGHTING CONTROLS

Yes	C405.2	Lighting controls, general	For all lighting fixtures, indicate lighting control method on plans for spaces and lighting zone(s) served, or exception taken	E1.21-E1.23,E2.01-E2.06	
Yes	C405.2	Luminaire level lighting controls (LLLC)	Indicate on plans all fixtures provided with LLLC in lieu of C405.2 lighting controls; provide description of control capabilities and performance parameters	E1.21-E1.23,E2.01-E2.06	
NA	C405.1	Lighting in dwelling units	For permanently installed lighting fixtures in dwelling units, indicate lighting control method on plans for spaces and lighting zone(s) served, or demonstrate compliance with high efficacy exception		
Yes	C405.2.3 C405.2.1.1 C405.2.2.2 C405.2.4 C405.2.5	Manual controls	Indicate on plans the method of manual lighting control (whether combined with occupancy sensor, automatic light reduction, daylight responsive or specific application controls), location of manual control device and area or specific application it serves	E1.21-E1.23,E2.01-E2.06	
Yes	C405.2.2.1 C405.2.2.2 C405.2.3	Manual interior light reduction controls	Indicate on plans which method of manual 50% lighting load reduction is provided, or whether lighting load is reduced via occupancy sensors or daylight responsive controls	E1.21-E1.23,E2.01-E2.06	
Yes	C405.2.2	Method of automatic shut-off control	Indicate on plans the method of automatic shut-off control during unoccupied periods (occupancy sensor, time switch or digital timer switch) for all lighting zones; Indicate locations where automatic shutoff is provided by other methods (occupancy sensor or digital timer switch) or which time switch control exception applies	E1.21-E1.23,E2.01-E2.06	
Yes	C405.2.1 C405.2.1.1	Occupancy sensor controls	Indicate on plans the spaces served by occupancy sensors; Indicate whether occupancy sensor controls are configured to be manual-on, automatic 50%-on, or serve a space eligible for automatic 100%-on per exception	E1.21-E1.23,E2.01-E2.06	
NA	C405.2.1.2	Occupancy sensor controls - warehouses	Indicate aiseways and open areas in warehouse spaces provided with occupancy sensor controls that reduce lighting power by 50%		
Yes	C405.2.2.1	Automatic time switch controls	Indicate locations of override switches on plans and the lighting zone(s) served, include area sq. ft.	E1.21-E1.23,E2.01-E2.06	
NA	C405.2.6	Digital timer switch	Indicate digital timer switch control includes: manual on/off, time delay, audible and visual indication of impending time-out		
NA	C405.2.4.2 C405.2.4.3	Daylight zones - Sidelight and toplight	Indicate primary and secondary sidelight daylight zone areas on plans, include sq. ft.; Indicate toplight daylight zone areas on plans, include sq. ft.; For small vertical fenestration assemblies (rough opening less than 10 percent of primary daylight zone) where daylight responsive controls are not required, provide fenestration area to daylight zone calculation(s)		
Yes	C405.2.4	Daylight responsive controls	Indicate on plans lighting zone(s) served by daylight responsive controls; Identify sidelight and toplight daylight zones that are not provided with daylight sensing controls and the exception(s) that apply; Indicate on plans the lighting load reduction method - continuous dimming, or stepped dimming that provides at least two even steps between 0%-100% of rated power; Indicate that daylight sensing controls are configured to completely shut off all controlled lights in the lighting zone	E1.21-E1.23,E2.01-E2.06	
Yes	C405.2.5	Additional controls - Specific application lighting controls	Identify spaces and lighting fixtures on plans that require specific application lighting controls per this section	E1.21-E1.23,E2.01-E2.06	
NA	C405.2.5 - Items 1&2	Display and accent lighting	Indicate on plans that display and accent lighting, and display case lighting are controlled independently from both general area lighting and other lighting applications within the same space; Indicate manual and automatic lighting control method		

Lighting, Motor, and Electrical Permit Checklist, Pg. 2

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Applicability (yes,no,na)	Code Section	Component	Compliance information required in permit documents	Location in Documents	Building Department Notes
NA	C405.2.5 - Item 3	Hotel/motel guest rooms	Indicate method of automatic control - vacancy or captive key control of all installed luminaires and switched receptacles in guest room		
NA	C405.2.5 - Item 4	Supplemental task lighting	Indicate method and location of automatic shut-off vacancy control for supplemental task lighting, including under-shelf or under-cabinet lighting		
NA	C405.2.5 - Item 5	Lighting for non- visual applications	Indicate on plans eligible non-visual lighting applications, include sq. ft. area of each lighting control zone; Indicate on plans that non-visual lighting are controlled independently from both general area lighting and other lighting applications within the same space; Indicate method of manual lighting control and applicable automatic lighting control		
NA	C405.2.5 - Item 6	Lighting equipment for sale or demonstration	Indicate on plans that lighting equipment for sale or demonstration are controlled independently from both general area lighting and other lighting applications within the same space; Indicate method of manual lighting control and applicable automatic lighting control		
Yes	C405.2.5 - Item 7	Means of egress lighting	Identify on plans egress fixtures that function as both normal and emergency means of egress illumination; Provide calculation of lighting power density of total egress lighting; If total egress lighting power density is greater than 0.02 W/sq. ft., indicate on plans egress fixtures requiring automatic shut-off during unoccupied periods; Indicate method of automatic shut-off control	E1.21-E1.23,E2.01- E2.06	
Yes	C405.2.7	Exterior lighting controls	Indicate on exterior lighting plans and fixture schedules the automatic lighting control method, control sequence, and locations served; For building facade and landscape lighting, indicate automatic controls shut off lighting as a function of dawn/dusk and fixed opening/closing time; For all other exterior lighting, indicate automatic controls shut off lighting as a function of available daylight; include control sequence that also reduces lighting power by at least 30% between 12am-6am, or from 1 hour after closing to 1 hour before opening, or based upon motion sensor	E1.02,E1.21-E1.23	
Yes	C405.5.1	Exterior building grounds lighting controls	For building grounds fixtures greater than 100 watts, indicate on plans whether fixtures have efficacy greater than 80 lumens or; are controlled by motion sensor, or are exempt lighting per C405.5.2	E1.02,E1.21-E1.23	
NA	C405.2.5 (listed after C405.2.7)	Area controls - Master control switches and circuit power limit	Indicate location(s) of master control switch(es) intended to control multiple independent switches; circuit breaker may not be used as a master control switch; Verify that no 20 amp circuit controlled by a single switch or automatic control is loaded beyond 80%		
ADDITIONAL EFFICIENCY PACKAGE OPTION - ENHANCED DIGITAL LIGHTING CONTROLS					
	C406.4	Enhanced digital lighting controls	To comply with additional efficiency package option, indicate on plans all interior lighting fixtures that are individually addressed and provided with continuous dimming, or exception taken; Include calculation of percent total installed interior lighting power that is configured with required enhanced lighting control functions (min 90% to comply with additional efficiency package option)		

Lighting, Motor, and Electrical Permit Checklist, Pg. 3

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The following information is necessary to check a permit application for compliance with the lighting, motor, and electrical requirements in the					
Applicability (yes,no,na)	Code Section	Component	Compliance information required in permit documents	Location in Documents	Building Department Notes
INTERIOR LIGHTING POWER & EFFICACY					
Yes	C405.4.1 C405.4.2	Total connected interior lighting power	Include all luminaires in lighting fixture schedule; indicate fixture types, lamps, ballasts, and manufacturer's rated watts per fixture;	E1.13 & E1.16	
			Identify spaces eligible for lighting power exemption on plans and in compliance forms; indicate the exception applied;		
			Identify lighting equipment eligible for lighting power exemption in fixture schedule and in compliance forms; indicate the exception applied;		
			Indicate that exempt lighting equipment is in addition to general area lighting and is controlled independently		
Yes	C405.3	Exit signs	Indicate location of exit signs on plans and rated watts per fixture in lighting fixture schedule (maximum 5 watts per side)	E1.21-E1.23,E2.01-E2.06	
NA	C405.1	Lighting in dwelling units - lamp efficacy	If high efficacy exception is applied to permanently installed lighting fixtures in dwelling units, indicate in lighting fixture schedule if lamps in fixtures are high efficacy per R404.1. Calculate percentage of fixtures with high efficacy lamps in project (min 75% to comply with exception).		
Interior Lighting Power Calculation - Indicate compliance path taken					
NA	C405.4.2.1	Building Area Method	Complete required compliance forms – proposed wattage per building area does not exceed maximum allowed wattage per building area; identify locations of building areas on plans		
Yes	C405.4.2.2	Space-By-Space Method	Complete required compliance forms – total proposed wattage does not exceed maximum allowed wattage; identify locations of space types on plans, including retail display areas, lobby art & exhibit display areas, and ceiling heights as applicable	INCLUDED	
ADDITIONAL EFFICIENCY PACKAGE OPTION - REDUCED INTERIOR LIGHTING POWER DENSITY					
NA	C406.3	Reduced lighting power density	To comply with additional efficiency package option, demonstrate in compliance forms that total connected interior lighting wattage is 25% less than the total maximum allowed lighting wattage via Building Area Method or Space-By-Space Method		
NA	C406.3	Reduced lighting power density - dwelling unit lamp efficacy	For project with dwelling units, to comply with additional efficiency package option indicate in lighting fixture schedule if lamps in interior fixtures have efficacy rating of 60 lumens per watt or more. Calculate percentage of fixtures with lamps that have this efficacy rating (min 95% to comply with option)		
EXTERIOR LIGHTING POWER & EFFICACY					
Yes	C405.5.2	Total connected exterior lighting power	Include all luminaires in lighting fixture schedule; indicate fixture types, lamps, ballasts, and manufacturer's rated watts per fixture;	E1.21-E1.23,E2.01-E2.06	
			Identify exterior applications eligible for lighting power exemption on plans and in compliance forms; indicate exception applied;		
			Indicate that exempt exterior lighting is controlled independently from non-exempt exterior lighting; include exception claimed for each fixture or group of fixtures under exception category		
Yes	Table C405.5.2(1)	Exterior lighting zone	Indicate building exterior lighting zone as defined by the AHJ	INCLUDED	
NA	C405.5.1	Exterior building grounds lighting	For building grounds fixtures rated at greater than 100 watts that are complying based on efficacy, indicate rated lamp efficacy (in lumens per watt) in fixture schedule		
Yes	C405.5.2	Exterior lighting power calculations	Complete required compliance form – proposed wattage for exterior lighting plus base site allowed does not exceed maximum allowed	INCLUDED	

Lighting, Motor, and Electrical Permit Checklist, Pg. 4

LTG-CHK

2015 Washington State Energy Code Compliance Forms for Commercial Buildings including R2, R3, R4 over 3 stories and all R1

Revised Nov 2017

Aegis I Mixed Used Bldg 'B'

Date

The following information is necessary to check a permit application for compliance with the lighting, motor, and electrical requirements in the

Applicability (yes,no,na)	Code Section	Component	Compliance information required in permit documents	Location in Documents	Building Department Notes
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LIGHTING ALTERATIONS

NA	C503.6	Interior and parking garage lighting fixture alterations	Where $\geq 50\%$ of existing luminaires in interior space(s) or parking garage are replaced; indicate compliance path (building area or space-by-space method); include all new and existing-to-remain luminaires in compliance form (LTG-INT-BLD or LTG-INT-SPACE); indicate proposed lighting wattage does not exceed maximum allowed per compliance path		
			Where $< 50\%$ of existing luminaires in interior space(s) or parking garage are replaced; indicate total existing lighting wattage in each space prior to alteration; include all new and existing-to-remain luminaires in LTG-INT-SPACE form; indicate proposed total lighting wattage in alteration area does not exceed total existing lighting wattage prior to alteration		
NA	C503.6	Exterior lighting fixture alterations	Where $\geq 50\%$ of existing exterior lighting wattage is replaced; include all new and existing-to-remain luminaires in LTG-EXT form; indicate proposed total exterior lighting wattage does not exceed maximum allowed		
			Where $< 50\%$ of existing exterior lighting wattage is replaced; indicate total existing lighting wattage prior to alteration; include all new and existing-to-remain luminaires in LTG-EXT form; indicate proposed total exterior lighting wattage does not exceed total existing wattage prior to alteration		
NA	C503.6	Interior lighting wiring alterations	Where new wiring is installed to serve new interior luminaires and/or luminaires are relocated to a new circuit; indicate lighting controls are provided (as applicable) - manual (C405.2.3); occupancy sensor (C405.2.1); daylight responsive (C405.2.4); specific application (C405.2.5); exit signs (C405.3)		
NA	C503.6	Exterior lighting wiring alterations	Where new wiring is installed to serve new exterior luminaires and/or luminaires are relocated to new circuit; indicate exterior lighting controls are provided (C405.2.7)		
NA	C503.6	Lighting panel alterations	Where a new lighting panel is installed or an existing panel is moved (all new raceway and conductor wiring); indicate lighting controls are provided (as applicable) - same provisions as wiring alterations; time switch controls and manual light reduction controls (C405.2.2)		
NA	C503.6	Interior space reconfiguration	Where interior space(s) is reconfigured (permanently installed walls or ceiling-height partitions); indicate lighting controls are provided (as applicable) - same provisions as lighting panel alterations		
NA	C504.2	Lighting repairs	Identify existing luminaires being upgraded with bulb and / or ballast replacement; indicate fixture alteration does not increase existing fixture wattage		
NA	C505.1	Change of space use	Identify spaces on plans where the building area type or space use type is being changed from one type to another per Tables C405.4.2(1) or (2)		
			Indicate compliance path (building area or space-by-space method); include all new and existing-to-remain luminaires in compliance form (LTG-INT-BLD or LTG-INT-SPACE); indicate proposed lighting wattage does not exceed maximum allowed per compliance path		

RECEPTACLES

Yes	C405.10	Controlled receptacles	Identify all controlled and uncontrolled receptacles on electrical plans in each space in which they are required; include receptacle configuration such as spacing between controlled and uncontrolled, duplex devices, etc;	E3.01/BLDG B	
			Indicate on plans whether the method of automatic control for each controlled receptacle zone is by occupant sensor or programmable time-of-day control		

Lighting, Motor, and Electrical Permit Checklist, Pg. 5

LTG-CHK

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Revised Nov 2017

Aegis I Mixed Used Bldg 'B'

Date

The following information is necessary to check a permit application for compliance with the lighting, motor, and electrical requirements in the

Applicability (yes,no,na)	Code Section	Component	Compliance information required in permit documents	Location in Documents	Building Department Notes
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MOTORS, TRANSFORMERS, ELECTRIC METERS, INTERIOR TRANSPORTATION

Yes	C405.6	Electrical transformers	Include electrical transformer schedule on electrical plans; indicate transformer size, efficiency, or exception taken	E1.11 & E1.14	
Yes	C405.7	Dwelling unit electrical energy consumption	Indicate on electrical plans that each dwelling unit in Group R-2 has a separate electrical energy meter	E1.17	
Yes	C405.8	Electric motor efficiency	Include all motors, including fractional hp motors, in electric motor schedule on electrical plans; indicate hp, rpm, rated efficiency, or exception applied	E1.12 & E1.15	
Yes	C405.9.1	Elevator cabs	For luminaires in each elevator cab, provide calculated average efficacy of combined fixtures that indicates efficacy is not less than 35 lumens per watt; Indicate rated watts per cfm for elevator cab ventilation fans do not exceed 0.33 watts per cfm; Indicate automatic controls that de-energize lighting and ventilation fans when elevator is stopped and unoccupied for a period of 15 minutes or more	PER MANUFACTURER	
NA	C405.9.2	Escalators and moving walks	Indicate escalators comply with ASME A17.1/CSA B44; automatic controls are configured to reduce operational speed to the minimum permitted when not in use		
Yes	C405.9.3	Regenerative drive	Indicate all one-way down or reversible escalators are provided with a variable frequency regenerative drive	PER MANUFACTURER	

DOCUMENTATION AND SYSTEM REQUIREMENTS TO SUPPORT COMMISSIONING (Cx)

Yes	C408.3	Scope of electrical power and lighting systems commissioning	Indicate that all electrical systems (receptacles, transformers, motors, vertical and horizontal transportation) for which the WSEC requires control functions and / or configuration to perform specific functions are required to be commissioned; Where total building lighting load is > 20 kW, or where total lighting load of luminaires requiring daylight sensing and / or occupancy control > 10 kW, indicate that all automatic lighting control systems are required to be commissioned; or provide building lighting power calculation demonstrating eligibility for exception;	DIV 26 SPECIFICATION SECTION 26 0800	
NA	C405.13 C408.1.1 C408.1.2 C408.1.4.2 C103.6	Commissioning requirements in construction documents	Indicate Cx requirements in plans and specifications for all applicable electrical and lighting control systems per C408; Include general summary with at minimum Items 1 thru 4 of the Cx plan per C408.1.2 including: narrative description of activities, responsibilities of the Cx team, schedule of activities including verification of project close out documentation per C103.6, and conflict of interest plan (if required); Include in general summary that a Cx project report or Compliance Checklist (Figure C408.1.4.2) shall be completed by the Certified Cx Professional and provided to the owner prior to the final electrical inspection		
Yes	C408.3.1	Functional performance testing criteria	Identify in plans and specifications the intended operation of all equipment and controls during all modes of operation, including interfacing between new and existing-to-remain systems	DIV 26 SPECIFICATION SECTION 26 0800	

PROJECT CLOSE OUT DOCUMENTATION

Yes	C103.6.3	Project close out documentation requirements	Indicate in plans that project close out documentation is required including WSEC lighting compliance forms and calculations that document all interior and exterior lighting area and / or surface types, lighting power allowances and installed densities	DIV 26 SPECIFICATION SECTION 26 0500	
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If "no" is selected for any question, provide explanation:

End of Lighting, Motor & Transformer Permit Documents Checklist
