CITY OF PALO ALTO OFFICE OF THE CITY CLERK

August 31, 2015

The Honorable City Council
Palo Alto, California

SECOND READING: Adoption of Ordinance 5326, Amending Chapter 16.17 of the Palo Alto Municipal Code to Adopt Local Amendments to the California Energy Code (FIRST READING: August 17, 2015 PASSED: 8-0 Scharff absent)

On August 17, 2015, this item was brought back to the City Council for adoption after receiving changes from the California Energy Commission. As required by State law, staff submitted the adopted ordinance to the California Energy Commission (CEC) for approval prior to codification and enforcement. The CEC had requested non-substantive, clerical changes to the Ordinance No. 5326 to clarify the Council's intent to adopt requirements more stringent than the statewide California Energy Code standard (Cal. Code of Regs. Title 24, Part 6). On August 17, 2015, it passed with a vote of 8-0, Council Member Scharff absent.

ATTACHMENTS:

- **Attachment:** Attachement A: Draft Energy Code Ordinance (DOCX)

Department Head: Beth Minor, City Clerk

NOT YET APPROVED

Ordinance No. _____
Ordinance of the Council of the City of Palo Alto Amending and Restating Chapter 16.17 of the Palo Alto Municipal Code, California Energy Code, 2013 Edition, and Local Amendments and Related Findings and Repealing Chapter 16.18 of the Palo Alto Municipal Code

The Council of the City of Palo Alto does ORDAIN as follows:

SECTION 1. Chapter 16.17 of the Palo Alto Municipal is hereby amended by repealing in its entirety Chapter 16.17 and adopting a new Chapter 16.17 to read as follows:

16.17 CALIFORNIA ENERGY CODE

16.17.010 2013 California Energy Code adopted.

The California Energy Code, 2013 Edition, Title 24, Part 6 of the California Code of Regulations together with those omissions, amendments, exceptions and additions thereto, is adopted and hereby incorporated in this Chapter by reference and made a part hereof the same as if fully set forth herein.

Unless superseded and expressly repealed, references in City of Palo Alto forms, documents and regulations to the chapters and sections of the former California Code of Regulations, Title 24, 2008, shall be construed to apply to the corresponding provisions contained within the California Code of Regulations, Title 24, 2013 Ordinance No. 5064 of the City of Palo Alto and all other ordinances or parts of ordinances in conflict herewith are hereby suspended and expressly repealed.

One copy of the California Energy Code, 2013 edition, has been filed for use and examination of the public in the Office of the Building Official of the City of Palo Alto.

16.17.020 Violations -- Penalties.

Any person, firm or corporation violating any provision of this chapter is guilty of a misdemeanor and upon conviction thereof shall be punished as provided in subsection (a) of Section 1.08.010 of this code. Each separate day or any portion thereof during which any violation of this chapter occurs or continues shall be deemed to constitute a separate offense, and upon conviction thereof shall be punishable as provided in this section.

16.17.030 Enforcement -- Citation authority.

The employee positions designated in this section may enforce the provisions of this chapter by the issuance of citations; persons employed in such positions are authorized to exercise the authority provided in Penal Code section 836.5 and are authorized to issue citations for violations of this chapter. The designated employee positions are: (1) chief building official; (2)

building inspection supervisor; and (3) code enforcement officer.

16.17.040 Local Amendments.

The provisions of this Chapter shall constitute local amendments to the cross-referenced provisions of the California Energy Code, 2013 Edition, and shall be deemed to replace the cross-referenced sections of said Code with the respective provisions set forth in this Chapter.

16.17.050 Section 100.3 Local Energy Efficiency Reach Code.

Section 100.3 Local Energy Efficiency Reach Code is added to read:

(a) For all new single-family residential, multi-family residential, and non-residential construction: The performance approach specified within the 2013 California Energy Code shall be used to demonstrate that the TDV Energy of the proposed building is at least 15% less than the TDV Energy of the Standard Design.

(b) For all single-family residential, multi-family residential, and nonresidential tenant improvements, renovations, or alterations, one of the following must be satisfied:

(1) Performance Path: The performance approach specified within the 2013 California Energy Code shall be used to demonstrate that the TDV Energy of the proposed building exceeds the TDV Energy of the Standard Design, when expressed as a percent savings, by at least 5% for single-family residential, 10% for multi-family residential, and 5% for nonresidential tenant improvements, renovations, or alterations.

a. Exceptions. The requirements in this section shall not apply to the following projects:

(1) Multi-family residential renovations or alterations of less than 50% of the existing unit square footage that include replacement or alteration of only one of the following: HVAC system, building envelope, hot water system, or lighting system.

(2) Single-family or two-family residential additions or rebuilds of less than 1,000 square feet.

(3) Non-residential tenant improvements, alterations, or renovations less than 5,000 square feet that include replacement or alteration of only one of the following systems: HVAC system, building envelope, hot water system, or lighting system.

(2) Prescriptive Path: Projects that involve any of the following building

components must use the prescriptive measures described below:

Residential	
Single-Family	
Cool Roofs (Alterations Only) Applies to complete roof alterations that are not considered repairs.	Aged Solar Reflectance of ≥ 0.28
Exterior Walls (Additions Only)	High performance walls (u-factor = 0.048 or lower)
Multi-Family	
Roofs (Alterations Only)	Aged Solar Reflectance of ≥ 0.28

Non-Residential	
Cool Roofs (Alterations Only)	Steep Slopes - Aged Solar Reflectance of ≥ 0.34 Low Slopes - Aged Solar Reflectance of ≥ 0.7 ~~Steep Slopes ≤ Aged Solar Reflectance of 0.34~~ ~~Low Slopes ≤ Aged Solar Reflectance of 0.7~~
Indoor Lighting (Additions and Alterations)	15% below Title 24 Standard Lighting Energy Usage

16.17.060 Section 110.10 Mandatory Requirements For Solar Ready Buildings.

Section 110.10 Mandatory Requirements for Solar Ready Buildings is amended as follows:

(a) Subsection 110.10(a)1 is amended to read:

1. **Single-family residences.** New single family residences shall comply with the requirements of Sections 110.10(b) through 110.10(e).

(b) Subsection 110.10(b)1A is amended to read:

A. Single Family Residences. The solar zone shall be located on the roof or overhang of the building and have a total area no less than 500 square feet.

EXCEPTION 1 to Section 110.10(b)1A: Single family residences with a permanently installed solar electric system having a nameplate DC power rating, measured under Standard Test Conditions, of no less than 1000 watts.

EXCEPTION 2 to Section 110.10(b)1A: Single family residences with a permanently installed domestic solar water-heating system meeting the installation criteria specified in the Reference Residential Appendix RA4 and with a minimum solar savings fraction of 0.50.

EXCEPTION 3 to Section 110.10(b)1A: Single family residences with three stories

or more and with a total floor area less than or equal to 2000 square feet and having a solar zone total area no less than 150 square feet.

EXCEPTION 4 to Section 110.10(b)1A: Single family residences located in Climate zones 8-14 and the Wildland-Urban Interface Fire Area as defined in Title 24, Part 2 and having a whole house fan and having a solar zone total area no less than 150 square feet.

EXCEPTION 5 to Section 110.10(b)1A: Buildings with a designated solar zone area that is no less than 50 percent of the potential solar zone area. The potential solar zone area is the total area of any low-sloped roofs where the annual solar access is 70 percent or greater and any steep-sloped roofs oriented between 110 degrees and 270 degrees of true north where the annual solar access is 70 percent or greater. Solar access is the ratio of solar insolation including shade to the solar insolation without shade. Shading from obstructions located on the roof or any other part of the building shall not be included in the determination of annual solar access.

EXCEPTION 6 to Section 110.10(b)1A: Single family residences having a solar zone total area no less than 150 square feet and where all thermostats comply with Reference Joint Appendix JA5 and are capable of receiving and responding to Demand Response Signals prior to granting of an occupancy permit by the enforcing agency.

EXCEPTION 7 to Section 110.10(b)1A: Single family residences meeting the following conditions:

A. All thermostats comply with Reference Joint Appendix JA5 and are capable of receiving and responding to Demand Response Signals prior to granting of an occupancy permit by the enforcing agency.

B. All applicable requirements of Section 150.0(k), except as required below:

i. All permanently installed indoor lighting is high efficacy as defined in TABLE 150.0-A or 150.0-B and is installed in kitchens, bathrooms, utility rooms, and garages at a minimum.

ii. All permanently installed lighting in bathrooms is controlled by a vacancy sensor.

EXCEPTION to EXCEPTION 7Bii: One high efficacy luminaire as defined in TABLE 150.0-A or 150.0-B with total lamp wattage rated to consume no greater than 26 watts of power is not required to be controlled by a vacancy sensor.

iii. Every room which does not have permanently installed lighting has at least one switched receptacle installed.

iv. Permanently installed night lights complying with Section 150.0(k)1E are allowed.

v. Lighting integral to exhaust fans complying with Section 150.0(k)1F is allowed.

vi. All permanently installed outdoor lighting is high efficacy as defined in TABLE 150.0-A or 150.0-B and is controlled as required in Section 150.0(k)9Ai and iii.

(c) Subsection 110.10(c) is amended to read:

(c) Interconnection pathways.
1. The construction documents shall indicate a location for inverters and metering equipment and a pathway for routing of conduit from the solar zone to the point of interconnection with the electrical service. For single-family residences the point of interconnection will be the main service panel.

2. Residential buildings shall provide conduit to support the installation of future solar requirements. The conduit shall be located adjacent to the solar ready area and shall extend from the roofline and terminate at the main electrical panel.

3. The construction documents shall indicate a pathway for routing of plumbing from the solar zone to the water-heating system.

(d) Subsection 110.10(f) is added to read:

(f) Existing tree canopies. In the event of a conflict between the provisions of this section, the Solar Shade Act of 2009, and the Palo Alto Tree Ordinance (Chapter 8.10), the most protective of existing tree canopies shall prevail.

16.17.070 Infeasibility Exemption.

(a) **Exemption.** If an applicant for a Covered Project believes that circumstances exist that makes it infeasible to meet the requirements of this Chapter, the applicant may request an exemption as set forth below. In applying for an exemption, the burden is on the Applicant to show infeasibility.

(b) **Application.** If an applicant for a Covered Project believes such circumstances exist, the applicant may apply for an exemption at the time of application submittal in accordance with the Development Services administrative guidelines. The applicant shall indicate the maximum threshold of compliance he or she believes is feasible for the covered project and the circumstances that make is infeasible to fully comply with this Chapter. Circumstances that constitute infeasibility include, but are not limited to the following:

(1) There is conflict with the compatibility of the currently adopted green building ordinance and/or California Building Standards Code;

(2) There is conflict with other City goals, such as those requiring historic preservation or the Architectural Review criteria;
(3) There is a lack of commercially available materials and technologies to comply with the requirements of this Chapter;
(4) Applying the requirements of this Chapter would effectuate an unconstitutional taking of property or otherwise have an unconstitutional application to the property.

(c) **Review by Architectural Review Board (ARB).** For any covered project for which an exemption is requested and Architectural Review is required by the ARB, the ARB shall provide a recommendation to the Director or designee regarding whether the exemption shall be granted or denied, along with its recommendation on the project.

(d) **Granting of Exemption.** If the Director, or designee, determines that it is infeasible for the applicant to fully meet the requirements of this Chapter based on the information provided, the Director, or designee, shall determine the maximum feasible threshold of compliance reasonably achievable for the project. The decision of the Director, or designee, shall be provided to the applicant in writing. If an exemption is granted, the applicant shall be required to comply with this Chapter in all other respects and shall be required to achieve, in accordance with this Chapter, the threshold of compliance determined to be achievable by the Director or designee.

(e) **Denial of Exemption.** If the Director determines that it is reasonably possible for the applicant to fully meet the requirements of this Chapter, the request shall be denied and the Director or designee shall so notify the applicant in writing. The project and compliance documentation shall be modified to comply with this Chapter prior to further review of any pending planning or building application.

(f) **Council Review of Exemption.** For any covered project that requires review and action by the City Council, the Council shall act to grant or deny the exemption, based on the criteria outlined above, after recommendation by the Director.

16.17.080 Appeal.

(a) Any aggrieved Applicant may appeal the determination of the Director regarding the granting or denial of an exemption pursuant to 16.17.070.

(b) Any appeal must be filed in writing with the Development Services Department not later than fourteen (14) days after the date of the determination by the Director. The appeal shall state the alleged error or reason for the appeal.

(c) The appeal shall be processed and considered by the City Council in accordance with the provisions of Section 18.77.070(f) of the City of Palo Alto Municipal Code.

SECTION 2. Chapter 16.18 of the Palo Alto Municipal Code is hereby repealed in its entirety.

SECTION 3. The Council adopts the findings for local amendments to the California Energy Code, 2013 Edition, attached hereto as Exhibit "A" and incorporated herein by reference.

SECTION 4. If any section, subsection, clause or phrase of this Ordinance is for any reason held to be invalid, such decision shall not affect the validity of the remaining portion or sections of the Ordinance. The Council hereby declares that it should have adopted the Ordinance and each section, subsection, sentence, clause or phrase thereof irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases be held invalid.

SECTION 5. The Council finds that this project is exempt from the provisions of the California Environmental Quality Act ("CEQA"), pursuant to Section 15061 of the CEQA Guidelines, because it can be seen with certainty that there is no possibility that the amendments herein adopted will have a significant effect on the environment.

SECTION 6. This ordinance shall be effective on the commencement of the thirty-first day after the date of its adoption.

INTRODUCED:

PASSED:

AYES:

NOES:

ABSENT:

ABSTENTIONS:

ATTEST:

_____
City Clerk

_____
Mayor

APPROVED AS TO FORM:

APPROVED:

_____
Deputy City Attorney

_____
City Manager

_____
Director of Development Services

_____
Director of Administrative Services

NOT YET APPROVED

Exhibit A

FINDINGS FOR LOCAL AMENDMENTS TO CALIFORNIA ENERGY CODE, 2013 EDITION

Section 17958 of the California Health and Safety Code provides that the City may make changes to the provisions in the uniform codes that are published in the California Building Standards Code. Sections 17958.5 and 17958.7 of the Health and Safety Code require that for each proposed local change to those provisions in the uniform codes and published in the California Building Standards Code which regulate buildings used for human habitation, the City Council must make findings supporting its determination that each such local change is reasonably necessary because of local climatic, geological, or topographical conditions.

Local building regulations having the effect of amending the uniform codes, which were adopted by the City prior to November 23, 1970, were unaffected by the regulations of Sections 17958, 17958.5 and 17958.7 of the Health and Safety Code. Therefore, amendments to the uniform codes which were adopted by the City Council prior to November 23, 1970, and have been carried through from year to year without significant change, need no required findings. Also, amendments to provisions not regulating buildings used for human habitation, including amendments made only for administrative consistency, do not require findings.

Code: Cal Green					
Section	**Title**	**Add**	**Deleted**	**Amended**	**Justification (See below for keys)**
100.3	Local Energy Efficiency Reach Code	✓			C & E
110.10	Mandatory Requirements For Solar Ready Buildings	✓		✓	C

Key to Justification for Amendments to Title 24 of the California Code of Regulations

C This amendment is justified on the basis of a local **climatic** condition. The seasonal climatic conditions during the late summer and fall create severe fire hazards to the public health and welfare in the City. The hot, dry weather frequently results in wild land fires on the brush covered slopes west of Interstate 280. The aforementioned conditions combined with the geological characteristics of the hills within the City create hazardous conditions for which departure from California Energy Code is required.
Failure to address and significantly reduce greenhouse gas (GHG) emissions could result in rises in sea level, including in San Francisco Bay, that could put at risk Palo Alto homes and businesses, public facilities, and Highway 101 (Bayshore Freeway), particularly the mapped Flood Hazard areas of the City. Energy efficiency is a key component in reducing GHG emissions, and construction of more energy efficient buildings can help Palo Alto reduce its share of the GHG emissions that contribute to climate change. The burning of fossil fuels used in the generation of electric power and heating of buildings contributes to climate change, which could result in rises in sea level, including in San Francisco Bay, that could put at risk Palo Alto homes and businesses 1 public facilities, and Highway 101. Due to decrease in annual rain fall, Palo Alto experiences the effect of drought and water saving more than some other communities in California.

E Energy efficiency enhances the public health and welfare by promoting the **environmental** and economic health of the City through the design, construction, maintenance, operation and deconstruction of buildings and sites by incorporating green practices into all development. The provisions in this Chapter are designed to achieve the following goals:
(a) Increase energy efficiency in buildings;
(b) Increase resource conservation;
(c) Provide durable buildings that are efficient and economical to own and operate;
(d) Promote the health and productivity of residents, workers, and visitors to the city;
(e) Recognize and conserve the energy embodied in existing buildings; and
(f) Reduce disturbance of natural ecosystems.

G This amendment is justified on the basis of a local **geological** condition. The City of Palo Alto is subject to earthquake hazard caused by its proximity to San Andreas fault. This fault runs from Hollister, through the Santa Cruz Mountains, epicenter of the 1989 Loma Prieta earthquake, then on up the San Francisco Peninsula, then offshore at Daly City near Mussel Rock. This is the approximate location of the epicenter of the 1906 San Francisco earthquake. The other fault is Hayward Fault. This fault is about 74 mi long, situated mainly along the western base of the hills on the east side of San Francisco Bay. Both of these faults are considered major Northern California earthquake faults which may experience rupture at any time. Thus, because the City is within a seismic area which includes these earthquake faults, the modifications and changes cited herein are designed to better limit property damage as a result of seismic activity and to establish criteria for repair of damaged properties following a local emergency.

T The City of Palo Alto **topography** includes hillsides with narrow and winding access, which makes timely response by fire suppression vehicles difficult. Palo Alto is contiguous with the San Francisco Bay, resulting in a natural receptor for storm and waste water run-off. Also the City of Palo Alto is located in an area that is potentially susceptible to liquefaction during a

major earthquake. The surface condition consists mostly of stiff to dense sandy clay, which is highly plastic and expansive in nature. The aforementioned conditions within the City create hazardous conditions for which departure from California Building Standards Codes is warranted.