



**COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
BUILDING AND SAFETY DIVISION**

Prescriptive and Mandatory Measures for Small Additions

**H002
7/1/17
Applicable Code(s):
2016 Building Energy
Efficiency Standards**

Site Address:	Permit #:
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- Is the proposed addition less than 300 square feet and Type V wood frame construction? Y N
- If no, this document may not be used and a CF1R-ADD-01-E is required to be submitted with plans.
- Does the added fenestration comply with maximum total area and maximum west facing area of this table? Y N
- If no, this document may not be used and a CF1R-ADD-01-E is required to be submitted with plans.
- Is the HVAC system existing and no alterations to the existing system proposed except the extension of ducts? Y N
- If no, a CF1R-ALT-03-E (CZ 6 & 16) or CF1R-ALT-04-E (CZ 8, 9 & 14) is required to be completed prior to permits.
- Are the ducts existing and no more than 40 feet of new ducts to be installed? Y N
- If no, a CF1R-ALT-03-E (CZ 6 & 16) or CF1R-ALT-04-E (CZ 8, 9 & 14) is required to be completed prior to permits.

2016 Building Energy Efficiency Standards				
		Component	< 300 sf Addition	
Building Envelope	Roofs/Ceilings ¹	Roof Insulation	EXEMPT	
		Ceiling Insulation	R-22 Class I or II vapor retarder required in CZ 14 & 16 ²	
		Radiant Barrier ³	REQ—CZ 6, 8, 9 & 14; NR—CZ 16	
	Walls	Above Grade	2X4 Framed ^{4,5}	R-13+5 or R-15+4—CZ 6; R-15+8—CZ 8, 9, 14 & 16 Class I or II vapor retarder required in CZ 14 & 16 ²
			2x6 Framed ^{4,5}	R-19+2 or R-25+0—CZ 6; R-19+5 or R-21+4—CZ 8, 9, 14 & 16 Class I or II vapor retarder required in CZ 14 & 16 ²
			2x8 Framed ^{4,5}	R-19+0—CZ 6; R-19+4 or R-25+2—CZ 8, 9, 14 & 16 Class I or II vapor retarder required in CZ 14 & 16 ²
		Below Grade	Mass Wall Interior ⁶	R-13—CZ 6, 8, 9 & 14; R-17—CZ 16
			Mass Wall Exterior ⁶	R-8—CZ 6, 8, 9 & 14; R-13—CZ 16
			Below Grade Interior ⁹	R-13—CZ 6, 8, 9 & 14; R-15—CZ 16
	Below Grade	Below Grade Exterior ⁹	R-5—CZ 6, 8 & 9; R-10—CZ 14; R-19—CZ 16	
		Floors	Slab Perimeter	R-7 in CZ 16, only
	Raised Wood		R-19	
			Roofing Products (Cool Roof)	NR
	Fenestration	Maximum U-Factor		0.32 (skylights 0.55 w/ maximum 16 sf)
		Maximum SHGC		0.25 (skylights 0.30 w/ maximum 16 sf)
		Maximum Total Area		Up to 75 sf or 30% of CFA, whichever is greater
		Maximum West Facing Area		Up to 60 sf
	HVAC System <small>7,8,9</small>	Whole House Fan		NR
		Ducts	Duct Insulation	R-6—All CZs
			Duct Location	Attic Allowed



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Component		< 300 sf Addition		
Domestic Hot Water System	Water Heating¹⁰	Storage Type	Permitted only for replacement of existing storage type WH	
		Instantaneous Type, No Tank	Permitted for a second WH installed as part of addition; Shall be ≤ 200,000 Btu/hr	
		Electric-Resistance	Only permitted if natural gas is not available AND ≤ 60 gallons	
		Recirculation Distribution Systems	Only Demand Recirculation Systems shall be used	
	Hot Water Piping	Piping Insulation^{11,12,13}		First 5 feet of hot & cold water pipes from storage tank
				All hot water piping w/ nominal diameter of ≥ 3/4 inch
				All piping associated with domestic hot water recirculation system regardless of pipe diameter
				Piping from heating source to storage tank or between tanks
				All hot water piping buried below grade ¹⁴
				All hot water pipes from heating source to kitchen fixtures

Footnotes:

1. Roof and ceiling insulation shall be installed in a ventilated attic.
2. Vapor retarder shall be installed on the conditioned space side of all insulation in exterior walls and attics with air-permeable insulation.
3. Radiant Barrier shall be installed below the roof deck and on all gable end walls.
4. Maximum U-factors of 0.065 in CZ 6 and 0.051 in CZ 8, 9, 14 & 16 required. Use Reference Joint Appendices JA4 Table 4.3.1 for alternative insulation to meet the required maximum U-factors.
5. Extensions of existing wood-framed walls may retain the dimensions of the existing walls and shall have cavity insulation of R-15 in 2x4 framing and R-19 in 2x6 or greater framing.
6. "Interior" denotes insulation installed between wood-framing members on the inside surface of the wall. "Exterior" denotes insulation installed continuous on the exterior surface of the wall.
7. When heating or cooling will be extended to an addition from the existing system(s), the existing heating and cooling equipment need not comply.
8. A supplemental heating unit may be installed in a space served directly or indirectly by a primary heating system, provided that the unit thermal capacity does not exceed 2 KW or 7,000 Btu/hr and is controlled by a time-limiting device not exceeding 30 minutes.
9. A minimum clearance of 5 feet shall be maintained from any dryer vent outlet to an outdoor condensing unit.
10. New systems using gas or propane water heaters to serve individual dwelling units shall include all of the following components:
 - a. A 120V electrical receptacle that is within 3 feet of the water heater and accessible to the water heater without obstructions,
 - b. A Category III or IV vent, or a Type B vent with a straight pipe between the space where the water heater is installed and the outside termination,
 - c. A condensate drain that is no more than 2 inches higher than the base of the installed water heater and drains without pump assistance,
 - d. A gas supply line with a capacity of at least 200,000 Btu/hr.
11. Insulation shall be a minimum of 1 inch for piping less than 1 Inch in diameter and 1.5 inches for piping 1 inch in diameter and greater.
12. Piping that penetrates framing members shall not be required to have pipe insulation for the distance of the framing penetration.
13. Pipe insulation exposed to weather shall be installed with a cover suitable for outdoor service. The cover shall be water retardant and provide shielding from solar radiation that can cause degradation of the insulation.
14. If buried below grade, insulated pipes must be installed in a waterproof and non-crushable casing or sleeve.



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2016 Building Energy Efficiency Standards		
Residential Mandatory Lighting Measures		
Luminaire Requirements	Efficacy	All luminaires shall be high efficacy in accordance w/ Table 150.0-A
	Blank Electrical Boxes	Number of blank electrical boxes > 5 feet above the finished floor shall be ≤ the number of bedrooms
		These boxes must be served by a dimmer, vacancy sensor control, or fan speed control.
	Recessed Downlight Luminaires in Ceilings	Shall not contain screw base sockets
		Listed for zero clearance insulation contact (IC) by NRTL
		Labelled as airtight (AT) with air leakage < 2.0 CFM at 75 Pascals
		Be sealed w/ gasket or caulk between the housing and ceiling
		Have all air leak paths between conditioned and unconditioned spaces sealed with a gasket or caulk
		Allow for ballast or driver maintenance and replacement to be readily accessible from below the ceiling
		Contain light sources marked "JA8-2016-E"
	Electronic Ballasts	Ballasts for fluorescent lamps rated ≥ 13W shall be electronic and have an output frequency of ≥ 20 kHz.
	Night Lights	Permanently installed night lights and night lights integral to luminaires or exhaust fans shall be ≤ 5W per luminaire or exhaust fan (no vacancy sensor required).
	Lighting Integral to Exhaust Fans	Shall meet all applicable requirements of the mandatory lighting measures. <i>Exception:</i> Lighting installed by manufacturer in kitchen exhaust hoods.
	Screw Based Luminaires	Not permitted in recessed downlight luminaires in ceilings
Contain light sources marked "JA8-2016" or "JA8-2016-E"		
<i>Exception:</i> Luminaires with hard-wired ballasts for HID lamps		
Enclosed Luminaires	Contain light sources marked "JA8-2016-E"	
Interior Lighting Switching Devices and Controls	At least one luminaire in bathrooms, garages, laundry rooms, and utility rooms shall be controlled by a vacancy sensor.	
	Dimmers or vacancy sensors shall control all luminaires required to have JA8 compliant light sources. <i>Exceptions:</i> Luminaires in closets < 70 sf and hallways	
	Exhaust fans shall be switched separately from lighting systems <i>Exception:</i> May be switched together if lighting is integral to the fan AND lighting can be switched OFF while allowing fan to continue to operate for an extended period of time.	
	Undercabinet lighting shall be switched separately from other lighting systems.	
	Luminaires shall be switched with readily accessible controls that permit manual ON and OFF.	
	Controls shall not bypass a dimmer or vacancy sensor function where that dimmer or vacancy sensor has been installed to comply w/ Section 150.0(k).	
	An Energy Management Control System (EMCS) may be use to comply with dimmer requirements if it provides the functionality of a dimmer in accordance with Section 110-9, meets the installation certificate requirements in Section 130.4, the EMCS requirement in Section 130.5(f), and complies with all other applicable switching and control requirements.	
	An Energy Management Control System (EMCS) may be use to comply with vacancy sensor requirements if it provides the functionality of a vacancy sensor in accordance with Section 110-9, meets the installation certificate requirements in Section 130.4, the EMCS requirement in Section 130.5(f), and complies with all other applicable switching and control requirements.	
	A multiscene programmable controller may be used to comply with dimmer requirements if it provides the functionality of a dimmer and complies with all other applicable switching and control requirements.	



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2016 Building Energy Efficiency Standards	
Residential Mandatory Lighting Measures	
Outdoor Lighting	For SFD, permanently mounted luminaires shall be high efficacy
	Controlled by a manual ON and OFF switch that does not override to ON the automatic actions of additional controls, AND one of the following additional controls.
	Photocell and Motion Sensor. Controls that override to ON shall not be allowed unless the override automatically reactivates the motion sensor within 6 hours.
	Photocontrol and Automatic Time Switch Control. Controls that override to ON shall not be allowed unless the override automatically returns the photocontrol and automatic time switch control to its normal operation within 6 hours.
	Astronomical Time Clock. Controls that override to ON shall not be allowed unless the override automatically returns the astronomical clock to its normal operation within 6 hours and which is programmed to automatically turn the outdoor lighting OFF during daylight hours.
	Energy Management Control System (EMCS) which meets all of the following: Provides the functionality of an astronomical time clock in accordance with Section 110.9; meets the Installation Certification requirements in Section 130.4; does not have an override or bypass switch that allows the luminaire to be always ON; and, is programmed to automatically turn the outdoor lighting OFF during daylight hours.
	For all other low-rise residential buildings, residential parking lots, and residential carports, lighting shall comply w/ Sections 110.9, 130.0, 130.2, 130.4, 140.7 and 141.0.
Internally Illuminated Address Signs	Shall comply w/ Section 140.8 OR consume no more than 5W of power as determined by Section 130.0(c).

RESPONSIBLE PERSON'S DECLARATION STATEMENT	
<ol style="list-style-type: none"> I certify that I have answered the questions presented on this document truthfully and to the best of my knowledge. I certify that I have read and understand the energy features and application thereof as presented on this document. I agree to implement all of the applicable energy features of this document into the construction of the proposed project as reflected on the corresponding set of plans. I certify that I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the construction and implementation of all applicable energy features as identified on this document and the corresponding set of plans. The design features identified on this document are consistent with the information documented on other applicable forms, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this permit application. 	
Responsible Person's Name:	Responsible Person's Signature:
Address:	Date:
City/State/Zip:	Phone: