All Building Division Inspection and Submittal Guidelines can be downloaded from: https://www.cityofpaloalto.org/gov/depts/ds/building/inspection_guidelines.asp

City of Palo Alto Guide Books are intended to help permit holders prepare for and pass inspections, providing a path to successful completion of all project types. By taking a systematic approach, we have attempted to provide a “comprehensive checklist” for many types of projects. **Guide Books are not to be confused with Code Books (California Title 24).** Guide Books reference state, local codes and adoptive ordinances, but do not supersede them. Guide Books are available for Commercial, Residential, Tenant Improvements, Electrical, Roofing and other types of projects. We welcome any feedback you may have to help us improve these resources.

The City of Palo Alto Development Services is evaluated by Insurance Services Office (ISO).

The City of Palo Alto Development Services was awarded the 2016 Industry of the Year Award from ACIA.

Download the Palo Alto inspection request app from the App Store (if you have an iPhone) or from the Play Store (if you have an Android Device) by entering “Palo Alto Inspection Request.” The app is free and easy to use.

No smoking during the inspection.

**KEEP THIS BOOK WITH PERMIT CARD AND HAVE IT AVAILABLE DURING THE INSPECTION.**
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HOW TO READ CHANGES, MUNICIPAL CODE REQUIREMENTS, AND BEST PRACTICES IN THE CITY OF PALO ALTO WITHIN THE INSPECTION GUIDELINES BOOKS

The book has been structured to show changes to the California Code, Palo Alto Municipal Code, and Best Practices.

Changes to the California Codes (e.g., changes from the 2016 to the 2019 code cycle) will be shown on the right-hand side with a solid line. In addition, the code section referring to the requirement will be shown in parenthesis directing you to the specific section within the California code.

**CALIFORNIA CODE CHANGE – ONE SOLID LINE**
All new services are required to have an intersystem bonding termination installed at the new location. (CEC 250.94)

Changes or requirements by the City of Palo Alto will be shown on the right-hand side with two solid lines. In addition, the code section referring to the requirements will be shown in parenthesis directing you to the specific section within the Palo Alto Municipal Code and/or a “CPA Policy” (e.g., requirements by other department such as CPA Electrical Engineer, WGW, Planning, Public Works, Fire Department, etc.).

**PALO ALTO MUNICIPAL CODE – TWO SOLID LINES**
Meter removal and service disconnect/reconnect are to be performed by City of Palo Alto Utilities (CPAU) personnel only. Contractors who tamper with CPAU equipment will be issued a citation. Citations will be assessed at $500.00 per incident. (PAMC 12.20.01.0)

Best practices will be shown on the right-hand side with dashed lines.

**BEST PRACTICES – DASHED LINES**
Roof penetrations should be completed by a licensed roofer. Often, these installations do not meet roofing standards and will leak causing damage to the structure.
If you need to get a hold of staff members at Development Services (e.g., admin. staff, project coordinators, plans examiners, inspectors, etc.), please visit the following website for the latest contact information: https://www.cityofpaloalto.org/gov/depts/ds/building/contact_us.asp

For more immediate assistance, you can call the Development Services Center directly at: (650) 329-2496
2020 LOCAL AMENDMENTS – FIRE

INSPECTION CODE: N/A
SCOPE: RESIDENTIAL AND COMMERCIAL

APPLICABLE CODES: 2019 CBC, CRC, CPC, CMC, CEC, CALGreen, CEnC, PAMC, 2018 ISPSC

The information provided in this document is general and intended as a guide only. Each project is unique and additional requirements may be enforced as deemed appropriate.

IMPORTANT
For the full list of common adoptive ordinances and for a full description of each one, see the accompanying City of Palo Alto ordinances and/or please visit the following website:
https://www.amlegal.com/?s=palo+alto
Ordinance No. 5483
Adoption of an Ordinance Repealing Chapter 15.04 of the Palo Alto Municipal Code and Amending Title 15 to Adopt a New Chapter 15.04, the California Fire Code (2019 Edition) With Local Amendments and Related Findings

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

SECTION 1. Title 15 of the Palo Alto Municipal Code is hereby amended by repealing in its entirety Chapter 15.04 and enacting a new Chapter 15.04 to read as follows:

15.04 CALIFORNIA FIRE CODE

15.04.010 Adoption of the California Fire Code.

The California Fire Code, 2019 Edition, as adopted by the California Code of Regulations Title 24, Part 9, and Appendices B, C, D, E, F, G, H, and K is adopted as herein amended. One copy of the California Fire Code is on file and open to public inspection in the Office of the City Clerk. Additional copies of the secondary codes set forth within the California Fire Code, and the amendments set forth in this chapter, are on file and open to public inspection in the fire department administrative office.

Whenever the phrase “California Fire Code” appears in this code or in any ordinance of the city, such phrase shall be deemed and construed to refer to and apply to the “California Fire Code, 2019 Edition” as adopted by the California Code of Regulations Title 24, Part 9 and as adopted and amended by this chapter.

15.04.015 Section 102.5 amended - Application of residential code.

Section 102.5 of the California Fire Code is amended to read as follows:

102.5 Application of residential code. Where structures are designed and constructed in accordance with the California Residential Code, the provisions of this code shall apply as follows:

1. Construction and design provisions: Provisions of this code pertaining to the exterior of the structure shall apply: including, but not limited to, premises identification, fire apparatus access, and water supplies. Provisions of this code pertaining to the interior of the structure shall apply when specifically required by this code: including, but not limited to, Sections 903.2 through 903.3.7 and Section 907.2.10. Where interior or exterior systems or devices
are installed, construction permits required by Section 105.7 of this code shall also apply.

2. Administrative, operational, and maintenance provisions: all such provisions of this code shall apply.

15.04.020 Section 103.2 deleted.
Section 103.2 of the California Fire Code is deleted.

15.04.025 Sections 105.3.9 and 105.3.10 added - Permits/Permit fees.
Sections 105.3.9 and 105.3.10 are added to the California Fire Code to read as follows:

**105.3.9 Permits/Permit fees.** All permit fees shall be established by the City Council as set forth in the municipal fee schedule.

**105.3.10 Operational Permits.** Operational permits are valid for one year at which time they must be renewed by paying a fee specified in the municipal fee schedule.

15.04.030 Table 105.6.8 amended - Permit amounts for compressed gases.
Table 105.6.8 of the California Fire Code is amended to read as follows:

**TABLE 105.6.8 PERMIT AMOUNTS FOR COMPRESSED GASES**¹

<table>
<thead>
<tr>
<th>TYPE OF GAS</th>
<th>AMOUNT (cubic feet)²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrosive</td>
<td>200</td>
</tr>
<tr>
<td>Flammable (except cryogenic and liquefied petroleum gases)</td>
<td>200</td>
</tr>
<tr>
<td>Highly toxic</td>
<td>Any amount</td>
</tr>
<tr>
<td>Inert and simple asphyxiant</td>
<td>6,000</td>
</tr>
<tr>
<td>Irritant</td>
<td>200</td>
</tr>
<tr>
<td>Moderately toxic</td>
<td>20</td>
</tr>
<tr>
<td>Other health hazards</td>
<td>650</td>
</tr>
<tr>
<td>Oxidizing (including oxygen)</td>
<td>504</td>
</tr>
<tr>
<td>Pyrophoric</td>
<td>Any amount</td>
</tr>
<tr>
<td>Radioactive</td>
<td>Any amount</td>
</tr>
<tr>
<td>Sensitizer</td>
<td>200</td>
</tr>
<tr>
<td>Toxic</td>
<td>AnyAmount</td>
</tr>
<tr>
<td>Unstable (reactive)</td>
<td>Any amount</td>
</tr>
</tbody>
</table>

For SI: 1 cubic foot = 0.0283m³.
1 Refer to Chapters 27, 30, 32, 35, 37, 40 and 41 for additional requirements and exceptions.
2 Cubic feet measured at normal Temperature and pressure.

15.04.035 Table 105.6.20 amended - Permit amounts for hazardous materials.  
Table 105.6.20 of the California Fire Code is amended to read as follows:

TABLE 105.6.20
PERMIT AMOUNTS FOR HAZARDOUS MATERIALS

<table>
<thead>
<tr>
<th>TYPE OF MATERIAL</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carcinogens</td>
<td>10 pounds</td>
</tr>
<tr>
<td>Combustible liquids</td>
<td>See Section 105.6.16</td>
</tr>
<tr>
<td>Corrosive materials:</td>
<td>See Section 105.6.8</td>
</tr>
<tr>
<td>Gases</td>
<td>55 gallons</td>
</tr>
<tr>
<td>Liquids</td>
<td>500 pounds</td>
</tr>
<tr>
<td>Solids</td>
<td></td>
</tr>
<tr>
<td>Cryogens</td>
<td>See Section 105.6.10</td>
</tr>
<tr>
<td>Explosive materials</td>
<td>See Section 105.6.14</td>
</tr>
<tr>
<td>Flammable materials:</td>
<td>See Section 105.6.8</td>
</tr>
<tr>
<td>Gases</td>
<td>See Section 105.6.16</td>
</tr>
<tr>
<td>Liquids</td>
<td>10 pounds</td>
</tr>
<tr>
<td>Solids</td>
<td></td>
</tr>
<tr>
<td>Highly toxic materials:</td>
<td>Any amount</td>
</tr>
<tr>
<td>Gases</td>
<td>Any amount</td>
</tr>
<tr>
<td>Liquids</td>
<td>Any amount</td>
</tr>
<tr>
<td>Solids</td>
<td></td>
</tr>
<tr>
<td>Moderately toxic gas</td>
<td>20 cubic feet</td>
</tr>
<tr>
<td>Organic peroxides:</td>
<td>Any Amount</td>
</tr>
<tr>
<td>Liquids: Class I-IV</td>
<td>No Permit Required</td>
</tr>
<tr>
<td>Liquids: Class V</td>
<td>Any Amount</td>
</tr>
<tr>
<td>Solids: Class I-IV</td>
<td>No Permit Required</td>
</tr>
<tr>
<td>Solids: Class V</td>
<td></td>
</tr>
<tr>
<td>Oxidizing materials:</td>
<td>504 Cubic Feet</td>
</tr>
<tr>
<td>Gases</td>
<td>Any amount</td>
</tr>
<tr>
<td>Liquids</td>
<td>Any amount</td>
</tr>
<tr>
<td>Solids:</td>
<td></td>
</tr>
<tr>
<td>Other health</td>
<td>55 gallons</td>
</tr>
<tr>
<td>Hazards:</td>
<td>500 pounds</td>
</tr>
<tr>
<td>Liquids</td>
<td></td>
</tr>
<tr>
<td>Pyrophoric materials:</td>
<td>Any amount</td>
</tr>
<tr>
<td>-----------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Gases</td>
<td>Any amount</td>
</tr>
<tr>
<td>Liquids</td>
<td>Any amount</td>
</tr>
<tr>
<td>Solids</td>
<td>Any amount</td>
</tr>
<tr>
<td>Radioactive materials:</td>
<td>Any Amount</td>
</tr>
<tr>
<td>Gases</td>
<td>See Section 105.6.47</td>
</tr>
<tr>
<td>Liquids</td>
<td>See Section 105.6.47</td>
</tr>
<tr>
<td>Solids</td>
<td>Any amount</td>
</tr>
<tr>
<td>Toxic materials:</td>
<td>Any amount</td>
</tr>
<tr>
<td>Gases</td>
<td>Any amount</td>
</tr>
<tr>
<td>Liquids</td>
<td>Any amount</td>
</tr>
<tr>
<td>Solids</td>
<td>Any amount</td>
</tr>
<tr>
<td>Unstable (reactive) materials:</td>
<td>Any amount</td>
</tr>
<tr>
<td>Gases</td>
<td>Any amount</td>
</tr>
<tr>
<td>Liquids</td>
<td>Any amount</td>
</tr>
<tr>
<td>Solids</td>
<td>Any amount</td>
</tr>
<tr>
<td>Water reactive materials:</td>
<td>Any amount</td>
</tr>
<tr>
<td>Liquids</td>
<td>Any amount</td>
</tr>
<tr>
<td>Solids</td>
<td>Any amount</td>
</tr>
</tbody>
</table>

For SI: 1 gallon = 3.785 L, 1 pound = 0.454kg.

a. 20 gallons when Table 2703.1.1(1) Note k applies and hazard identification signs in accordance with Section 2703.5 are provided for quantities of 20 gallons or less.

b. 200 pounds when Table 2703.1.1(1) Note k applies and hazard identification signs in accordance with Section 2703.5 are provided for quantities of 200 pounds or less.

15.04.040 Sections 105.6.52 and 105.6.53 added - Permits required.
Sections 105.6.52 and 105.6.53 are added to the California Fire Code to read as follows:

105.6.52 Radioactive materials. To store or handle at any installation more than one microcurie (37,000 becquerel) of radioactive material not contained in a sealed source or more than 1 millicurie (37,000,000 becquerel) of radioactive material in a sealed source or sources, or any amount of radioactive material for which a specific license from the Nuclear Regulatory Commission is required.

105.6.53 Day care permit. To operate a day care facility for more than six children or adults.

15.04.045 Sections 105.7.26 through 105.7.29 added.
Sections 105.7.26 through 105.7.29 are added to the California Fire Code to read as follows:

**105.7.26 Cryogenic fluids.** Except where federal or state regulations apply and except for fuel systems of the vehicle: to produce, store or handle cryogens in excess of the amounts listed in Table 105.6.10, to install a cryogenic vessel or piping system for the storage or distribution of cryogens. See Chapter 32.

**105.7.27 Lithium batteries.** An operational permit is required to collect or store more than 1,000 pounds (454 kg) of lithium batteries.

**105.7.28 Additive Manufacturing.** An operational permit is required to conduct additive manufacturing operations as covered in Section 321.3.

**105.7.29 Underground fire service lines: installation or modification.** A construction permit is required for the installation, modification or removal from service of underground fire service lines. Maintenance performed in accordance with this Code that does not affect the pipe restraints nor have the potential of introducing debris into the piping system is not considered to be a modification and does not require a permit.

**15.04.050 Sections 105.8.1 and 105.8.2 added - Fire and life safety.**
Subsections 105.8.1 and 105.8.2 are added to the California Fire Code to read as follows:

**105.8.1 Fire and life-safety plan review.** Fire and life-safety plan review of all new construction, all remodels, and all additions shall be performed by the Fire Chief or his designee.

**105.8.2 Site Map and Floor plans.** The fire code official may require as a condition of final permit approval, a site map including the use of standard or approved Palo Alto Fire Department symbols. Features would include interior floor plans, on-site hydrant locations, FDC locations, key safe locations, alarm panel locations, electrical panel locations, stairwell and elevator locations, water shut off locations, hazardous materials locations, and other significant design elements or fire service features. The site map is to be provided in a format compatible with the City’s Geographic Information System (GIS) at time of construction. This requirement applies to newly constructed buildings, facilities where hazardous materials are used or stored in quantities exceeding permit amounts in Section 105, additions or permitted remodels when in the opinion of the fire code official a site map is warranted.

**15.04.055 Section 105.9 added - Certified Unified Program Agency Fees.**
Section 105.9 is added to the California Fire Code to read as follows:
105.9 **Certified Unified Program Agency (CUPA) Fees.** Pursuant to the Participating Agency Agreement between the County of Santa Clara and the City of Palo Alto dated July 1, 1997, or as amended, the Fire Department is authorized to collect fees associated with the CUPA programs. The CUPA fees will be collected on an annual basis or as specified in the Palo Alto Fire Department Fee Schedule.

**15.04.060 Section 107.1 amended - Inspection authority.**
Section 107.1 of the California Fire Code is amended to read as follows:

107.1 **Inspection authority.** The fire code official is authorized to inspect, as often as necessary, buildings and premises, including such other hazards or appliances designated by the fire code official for the purposes of ascertaining and causing to be corrected any conditions which would reasonably tend to cause fire or contribute to its spread, result in an unauthorized discharge of hazardous materials, or amount to any violation of this code or any other law or standard affecting fire and life safety.

**15.04.065 Section 110.1.1 added - Enforcement/citation authority.**
Section 110.1.1 is added to the California Fire Code to read as follows:

110.1.1 **Enforcement/citation authority.** The employee positions designated in this section are authorized to exercise the authority provided in California Penal Code section 836.5 for violations of the California Fire Code. The designated employee positions are: Fire Chief, Deputy Fire Chief, Fire Marshal, Fire Inspector, Hazardous Materials Specialist and Hazardous Materials Inspector.

**15.04.070 Section 110.4 amended - Violation penalties.**
Section 110.4 of the California Fire Code is amended to read as follows:

110.4 **Violation penalties.** It is unlawful for any person to violate any provision or to fail to comply with any of the requirements of this Title 15 or any permits, conditions, or variances granted under this Title, and violators shall be subject to any penalty or penalties authorized by law, including but not limited to: administrative enforcement pursuant to Chapters 1.12 and 1.16 of the Palo Alto Municipal Code; and criminal enforcement pursuant to Chapter 1.08 of the Palo Alto Municipal 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.

When the Fire Chief or his/her designee determines that a violation of this Chapter has occurred, the Fire Chief or his/her designee may record a notice of pendency of code violation with the Office of the County Recorder stating the address and owner of the property involved. When the violation has been corrected, the Fire Chief or his/her designee shall issue and record a release of the notice of pendency of code violation.

15.04.075 Definitions added to Section 202
The following definitions are added to Section 202 of the California Fire Code to read as follows:

**3D PRINTER.** A machine used in the additive manufacturing process for fabricating objects through the deposition of a material using a print head, nozzle, or another printer technology.

**ADDITIVE MANUFACTURING.** A process of joining materials to make objects from 3D model data, usually layer upon layer, sometimes referred to as 3D printing. The Code recognizes two types of additive manufacturing:
1. Industrial additive manufacturing. 3D printing operations that typically utilize combustible powders or metals, an inert gas supply, a combustible dust collection system, or that create a hazardous (classified) location area or zone outside of the equipment.
2. Non-industrial additive manufacturing. 3D printing operations that do not create a hazardous (classified) location area outside of the equipment, and do not utilize an inert gas supply or a combustible dust collection system.

**CORROSIVE LIQUID.** Corrosive liquid is:
1) any liquid which, when in contact with living tissue, will cause destruction or irreversible alteration of such tissue by chemical action; or
2) any liquid having a pH of 2 or less or 12.5 or more; or
3) any liquid classified as corrosive by the U.S. Department of Transportation; or
4) any material exhibiting the characteristics of corrosivity in accordance with Title 22, California Code of Regulations §66261.22.

**MAXIMUM THRESHOLD QUANTITY (MAX TQ).** Maximum threshold quantity is the maximum quantity of a moderately toxic or toxic gas, which may be stored in a single vessel before a more stringent category of regulation is applied. The following equation shall be used to calculate the Max TQ:
Max TQ (pounds) = LC50 (ppm) x 2 lb.

**MODERATELY TOXIC GAS.** A moderately toxic gas is a chemical or substance that has a median lethal concentration (LC50) in air more than 2000 parts per million but not more than 5000 parts per million by volume of gas or vapor, when administered by continuous inhalation for an hour, or less if death occurs within one hour, to albino rats weighing between 200 and 300 grams each.

**OTHER HEALTH HAZARD MATERIAL.** Other health hazard material is a hazardous material which affects target organs of the body, including but not limited to, those materials which produce liver damage, kidney damage, damage to the nervous system, act on the blood to decrease hemoglobin function, deprive the body tissue of oxygen or affect reproductive capabilities, including mutations (chromosomal damage), sensitizers or teratogens (effect on fetuses).

**SECONDARY CONTAINMENT.** Secondary containment is that level of containment that is external to and separate from primary containment and is capable of safely and securely containing the material, without discharge, for a period of time reasonably necessary to ensure detection and remedy of the primary containment failure.

**SPILL CONTROL.** Spill control is that level of containment that is external to and separate from the primary containment and is capable of safely and securely containing the contents of the largest container and prevents the materials from spreading to other parts of the room.

**WILDLAND-URBAN INTERFACE FIRE AREA.** Wildland-urban interface fire area is a geographical area identified by the State of California as a “Fire Hazard Severity Zone” in accordance with Public Resources Code Sections 4201 through 4202 and Government Code Sections 51175 through 51189, or other areas designated by the enforcing agency to be at a significant risk from wildfires. Within the city limits of the City of Palo Alto, “Wildland-Urban Fire Interface Area” shall also include all areas west of Interstate 280, and all other areas recommended as a “Very High Fire Hazard Severity Zone” by the Director of the California Department of Forestry.

**WORKSTATION.** A workstation is a defined space or independent principal piece of equipment using hazardous materials with a hazard rating of 3 or higher as ranked by NFPA 704 where a specific function, laboratory procedure, or research activity occurs. Approved or listed hazardous materials storage cabinets, flammable liquid storage cabinets or gas cabinets serving a workstation are included as part of the workstation. A workstation is allowed to contain
ventilation equipment, fire protection devices, electrical devices, and other processing and scientific equipment.

15.04.080 Section 315.8 added - Lithium battery storage and handling.
Section 315.8 of the California Fire Code is added to read as follows:

315.8 Lithium battery storage and handling. The storage and handling of lithium ion and lithium metal batteries or cells in quantities exceeding 1,000 pounds (4086 kg) shall comply with Sections 315.8.1 through 315.8.10, and Chapter 32 where applicable.

315.8.1 Permits. Permits shall be required as set forth in Section 105.6.27.

315.8.2 Maximum quantity in a fire area. The aggregate amount of lithium batteries stored and handled in a single fire area shall not exceed 9,000 pounds (4086 kg).

315.8.3 Construction requirements. Fire areas shall be separated from each other by fire barriers having not less than 2-hour fire resistance rating constructed in accordance with Section 707 of the Building Code and horizontal assemblies constructed in accordance with Section 711 of the Building Code.

315.8.4 Number of fire areas. The maximum number of fire areas within a building shall be four.

315.8.5 Group H, Division 2 occupancy. Storage and handling of more than 9,000 pounds of lithium batteries per fire area shall be in an approved Group H, Division 2 occupancy constructed in accordance with the Building Code and provided throughout with approved automatic smoke detection and radiant-energy detection systems.

315.8.6 Automatic sprinkler system. Buildings containing fire areas used for lithium battery storage or handling shall be equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1. The design of the sprinkler system within each fire area shall not be less than that required for Extra Hazard Group 2 with a minimum design area of 2,500 square feet. Where the storage arrangement is required by other provisions of this code to be provided with a higher level of sprinkler system protection, the higher level of sprinkler system protection shall be provided.

315.8.7 Automatic smoke detection system. An approved automatic smoke detection system that activates an approved occupant notification system shall be provided throughout each fire area in accordance with Section 907.

315.8.8 Radiant energy detection. An approved radiant-energy detection system that activates an approved occupant notification system shall be installed throughout each fire area in accordance with Section 907.
315.8.9 Collection containers. Containers used to collect or store lithium batteries shall be: noncombustible and shall not have an individual capacity exceeding 30 gallons (113.6 L); or be approved for transportation in accordance with the Department of Transportation (DOT).

315.8.10 Storage configuration. Lithium batteries shall be considered a high-hazard commodity in accordance with Chapter 32 and where applicable, lithium battery storage shall comply with Chapter 32 in addition to Section 315.8.

15.04.085 Section 316.7 added - Roof guiderails at interior courts.
Section 316.7 of the California Fire Code is amended to read as follows:

316.7 Roof guiderails at interior courts. Roof openings into interior courts that are bounded on all sides by building walls shall be protected with guardrails. The top of the guardrail shall not be less than 42 inches in height above the adjacent roof surface that can be walked on. Intermediate rails shall be designed and spaced such that a 12-inch diameter sphere cannot pass through.

15.04.090 Section 321 added – Additive manufacturing.
Section 321 of the California Fire Code is added to read as follows:


321.1.1 Scope. Additive manufacturing shall comply with one of the following:
1. Non-industrial additive manufacturing shall comply with Section 321.2.
2. Industrial additive manufacturing shall comply with Section 321.3.

321.1.2 Installation, operation and maintenance. 3D printers and associated additive manufacturing equipment shall be installed, operated and maintained in accordance with this Code, the listing and the manufacturer's instructions.

321.1.3 Production materials. Only the production materials listed for use with the equipment and included in the manufacturer's instructions shall be used.

321.2 Non-industrial additive manufacturing. Non-industrial additive manufacturing equipment and operations shall comply with Section 321.2.1 through 321.2.4. Additive manufacturing equipment and operations that do not comply with Section 321.2 shall comply with Section 321.3.

321.2.1 Listing. 3D printers used in non-industrial additive manufacturing shall be listed and labeled in accordance with UL 60950-1, UL 62368-1 or UL 2011. The listing shall
also verify:
1. The 3D printers are self-contained and utilize maximum 30 liter pre-packaged production materials.
2. The operation of the 3D printers shall not create a hazardous (classified) electrical area outside of the unit.
3. If any hazardous (classified) electrical area or zone exists inside of the unit’s outer enclosure, the area shall be protected by intrinsically safe electrical construction or other acceptable protection methods.
4. The 3D printers shall not utilize inert gas or an external combustible dust collection.

321.2.2 Occupancies. Non-industrial additive manufacturing shall be permitted in all occupancy groups.

321.3 Industrial additive manufacturing. Industrial additive manufacturing equipment and operations shall comply with Section 321.3.1 through 321.3.13.

321.3.1 Permits required. Permits shall be obtained from the fire code official in accordance with Section 105.6 prior to engaging in industrial additive manufacturing operations.

321.3.2 Listing. 3D printers used in industrial additive manufacturing shall be listed and labeled in accordance with UL 2011 or approved for the application based on a field evaluation conducted by an approved agency.

321.3.3 Combustible dusts and metals. Industrial additive manufacturing operations that store, use or produce combustible dust, combustible particulate solids or combustible metals shall comply with Chapter 22 and this section.

321.3.4 Powder evaluation. Printing powders used in industrial additive manufacturing operations shall be tested for combustibility in accordance with NFPA 484 or NFPA 652 as applicable. A copy of test reports shall be provided to the fire code official upon request.

321.3.5 Combustible (non-metallic) dusts. Industrial additive manufacturing that uses operations that store, use or produce combustible (non-metallic) dusts shall comply with NFPA 654.

321.3.6 Combustible metals. Industrial additive manufacturing operations that store or use combustible metals shall also comply with NFPA 484.

321.3.7 Ancillary equipment. Ancillary equipment provided for recycling, sieving, vacuuming or handling combustible powders shall be designed and approved for such
use.

321.3.8 **Hazardous materials.** Industrial additive manufacturing operations that store or use hazardous materials exceeding the maximum allowable quantity limits shall comply with Chapter 50.

321.3.9 **Inert gas.** Additive manufacturing processes that utilize inert gases shall comply with Chapter 53. Ventilation or gas detection shall be provided in accordance with Section 5307.

321.3.10 **Technical assistance.** Where required by the fire code official, a report evaluating the acceptability of technologies, processes, products, facilities, materials and uses associated with the operation shall be provided in accordance with 104.7.2 and approved.

321.3.11 **Performance based design alternative.** Where approved by the fire code official, buildings and facilities where industrial additive manufacturing is performed shall be permitted to comply with the performance-based design options in Section 5001.3 as an alternative to compliance with the other requirements set forth in this Section.

321.3.12 **Occupancies.** Industrial additive manufacturing shall only be conducted in the occupancy groups associated with manufacturing operations. The occupancy may be required by the fire code official to comply with Chapter 50 maximum allowable quantity tables. Where approved, the requirements in Sections 321.2.5 and 321.3.6 shall be permitted to provide the technical basis for determining compliance with Table 5003.1.1(1), footnote q.

321.3.13 **Safety Certification.** The equipment, process, training procedures and occupancy associated with industrial additive manufacturing may be required by the fire code official to receive a safety certification from Underwriter’s Laboratory or equivalent.

15.04.095 **Section 401.5 amended – Making false report.**
Section 401.5 of the California Fire Code is amended to read as follows:

401.5 **Making false report.** A person shall not give, signal, or transmit a false alarm. Initiation or transmission in a twelve-month period of three or more signals, messages, or other notifications of an event of fire when no such danger exists shall be presumed negligent.

15.04.100 **Section 503.1 amended - Fire access roadways.**
Section 503.1 of the California Fire Code is amended to read as follows:
503.1 Fire access roadways. Where required, fire apparatus access roads shall be provided and maintained in accordance with Sections 503.1.1 through 503.1.3 and as per Fire Department Access Road Standards.

15.04.105 Section 503.2.1 amended - Dimensions.
Section 503.2.1 of the California Fire Code is amended to read as follows:

503.2.1 Dimensions. Fire apparatus access roads shall have an unobstructed width of not less than 20 feet (6096 mm) exclusive of shoulders, or as required by Appendix D, except for approved security gates in accordance with Section 503.6, and an unobstructed vertical clearance of 13 feet 6 inches (4115 mm).

15.04.110 Section 503.2.2 amended - Authority.
Section 503.2.2 of the California Fire Code is amended to read as follows:

503.2.2 Authority. The fire code official shall have the authority to require or permit modifications to the required access widths and/or vertical clearance where they are inadequate for fire or rescue operations or where necessary to meet the public safety objectives of the jurisdiction.

15.04.115 Section 504.4 amended - Access Control Devices.
Section 504.4 of the California Fire Code is amended to read as follows:

504.4 Access Control Devices. When access control devices including bars, grates, gates, electric or magnetic locks or similar devices, which would inhibit rapid fire department emergency access to within and throughout the building, are installed, such devices shall be approved by the fire code official. All electrically powered access control devices shall be provided with an approved means for deactivation or unlocking from a single location or otherwise approved by the fire code official or his/her designee. Access control devices shall also comply with Chapter 10 Egress.

15.04.117 Section 505.1.1 and 505.1.2 added – Premises Identification.
Sections 505.1.1 and 505.1.2 of the California Fire Code are added to read as follows:

505.1.1 Address illumination. Address identification required by Section 505.1 shall be illuminated.

505.1.2 Address identification size. Address numbers and letters required by Section 505.1 shall be sized as follows:
1. When the structure is between thirty-six (36) and fifty (50) feet from the road or other emergency means of access, a minimum of one-half inch (0.5"") stroke by six inches (6") high is required.
2. When the structure is fifty (50) or more feet from the road or other emergency means of access, a minimum of one inch (1"") stroke by nine inches (9") high is required.

15.04.120 Section 603.4.2.1.1 amended - Prohibitive Locations.
Section 603.4.2.1.1 of the California Fire Code is amended to read as follows:

603.4.2.1.1 Prohibitive Locations. The storage or use of portable outdoor gas-fired heating appliances is prohibited in any of the following locations:
1. Inside of any occupancy where connected to the fuel gas container.
2. Inside of tents, canopies and membrane structures.
3. On exterior balconies and rooftops.

15.04.125 Section 604.12 added - Immersion heaters.
Section 604.12 is added to the California Fire Code to read as follows:

604.12 Immersion heaters. All electrical immersion heaters used in dip tanks, sinks, vats and similar operations shall be provided with approved over-temperature controls and low liquid level electrical disconnects. Manual reset of required protection devices shall be provided.

15.04.130 Section 604.13 added - Electric vehicle service equipment.
Section 604.13 is added to the California Fire Code to read as follows:

604.13 Electric vehicle service equipment – car chargers. Electric vehicle service equipment shall be equipped with collision protection and an emergency power disconnect switch as determined necessary by the Fire Code Official.

15.04.135 Section 604.14 added - Energy storage system equipment
Section 605.14 is added to the California Fire Code to read as follows:

604.14 Energy storage system equipment - power walls. Energy storage systems equipment shall be equipped with collision protection as determined necessary by the Fire Code Official.

15.04.140 Section 903.2 amended – Automatic sprinkler systems, where required.
Section 903.2 of the California Fire Code is amended to read as follows:

903.2 Automatic sprinkler systems, where required. Approved automatic sprinkler systems in new buildings and structures and in existing modified
buildings and structures, shall be provided in the locations described in this section. Automatic fire sprinklers shall be installed per the requirements set forth in Sections 903.2.1 through 903.2.18 and as follows, whichever is the more restrictive:

1. An automatic sprinkler system shall be provided throughout all new buildings and structures.  
   Exception: New non-residential occupancies, buildings or structures that do not exceed 350 square feet of building area and contain no interior plumbing fixtures.

2. An automatic sprinkler system shall be provided for all existing buildings or structures where modifications have been determined by the Building Official to trigger requirements for seismic retrofit.

3. An automatic sprinkler system shall be provided throughout all existing buildings when modifications are made that create conditions described in Sections 903.2.1 through 903.2.18, or that create an increase in fire area to more than 3,600 square feet or when the addition is equal or greater than 50% of the existing building square footage whichever is more restrictive.

4. An automatic sprinkler system shall be provided throughout all new or rendered usable for storage/occupancy basements regardless of size and throughout existing basements that are expanded by more than 50%. If the addition is only the basement, then only the basement is required to be sprinklered.

5. An automatic sprinkler system shall be installed throughout when either the roof structure and/or exterior wall structure have been removed and/or replaced in at least 50% of the existing structure.

6. An automatic sprinkler system shall be installed throughout when any change in use or occupancy creates a more hazardous fire/life safety condition, as determined by the Fire Chief.

15.04.145  903.1.1.1 amended – NFPA 13 sprinkler systems.  
Section 903.1.1.1 of the California Fire Code is amended to read as follows:

903.1.1.1 NFPA 13 sprinkler systems. Where the provisions of this code require that a building or portion thereof be equipped throughout with an automatic sprinkler system in accordance with this section, sprinklers shall be installed throughout in accordance with NFPA 13 and State and local requirements except as provided in Section 903.3.1.1.
1. For new buildings having no designated use or tenant, the minimum sprinkler design density shall be Ordinary Hazard Group II / 1500 square feet.

2. Where future use or tenant is determined to require a higher density, the sprinkler system shall be augmented to meet the higher density.

15.04.150 Section 903.3.1.2 amended – NFPA 13R sprinkler systems. Section 903.3.1.2 of the California Fire Code is amended to read as follows:

903.3.1.2 NFPA 13R sprinkler systems. Where allowed in buildings of Group R, up to and including four stories in height, automatic sprinkler systems shall be installed throughout in accordance with NFPA 13 and State and local standards.

15.04.155 Section 903.3.1.3 amended – NFPA 13D sprinkler systems. Section 903.3.1.3 of the California Fire Code is amended to read as follows:

903.3.1.3 NFPA 13D sprinkler systems. Where allowed, automatic sprinkler systems installed in one-and two-family dwellings and townhouses shall be installed throughout in accordance with NFPA 13D and State and local standards. Fire sprinkler protection shall be provided under rear covered patios extending over 4 ft perpendicular from the exterior of the structure.

15.04.160 Section 903.4.3 amended - Floor control valves. Section 903.4.3 of the California Fire Code is amended to read as follows:

903.4.3 Floor control valves. Automatic sprinkler systems serving buildings two (2) or more stories in height shall have valves installed so as to control the system independently on each floor including basements.

15.04.165 Section 905.3.1 amended - Standpipe systems. Section 905.3.1 of the California Fire Code is amended to read as follows:

905.3.1 Standpipe systems. A Class I Standpipe System shall be installed in buildings 3 or more stories in height above grade and in below grade occupied levels.

15.04.170 Section 909.20.1 added - Smoke control systems - schedule. Section 909 is added to the California Fire Code to read as follows:

909.20.1 Smoke control systems - schedule. A routine maintenance and operational testing program shall be initiated immediately after the smoke control system has passed the acceptance tests. A written schedule for routine
maintenance and operational testing shall be established and both shall occur at least annually.

15.04.175 Section 3304.9 added - Fire walls.
Section 3304.8 is added to the California Fire Code to read as follows:

**3304.9 Fire walls.** When firewalls are required, the wall construction shall be completed (with all openings protected) immediately after the building is sufficiently weather-protected at the location of the wall(s).

15.04.180 Section 3311.1 amended - Stairways required.
Section 3311.1 of the California Fire Code is amended to read as follows:

**3311.1 Stairways required.** Each level above the first story in new multi-story buildings shall be provided with at least two usable exit stairways after the floor decking is installed. The stairways shall be continuous and shall discharge to grade level. Stairways serving more than two floor levels shall be enclosed (with openings adequately protected) after exterior walls/windows are in place. Exit stairs in new and in existing, occupied buildings shall be lighted and maintained clear of debris and construction materials at all times.

**Exception:** For new multi-story buildings, one of the required exit stairs may be obstructed on not more than two contiguous floor levels for the purposes of stairway construction (i.e., installation of gypsum board, painting, flooring, etc.).

15.04.185 Section 3311.1.1 added - Required means of egress.
Section 3311.1.1 is added to the California Fire Code to read as follows:

**3311.1.1 Required means of egress.** All new buildings under construction shall have at least one unobstructed means of egress. All means of egress shall be identified in the Fire Protection Plan.

15.04.190 Section 4902.1 amended - Definition of wildland-urban interface area.
The definition of “wildland-urban interface fire area” in Section 4902.1 is amended to read as follows:

**WILDLAND-URBAN INTERFACE FIRE AREA** Wildland-urban interface fire area is a geographical area identified by the State of California as a “Fire Hazard Severity Zone” in accordance with Public Resources Code Sections 4201 through 4202 and Government Code Sections 51175 through 51189, or other areas designated by the enforcing agency to be at a significant risk from wildfires. Within the city limits of the City of Palo Alto, “Wildland-Urban Fire Interface Area” shall also include all areas west of Interstate 280, and all other areas recommended as a “Very High Fire Hazard Severity Zone” by the Director of the California
Department of Forestry.

15.04.195 Sections 4903.1 through 4903.4 added – General requirements for wildland-urban interface fire areas.
Sections 4903.1 through 4903.4 are added to the California Fire Code to read as follows:

4903.1 General. When required by the fire code official, a fire protection plan shall be prepared.

4903.2 Content. The plan shall be based upon a site-specific wildfire risk assessment that includes considerations of location, topography, aspect, flammable vegetation, climatic conditions and fire history. The plan shall address water supply, access, building ignition and fire-resistance factors, fire protection systems and equipment, defensible space and vegetation management.

4903.3 Cost. The cost of fire protection plan preparation and review shall be the responsibility of the applicant.

4903.4 Plan retention. The fire protection plan shall be retained by the fire code official.

15.04.200 Sections 4907.1 amended and 4907.2 added - Defensible space.
Section 4970.1 is amended to read as follows, and Section 4907.2 is added to the California Fire Code to read as follows:

4907.1 General. Persons owning, leasing, controlling, operating or maintaining buildings or structures in, upon or adjoining the Wildland-Urban Interface Fire Area and persons owning, leasing or controlling land adjacent to such buildings or structures, shall at all times:

1. Maintain an effective defensible space by removing and clearing away flammable vegetation and combustible growth from areas within 30 feet (9144 mm) of such buildings or structures.
   Exception: Single specimens of trees, ornamental shrubbery or similar plants used as ground covers, provided that they do not form a means of rapidly transmitting fire from the native growth to any structure.

2. Maintain additional effective defensible space by removing brush, flammable vegetation and combustible growth located 30 feet to 100 feet (9144 mm to 30480 mm) from such buildings or structures, when required by the fire code official due to steepness of terrain or other conditions that would cause a defensible space of only 30 feet (9144 mm) to be insufficient.
Exception: Grass and other vegetation located more than 30 feet (9144 mm) from buildings or structures and less than 18 inches (457 mm) in height above the ground need not be removed where necessary to stabilize the soil and prevent erosion.

3. Remove portions of trees, which extend within 10 feet (3048 mm) of the outlet of a chimney.

4. Maintain trees adjacent to or overhanging a building free of deadwood.

5. Maintain the roof of a structure free of leaves, needles or other dead vegetative growth.

6. Remove flammable vegetation a minimum of 10 feet around liquefied petroleum gas tanks/containers.

7. Firewood and combustible materials shall not be stored in unenclosed spaces beneath buildings or structures, or on decks or under eaves, canopies or other projections or overhangs. The storage of firewood and combustible material within the defensible space shall be located a minimum of 30 feet (6096 mm) from structures and separated from the crown of trees by a minimum horizontal distance of 15 feet (4572 mm).
   Exception: Firewood and combustible materials not for consumption on the premises shall be stored as approved by the fire code official.

8. Clear areas within 10 feet (3048 mm) of fire apparatus access roads and driveways to of non-fire-resistant vegetation growth.
   Exception: Grass and other vegetation located more than 30 feet (9144 mm) from buildings or structures and less than 18 inches (457 mm) in height above the ground need not be removed where necessary to stabilize the soil and prevent erosion.

4907.2 Corrective Actions. The executive body is authorized to instruct the fire code official to give notice to the owner of the property upon which conditions regulated by Section 4907.1 exist to correct such conditions. If the owner fails to correct such conditions, the executive body is authorized to cause the same to be done and make the expense of such correction a lien upon the property where such condition exists.

15.04.205 Section 5001.2.2.2 amended - Health Hazards.
Section 5001.2.2.2 of the California Fire Code is amended to read as follows:

5001.2.2.2 Health Hazards. The material categories listed in this section are classified as health hazards. A material with a primary classification as a health
hazard can also pose a physical hazard.

1. Highly toxic, toxic and moderately toxic.
2. Corrosive materials.
4. Other health hazards.

Section 5001.7 is added to the California Fire Code to read as follows:

5001.7 HMMP and HMIS Reporting Format. The Hazardous Materials Management Plan (HMMP) and the Hazardous Materials Inventory Statement (HMIS) shall be submitted electronically to the fire code official through the California Environmental Reporting System (CERS) website. The reporting thresholds for Hazardous Materials Business Plan within CERS under California Health and Safety Code Ch. 6.95 do not apply to the HMMP and HMIS reports.

15.04.215  Section 5003.1.3.1 added - Toxic, Highly Toxic, Moderately Toxic gases and similarly used or handled materials.
Section 5003.1.3.1 is added to the California Fire Code to read as follows:

5003.1.3.1 Toxic, Highly Toxic, Moderately Toxic gases and similarly used or handled materials. The storage, use, and handling of toxic, highly toxic and moderately toxic gases in amounts exceeding Table 60004.2 or 60004.3 shall be in accordance with this Chapter and Chapter 60. Any toxic, highly toxic or moderately toxic material that is used or handled as a gas or vapor shall be in accordance with the requirements for toxic, highly toxic or moderately toxic gases.

15.04.220  Section 5003.1.5 added - Other Health Hazards Including Carcinogens, Irritants and Sensitizers.
Section 5003.1.5 is added to the California Fire Code to read as follows:

5003.1.5 Other Health Hazards Including Carcinogens, Irritants and Sensitizers. The storage, use, and handling of materials classified as other health hazards including carcinogens, irritants and sensitizers in amounts exceeding 810 cubic feet for gases, 55 gallons for liquids and 5,000 pounds for solids shall be in accordance with this Section 5003.

15.04.225  Section 5003.1.6 added – Additional Secondary Containment Requirements.
Section 5003.1.6 is added to the California Fire Code to read as follows:
5003.1.6 Additional Secondary Containment Requirements. In addition to the requirements set forth in Section 5004.2, an approved containment system is required for any quantity of hazardous materials that are liquids or solids at normal temperature and pressure (NTP), where a spill is determined to be a plausible event and where such an event would endanger people, property or the environment. The approved containment system may be required to include a combination of spill control and secondary containment meeting the design and construction requirements set forth in section 5004.2.

15.04.230 Section 5003.2.2.1 amended - Design and construction.
Section 5003.2.2.1 of the California Fire Code is amended to read as follows:

5003.2.2.1 Design and construction. Piping, tubing, valves, fittings and related components used for hazardous materials shall be in accordance with the following:

1. Piping, tubing, valves, fittings and related components shall be designed and fabricated from materials compatible with the material to be contained and shall be of adequate strength and durability to withstand the pressure, structural and seismic stress, and exposure to which they are subject.

2. Piping and tubing shall be identified in accordance with ASME A13.1 and the Santa Clara County Fire Chiefs Marking Requirements and Guidelines for Hazardous Materials and Hazardous Waste to indicate the material conveyed.

3. Readily accessible manual valves or automatic remotely activated fail-safe emergency shutoff valves shall be installed on supply piping and tubing at the following locations:
   a. The point of use.
   b. The tank, cylinder or bulk use.

4. Manual emergency shutoff valves and controls for remotely activated emergency shutoff valves shall be identified and the location shall be clearly visible accessible and indicated by means of a sign.

5. Backflow prevention or check valves shall be provided when the backflow of hazardous materials could create a hazardous condition or cause the unauthorized discharge of hazardous materials.

6. Where gases or liquids having a hazard ranking of: Health hazard Class 3 or 4, Flammability Class 3 or 4, or Reactivity Class 4 in accordance with NFPA 704 are carried in pressurized piping above 15 pounds per square inch gauge
(psig)(103 Kpa), an approved means of leak detection, emergency shutoff and excess flow control shall be provided. Where the piping originates from within a hazardous material storage room or area, the excess flow control shall be located within the storage room or area. Where the piping originates from a bulk source, the excess flow control shall be located as close to the bulk source as practical.

Exceptions:
   a. Piping for inlet connections designed to prevent backflow.
   b. Piping for pressure relief devices.

7. Secondary containment or equivalent protection from spills or leaks shall be provided for piping for liquid hazardous materials and for highly toxic and toxic corrosive gases above threshold quantities listed in Tables 6004.2 and 6004.3. Secondary containment includes, but is not limited to, double-walled piping.

Exceptions:
   a. Secondary containment is not required for toxic corrosive gases if the piping is constructed of inert materials.
   b. Piping under sub-atmospheric conditions if the piping is equipped with an alarm and fail-safe-to-close valve activated by a loss of vacuum.

8. Expansion chambers shall be provided between valves whenever the regulated gas may be subjected to thermal expansion. Chambers shall be sized to provide protection for piping and instrumentation and to accommodate the expansion of regulated materials.

15.04.235 Section 5003.2.2.2 amended - Additional regulation for supply piping for health hazard materials.
Section 5003.2.2.2 of the California Fire Code is amended to read as follows:

5003.2.2.2 Additional regulation for supply piping for health hazard materials.
Supply piping and tubing for gases and liquids having a health hazard ranking of 3 or 4 in accordance with ASME B31.3 and the following:

1. Piping and tubing utilized for the transmission of toxic, highly toxic, or highly volatile corrosive liquids and gases shall have welded or brazed connections throughout except for connections within an exhausted enclosure if the material is a gas, or an approved method of drainage or containment is provided for connections if the material is a liquid.

2. Piping and tubing shall not be located within corridors, within any portion of a means of egress required to be enclosed in fire-resistance-rated
construction or in concealed spaces in areas not classified as Group H Occupancies.

Exception: Piping and tubing within the space defined by the walls of corridors and the floor or roof above or in concealed space above other occupancies when installed in accordance with Section 415.8.6.3 of the California Building Code as required for Group H, Division 5 Occupancies.

3. All primary piping for toxic, highly toxic and moderately toxic gases shall pass a helium leak test of 1x10^-9 cubic centimeters/second where practical, or shall pass testing in accordance with an approved, nationally recognized standard. Tests shall be conducted by a qualified “third party” not involved with the construction of the piping and control systems.

15.04.240 Section 5003.3.1 amended - Unauthorized discharges.
Section 5003.3.1 of the California Fire Code is amended to read as follows:

5003.3.1 Unauthorized discharges. In the event hazardous materials are released in quantities reportable under state, federal or local regulations or when there is a threatened release that presents a threat to health, property or the environment, the fire code official shall be notified immediately in an approved manner and the following procedures required in accordance with Sections 5003.3.1.1 through 5003.3.1.4.

15.04.245 Section 5003.5.2 added - Ventilation Ducting.
Section 5003.5.2 is added to the California Fire Code to read as follows:

5003.5.2 Ventilation Ducting. Ducts venting hazardous materials operations shall be labeled with the hazard class of the material being vented and the direction of flow.

15.04.250 Section 5003.5.3 added - “H” Occupancies.
Section 5003.5.4 is added to the California Fire Code to read as follows:

5003.5.3 “H” Occupancies. In “H” occupancies, all piping and tubing may be required to be identified when there is any possibility of confusion with hazardous materials transport tubing or piping. Flow direction indicators are required.

15.04.255 Section 5003.9.11 added - Fire extinguishing systems for workstations dispensing, handling or using hazardous materials.
Section 5003.9.11 is added to the California Fire Code to read as follows:

5003.9.11 Fire extinguishing systems for workstations dispensing, handling or
using hazardous materials. Combustible and non-combustible work stations which dispense, handle or use hazardous materials shall be protected by an approved automatic fire extinguishing system in accordance with Section 1803.10.

Exception: Internal fire protection is not required for Biological Safety Cabinets that carry NSF/ANSI certification where quantities of flammable liquids in use or storage within the cabinet do not exceed 500 ml.

15.04.260  Section 5003.10.4 amended - Elevators utilized to transport hazardous materials.
Section 5003.10.4 of the California Fire Code is amended to read as follows:

5003.10.4 Elevators utilized to transport hazardous materials.

5003.10.4.1 When transporting hazardous materials, elevators shall have no other passengers other than in the individual(s) handling the chemical transport cart.

5003.10.4.2 Hazardous materials liquid containers shall have a maximum capacity of 20 liters (5.28 gal).

5003.10.4.3 Highly toxic, toxic, and moderately toxic gases shall be limited to a container of a maximum water capacity of 1 lb.

5003.10.4.4 Means shall be provided to prevent the elevator from being summoned to other floors.

15.04.265  Section 5004.2.1 amended - Spill control for hazardous material liquids.
Section 5004.2.1 of the California Fire Code is amended to read as follows:

5004.2.1 Spill control for hazardous material liquids. Rooms, buildings or areas used for storage of hazardous material liquids shall be provided with spill control to prevent the flow of liquids to adjoining areas. Floors in indoor locations and similar surfaces in outdoor locations shall be constructed to contain a spill from the largest single vessel by one of the following methods:

1. Liquid-tight sloped or recessed floors in indoor locations or similar areas in outdoor locations.
2. Liquid-tight floors in indoor and outdoor locations or similar areas provided with liquid-tight raised or recessed sills or dikes.
3. Sumps and collection systems, including containment pallets in accordance with Section 5004.2.3.
4. Other approved engineered systems.

Except for surfacing, the floors, sills, dikes, sumps and collection systems shall be constructed of noncombustible material, and the liquid-tight seal shall be
compatible with the material stored. When liquid-tight sills or dikes are provided, they are not required at perimeter openings having an open-grate trench across the opening that connects to an approved collection system.

15.04.270 Sections 5004.2.2 and 5004.2.2.2 amended and Table 5004.2.2 deleted - Secondary Containment for Hazardous Material Liquids and Solids.
Table 5004.2.2 is deleted in its entirety.

Section 5004.2.2 of the California Fire Code is amended to read as follows:

**5004.2.2 Secondary Containment for Hazardous Material Liquids and Solids.** Buildings, rooms or areas used for the storage of hazardous materials liquids or solids shall be provided with secondary containment in accordance with this section.

Section 5004.2.2.2 of the California Fire Code is amended to read as follows:

**5004.2.2.2 Incompatible Materials.** Incompatible materials shall be separated from each other in independent secondary containment systems.

15.04.275 Section 5004.3 amended – Containment pallets.
Section 5004.2.3 of the California Fire Code is amended to read as follows:

**5004.2.3 Containment pallets.** Combustible containment pallets shall not be used inside buildings to comply with Section 5004.2 where the individual container capacity exceeds 55 gallons (208 L) or an aggregate capacity of multiple containers exceeds 1,000 gallons (3785 L) for liquids or where the individual container capacity exceeds 550 pounds (250 kg) or an aggregate of multiple containers exceeds 10,000 pounds (4540 kg) for solids.

Where used as an alternative to spill control and secondary containment for outdoor storage in accordance with the exception in Section 5004.2, containment pallets shall comply with all of the following:

1. A liquid-tight sump accessible for visual inspection shall be provided;
2. The sump shall be designed to contain not less than 66 gallons (250L);
3. Exposed surfaces shall be compatible with material stored;

Containment pallets shall be protected to prevent collection of rainwater within the sump of the containment pallet.

15.04.280 Section 5704.2.7.5.8 amended - Overfill prevention.
Section 5704.2.7.5.8 of the California Fire Code is amended to read as follows:
5704.2.7.5.8 Overfill prevention. An approved means or method in accordance with Section 5704.2.9.7.5 shall be provided to prevent overfill of all Class I, II and IIIA liquid storage tanks. Storage tanks in refineries, bulk plants or terminals regulated by Sections 5706.4 or 5706.7 shall have overfill protection in accordance with API 2350.

An approved means or method in accordance with Section 5704.2.9.7.6 shall be provided to prevent the overfilling of Class IIIB liquid storage tanks connected to fuel-burning equipment inside buildings.

Exception: Outside aboveground tanks with a capacity of 1320 gallons (5000 L) or less shall comply with Section 5704.2.9.7.5.1 (1.1)

15.04.285 Section 5704.2.7.5.9 added - Automatic filling of tanks.
Section 5704.2.7.5.9 is added to the California Fire Code to read as follows:

5704.2.7.5.9 Automatic filling of tanks. Systems that automatically fill flammable or combustible liquid tanks shall be equipped with an approved overfill protection system that sends an alarm signal to a constantly attended location and immediately stops the filling of the tank. The alarm signal and automatic shutoff shall be tested on an annual basis and records of such testing shall be maintained on-site for a period of five (5) years.

15.04.290 Section 5707.3.3 added – Site Plan.
Section 5707.3.3 is amended to the California Fire Code to read as follows:

5707.3.3 Site Plan. A site plan shall be developed for each location at which mobile fueling occurs. The site plan shall be in sufficient detail to indicate: all buildings, structures, lot lines, property lines and appurtenances on site and their use and function; all uses adjacent to the lot lines of the site; fueling locations, the locations of all storm drain openings and adjacent waterways or wetlands; information regarding slope, natural drainage, curbing, impounding and how a spill will be kept on the site property; and the scale of the site plan.

15.04.295 Section 6001.1 amended – Site Scope.
Section 6001.1 is amended to read as follows:

6001.1 The storage and use of highly toxic, toxic and moderately toxic materials shall comply with this chapter. Compressed gases shall also comply with Chapter 53.

Exceptions:
1. Display and storage in Group M and storage in Group S occupancies complying with Section 5003.1 1.
2. Conditions involving pesticides or agricultural products as follows:
   2.1. Application and release of pesticide, agricultural products and materials
        intended for use in weed abatement, erosion control, soil amendment or similar
        applications when applied in accordance with the manufacturer’s instruction
        and label directions.
   2.2. Transportation of pesticides in compliance with the Federal Hazardous
        Materials Transportation Act and regulations thereunder.
   2.3. Storage in dwellings or private garages of pesticides registered by the U.S.
        Environmental Protection Agency to be utilized in and around the home, garden,
        pool, spa and patio.

15.04.300 Section 6002.1 amended – add definitions
The following definition is added to section 6002.1 of the California Fire Code as defined in
Chapter 2 of the California Fire Code and local amendments:

MODERATELY TOXIC GAS. A moderately toxic gas is a chemical or substance
that has a median lethal concentration (LC50) in air more than 2000 parts per
million but not more than 5000 parts per million by volume of gas or vapor,
when administered by continuous inhalation for an hour, or less if death occurs
within one hour, to albino rats weighing between 200 and 300 grams each.

15.04.305 Section 6004.1 amended - Highly toxic and toxic compressed gases.
Section 6004.1 of the California Fire Code is amended to read as follows:

6004.1.1 The storage and use of highly toxic, toxic, and moderately toxic compressed
gases shall comply with this section.

6004.1.1 Special limitations for indoor storage and use by occupancy. The indoor
storage and use of highly toxic, toxic, and moderately toxic compressed gases in certain
occupancies shall be subject to the limitations contained in Sections 6004.1.1.1 through
6004.1.1.3.

6004.1.1.1 Group A, E, I or U occupancies. Moderately toxic, toxic and highly toxic
compressed gases shall not be stored or used within Group A, E, I or U occupancies.
Exception: Cylinders not exceeding 20 cubic feet (0.566 m3) at normal temperature
and pressure (NTP) are allowed within gas cabinets or fume hoods.

6004.1.1.2 Group R occupancies. Moderately toxic, toxic, and highly toxic compressed
gases shall not be stored or used in Group R occupancies.

6004.1.1.3 Offices, retail sales and classrooms. Moderately toxic, toxic and highly
toxic compressed gases shall not be stored or used in offices, retail sales or
classroom portions of Group B, F, M or S occupancies.
Exception: In classrooms of Group B occupancies, cylinders with a capacity not exceeding 20 cubic feet (0.566 m³) at NTP are allowed in gas cabinets or fume hoods.

Section 6004.2 amended - Indoor storage and use.
Section 6004.2 of the California Fire Code is amended to read as follows:

6004.2 Indoor storage and use. The indoor storage and use of highly toxic, toxic, and moderately toxic compressed gases shall be in accordance with Sections 6004.2.1 through 6004.2.4.

Section 6004.2.1 amended - Applicability.
Section 6004.2.1 of the California Fire Code is amended to read as follows:

6004.2.1 Applicability. The applicability of regulations governing the indoor storage and use of highly toxic, toxic, and moderately toxic compressed gases shall be as set forth in Sections 6004.2.1.1 through 6004.2.1.4.

Section 6004.2.1.4 Added - Quantities.
Section 6004.2.1.4 of the California Fire Code is added to read as follows:

6004.2.1.4 Quantities. The indoor storage or use of highly toxic, toxic, and moderately toxic gases in amounts exceeding the minimum threshold quantities per control area set forth in Table 6004.2.1.4 but not exceeding maximum allowable quantity per control area set forth in Table 5003.1.1(2) shall be in accordance with Sections 5001, 5003, 6001, 6004.1, and 6004.4.

Add table 6004.2.1.4 to read:

<table>
<thead>
<tr>
<th>Minimum Threshold Quantities for Highly Toxic, Toxic and Moderately Toxic Gases for Indoor Storage and Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highly Toxic</td>
</tr>
<tr>
<td>Toxic</td>
</tr>
<tr>
<td>Moderately Toxic</td>
</tr>
</tbody>
</table>

Section 6004.4 through 6004.4.8.2 Added - General Indoor Requirements
Section 6004.4 through 6004.4.8.2 of the California Fire Code is added to read as follows:

6004.4. General indoor requirements. The general requirements applicable to the indoor storage and use of highly toxic, toxic, and moderately toxic compressed gases shall be in accordance with Sections 6004.4 through 6004.4.8.2.
6004.4.1 Cylinder and tank location. Cylinders shall be located within gas cabinets, exhausted enclosures or gas rooms. Portable and stationary tanks shall be located within gas rooms or exhausted enclosures.

Exception:
1. Where a gas detection system is provided in accordance with 6004.4.8

6004.4.2. Ventilated areas. The room or area in which gas cabinets or exhausted enclosures are located shall be provided with exhaust ventilation. Gas cabinets or exhausted enclosures shall not be used as the sole means of exhaust for any room or area.

6004.4.3. Piping and controls. In addition to the requirements of Section 5003.2.2, piping and controls on stationary tanks, portable tanks, and cylinders shall comply with the following requirements:

1. Stationary tanks, portable tanks, and cylinders in use shall be provided with a means of excess flow control on all tank and cylinder inlet or outlet connections.

Exceptions:
1. Inlet connections designed to prevent backflow.
2. Pressure relief devices.

6004.4.4 Gas rooms. Gas rooms shall comply with Section 5003.8.4 and both of the following requirements:

1. The exhaust ventilation from gas rooms shall be directed to an exhaust system.
2. Gas rooms shall be equipped with an approved automatic sprinkler system. Alternative fire-extinguishing systems shall not be used.

6004.4.5 Treatment systems. The exhaust ventilation from gas cabinets, exhausted enclosures and gas rooms, required in Section 6004.4.1 shall be directed to a treatment system. The treatment system shall be utilized to handle the accidental release of gas and to process exhaust ventilation. The treatment system shall be designed in accordance with Sections 6004.2.2.7.1 through 6004.2.2.7.5 and Chapter 5 of the California Mechanical Code.

Exceptions:
1. Highly toxic, toxic, and moderately toxic gases—storage. A treatment system is not required for cylinders, containers and tanks in storage where all of the following controls are provided:
   1.1 Valve outlets are equipped with gas-tight outlet plugs or caps.
   1.2 Hand wheel-operated valves have handles secured to prevent movement.
   1.3 Approved containment vessels or containment systems are provided in accordance with Section 6004.2.2.3.
2. Highly toxic, toxic, and moderately toxic gases — use. Treatment systems are not required for highly toxic, toxic, and moderately toxic gases supplied by stationary tanks, portable tanks, or cylinders where a gas detection system complying with Section 6004.4.8 and listed or approved automatic-closing fail-safe valves are provided. The gas detection system shall have a sensing interval not exceeding 5 minutes. Automatic-closing fail-safe valves shall be located immediately adjacent to cylinder valves and shall close when gas is detected at the permissible exposure limit (PEL) by a gas sensor monitoring the exhaust system at the point of discharge from the gas cabinet, exhausted enclosure, ventilated enclosure or gas room.

6004.4.5.1. Design. Treatment systems shall be capable of diluting, adsorbing, absorbing, containing, neutralizing, burning or otherwise processing the contents of the largest single vessel of compressed gas. Where a total containment system is used, the system shall be designed to handle the maximum anticipated pressure of release to the system when it reaches equilibrium.

6004.4.5.2. Performance. Treatment systems shall be designed to reduce the maximum allowable discharge concentrations of the gas to one-half immediate by dangerous to life and health (IDLH) at the point of discharge to the atmosphere. Where more than one gas is emitted to the treatment system, the treatment system shall be designed to handle the worst-case release based on the release rate, the quantity and the IDLH for all compressed gases stored or used.

6004.4.5.3. Sizing. Treatment systems shall be sized to process the maximum worst-case release of gas based on the maximum flow rate of release from the largest vessel utilized. The entire contents of the largest compressed gas vessel shall be considered.

6004.4.5.4 Stationary tanks. Stationary tanks shall be labeled with the maximum rate of release for the compressed gas contained based on valves or fittings that are inserted directly into the tank. Where multiple valves or fittings are provided, the maximum flow rate of release for valves or fittings with the highest flow rate shall be indicated. Where liquefied compressed gases are in contact with valves or fittings, the liquid flow rate shall be utilized for computation purposes. Flow rates indicated on the label shall be converted to cubic feet per minute (cfm/min) (m3/s) of gas at normal temperature and pressure (NTP).

6004.4.5.5 Portable tanks and cylinders. The maximum flow rate of release for portable tanks and cylinders shall be calculated based on the total release from the cylinder or tank within the time specified in Table 6004.2.2.7.5. Where portable tanks or cylinders are equipped with approved excess flow or reduced flow valves, the worst-case release shall be determined by the maximum achievable flow from the valve as determined by the valve manufacturer or compressed gas supplier. Reduced flow and excess flow valves shall be permanently marked by the valve manufacturer to indicate
the maximum design flow rate. Such markings shall indicate the flow rate for air under normal temperature and pressure.

6004.4.6. Emergency power. Emergency power shall be provided for the following systems in accordance with Section 604:

1. Exhaust ventilation system.
2. Treatment system.
3. Gas detection system.
4. Smoke detection system.

6004.4.6.1. Fail-safe systems. Emergency power shall not be required for mechanical exhaust ventilation and treatment systems where approved fail-safe systems are installed and designed to stop gas flow.

6004.4.7. Automatic fire detection system. An approved automatic fire detection system shall be installed in rooms or areas where highly toxic, toxic, and moderately toxic compressed gases are stored or used. Activation of the detection system shall sound a local alarm. The fire detection system shall comply with Section 907.

6004.4.8. Gas detection system. A gas detection system complying with Section 916 shall be provided to detect the presence of gas at or below the PEL or ceiling limit of the gas for which detection is provided.

Exceptions:
1. A gas detection system is not required for toxic and moderately toxic gases when the physiological warning threshold level for the gas is at a level below the accepted PEL for the gas.
2. A gas detection system is not required for highly toxic, toxic, and moderately toxic gases where cylinders, portable tanks, and all non-continuously welded connects are within a gas cabinet or exhausted enclosures.

6004.4.8.1. Alarms. The gas detection system shall initiate a local alarm and transmit a signal to an approved location.

6004.4.8.2. Shut off of gas supply. The gas detection system shall automatically close the shut off valve at the source on gas supply piping and tubing related to the system being monitored for whichever gas is detected.

Exception: Automatic shutdown is not required for highly toxic, toxic, and moderately toxic compressed gas systems where all of the following controls are provided:
1. Constantly attended / supervised.
2. Provided with emergency shutoff valves that have ready access.

SECTION 3. The Council finds that this project is exempt from the provisions of the California Environmental Quality Act ("CEQA"), pursuant to Section 15061 of the California 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 4. This Ordinance shall become effective on the commencement of the thirty-first day after the day of its adoption.

INTRODUCED: November 4, 2019

PASSED: November 18, 2019

AYES: CORMACK, DUBOIS, FILSETH, KNISS, KOU, TANAKA

NOES:

ABSENT: FINE

ABSTENTIONS:

ATTEST:

DocuSigned by:
Beth Minot
City Clerk

DocuSigned by:
Eric Filseth
Mayor

APPROVED AS TO FORM:

DocuSigned by:
Sandra Lee
Deputy City Attorney

DocuSigned by:
Ed Sickels
City Manager

APPROVED:

DocuSigned by:
Director of Planning and Development Services

DocuSigned by:
Geo Blackshire
Fire Chief
2020 LOCAL AMENDMENTS – BUILDING

INSPECTION CODE: N/A
SCOPE: COMMERCIAL

APPLICABLE CODES: 2019 CBC, CRC, CPC, CMC, CEC, CALGreen, CEnC, and PAMC

The information provided in this document is general and intended as a guide only. Each project is unique and additional requirements may be enforced as deemed appropriate.

IMPORTANT
The following are summaries of the common adoptive ordinances effective on 01/01/2020; for a full list of common adoptive ordinances and for a full description of each one, see the accompanying City of Palo Alto ordinances and/or please visit the following website: https://www.amlegal.com/?s=palo+alto

BUILDING

☐ 16.04.080 (CBC 105.1.3) – Demolition Permits
   o An affidavit or declaration is required before a demolition permit is issued.

☐ 16.04.085 (CBC 105.3.2) – Time limitation of application
   o Applications for permits are considered abandoned after 365 days if no work is done. Extensions can be issued for 90 days.

☐ 16.04.090 (CBC 105.5) – Expiration
   o All work must start within 180 days or 12 months for residential projects. Extensions can be issued for 180 days.

☐ 16.04.090 (CBC 105.5.1) – Term limit for permits
   o All work associated with a building permit must be completed, and final inspection issued, within 48 months of permit issuance.

☐ 16.04.115 (CBC 110.2.1) – Preliminary accessibility compliance inspection
   o A pre-issuance accessibility inspection must take place for non-residential projects.

☐ 16.04.155 (CBC 502.1, CBC 502.1.1, CBC 502.1.2) – Address Identification
   o The address identification shall be legible and placed in a position that is visible, must be illuminated, and sized accordingly.

☐ 16.04.160 (CBC 702A) – Definitions: Wildland Urban Interface Fire Area
   o City of Palo Alto adopts the definition for Wildland Urban Interface Fire Areas, which includes all areas west of Interstate 280, and all other areas recommended as a “Very High Fire Hazard Severity Zone” by the Director of the California Department of Forestry.
16.04.255 (CBC 1203.6) – Ventilation of weather-exposed enclosed assemblies
   - Exterior projecting elements and appurtenances exposed to the weather and sealed underneath shall have cross ventilation and an access panel. See applicable exceptions.

16.04.260 (CBC 1206.3.4) – Roof guardrails at interior courts
   - Roof openings into interior courts that are bounded on all sides by building walls shall be protected with guardrails.

16.04.265 (CBC 1406.3.1) – Projections exposed to weather
   - Floor projections exposed to the weather and sealed underneath shall be constructed of naturally durable wood, preservative-treated wood, corrosion-resistant (e.g. galvanized) steel, or similar approved materials.

16.04.270 (CBC 1503.2.1) – Flashing locations
   - Flashing shall be installed as required. Where flashing is of metal, the metal shall be corrosion resistant with a thickness of not less than 0.019 inches (e.g., no. 26 galvanized sheet) and shall be primed and painted.

16.04.275 (CBC 1613.5 ASCE 7 13.1.4) – Seismic design requirements for nonstructural components
   - Structural design required for components that weigh more than 200 lbs. are suspended from a roof/floor or mounted on a wall.

16.04.280 (CBC 1612.1.1) – Palo Alto flood hazard regulations
   - All construction or development within a flood hazard area shall comply with the City of Palo Alto Flood Hazard Regulations.

16.04.290 (CBC 1705.3) – Concrete construction
   - Special inspections for concrete are not required for where the structural design of the footing is based on a specified compressive strength, $f'_c$, no greater than 2,500 pounds per square inch (psi) and other scenarios. See the full list in the accompanying ordinance.

16.04.300 (CBC Table 1809.7) – Prescriptive footings supporting walls of light-frame construction
   - Refer to the accompanying ordinance for the minimum dimensions of footings based on number of floors supported by the footing.

16.04.305 (CBC 1905.1.7 ACI 318 14.1.4)
   - Amendment to ACI 318 14.1.4. Refer to the accompanying ordinance for more information.

16.04.310 (CBC 2308.6, CBC 2308.6.5) – Wall bracing and alternate bracing
   - For methods DWB, WSP, SFB, PBS, PCP and HPS, each panel must be not less than 48 inches in length and braced wall panels less than 48 inches in length shall not contribute toward the amount of required bracing.
   - An alternate braced wall (ABW) or a portal frame with hold-downs (PFH) described in this section is permitted to substitute for a 48-inch braced wall panel of Method DWB, WSP, SFB, PCP or HPS.
16.04.317 (CBC Table 2308.6.3(1)) – Bracing methods
   o Footnote “b” is amended to read that method GB, gypsum wallboard is prohibited in Seismic Design Categories D & E.

16.04.320 (CBC 2308.9) – Attachment of sheathing
   o Fastening of braced wall panel sheathing shall not be less than that prescribed in Table 2308.6.3(1) or 2304.10.1 Wall sheathing shall not be attached to framing members by adhesives.

16.04.325 (CBC 3304.1) – Wooden stakes
   o Wood forms that have been used in placing concrete, if within the ground or between foundation sills and the ground, shall be removed before a building is occupied or used for any purpose. Wooden stakes shall not be embedded in concrete.

EXISTING BUILDINGS
16.04.340 (CEBC 503.17) – Suspended ceiling systems
   o In existing buildings or structures, when a permit is issued for alterations or repairs, the existing suspended ceiling system within the area of the alterations or repairs shall comply with ASCE 7-16 Section 13.5.6.

16.04.345 (CEBC 503.18) – Mechanical and electrical equipment in Seismic Design Categories D, E, or F
   o When a permit is issued for alteration or repairs, the existing mechanical and electrical equipment on the area of the roof shall comply with ASCE 7-16 Section 13.4 Nonstructural Component Anchorage

16.04.350 (CBC 405.2.3.1) – Seismic evaluation and design procedures for repairs
   o The building shall be evaluated by a registered design professional, and the evaluation findings shall be submitted to the code official. The evaluation shall establish whether the damaged building, if repaired to its pre-damage state, would comply with the provisions of the California Building Code for load combinations that include wind or earthquake effects.
Ordinance No. 5477

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

SECTION 1. Chapter 16.04 of the Palo Alto Municipal Code is hereby amended by repealing it in its entirety and adopting a new Chapter 16.04 to read as follows:

16.04   CALIFORNIA BUILDING CODE


The California Building Code, 2019 Edition, Title 24, Part 2 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, 2016, shall be construed to apply to the corresponding provisions contained within the California Code of Regulations, Title 24, 2019. Ordinance No. 5389 of the City of Palo Alto and all other ordinances or parts of ordinances in conflict herewith are hereby suspended and expressly repealed.

Wherever the phrases “California Building Code” or “Building Code” are used in this code or any ordinance of the City, such phrases shall be deemed and construed to refer and apply to the California Building Code, 2019 Edition, Title 24, Part 2 of the California Code of Regulations, as adopted by this chapter.

One copy of the California Building Code, 2019 Edition, has been filed for use and examination of the public in the Office of the Building Official of the City of Palo Alto.


The following Appendix chapters and section of the California Building Code, 2019 Edition, are adopted and hereby incorporated in this Chapter by reference and made a part hereof the same as if fully set forth herein:

A. Appendix I – Patio Covers
B. Section J109.4 – Drainage across Property Lines (Appendix J)
C. Appendix O – Emergency Housing

2019102206
2019 Code Cycle ORD Amending Ch. 16.04 Building Code
16.04.030  **Cross - References to California Building Code.**

The provisions of this Chapter contain cross-references to the provisions of the California Building Code, 2019 Edition, in order to facilitate reference and comparison to those provisions.

16.04.040  **Section 1.11.2.1.1 Duties and powers of the enforcing agency/Enforcement.**

Section 1.11.2.1.1 of Chapter 1 of the California Building Code is amended to read:

1.11.2.1.1 The responsibility for enforcement of building standards adopted by the State Fire Marshal and published in the California Building Standards Code relating to fire and panic safety and other regulations of the State Fire Marshal shall, except as provided in Section 1.11.2.1.2, be as follows:

1. The city, county or city and county with jurisdiction in the area affected by the standard or regulation shall delegate the enforcement of the building standards relating to fire and panic safety and other regulations of the State Fire Marshal as they relate to Group R-3 occupancies, as described in Section 310.1 of Part 2 of the California Building Standards Code, to both enforcement divisions specific to their areas of enforcement disciplines:

   1.1 The chief of the fire authority of the city or an authorized representative and;
   1.2. The chief building official of the city or an authorized representative.

16.04.050  **Violations -- Penalties.**

It is unlawful for any person to violate any provision or to fail to comply with any of the requirements of this Chapter or any permits, conditions, or variances granted under this Chapter. Violators shall be subject to any penalty or penalties authorized by law, including but not limited to: administrative enforcement pursuant to Chapters 1.12 and 1.16 of the Palo Alto Municipal Code; and criminal enforcement pursuant to Chapter 1.08 of the Palo Alto Municipal 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.

When the chief building official determines that a violation of this Chapter has occurred, the chief building official may record a notice of pendency of code violation with the Office of the County Recorder stating the address and owner of the property involved. When the violation has been corrected, the chief building official shall issue and record a release of the notice of pendency of code violation.

16.04.060  **Enforcement -- Criminal Enforcement Authority.**

The employee positions designated in this section are authorized to exercise the authority provided in California Penal Code section 836.5 for violations of this Chapter. The designated employee positions are: (1) chief building official, (2) assistant chief building official, (3) building inspection manager, and (4) code enforcement officer.

16.04.070  **Local Amendments.**
The provisions of this Chapter shall constitute local amendments to the cross-referenced provisions of the California Building Code, 2019 Edition, and shall be deemed to replace the cross-referenced sections of said Code with the respective provisions set forth in this Chapter.

**16.04.075 Section 101 General.** Section 101 of Chapter 1 of the California Building Code is amended to read:

**101.1 Title.** The regulations shall be known as the Building Code of City of Palo Alto, hereinafter referred to as “this code.”

**16.04.080 Section 105.1.3 Demolition permits.** Section 105.1.3 of Chapter 1 of the California Building Code is added to read:

**105.1.3 Demolition permits.** In addition to other requirements of law, every person seeking a permit to demolish a unit used for residential rental purposes shall furnish an affidavit or declaration under penalty of perjury that the unit proposed to be demolished is vacant, or that notice to vacate has been given to each tenant lawfully in possession thereof as required by law or by the terms of such tenancy. No work or demolition shall begin upon any portion of such a unit until each and every portion has been vacated by all tenants lawfully in possession thereof.

**16.04.085 Section 105.3.2 Time limitation of application.** Section 105.3.2 of Chapter 1 of the California Building Code is amended to read:

**Section 105.3.2 Time limitation of application.** An application for a permit for any proposed work shall be deemed to have been abandoned 365 days after the date of filing, unless such application has been pursued in good faith or a permit has been issued; except that the building official is authorized to grant one or more extensions and/or reactivations for additional periods not exceeding 90 days each. The extension shall be required in writing and justifiable cause demonstrated.

**16.04.090 Section 105.5 Expiration.** Section 105.5 of Chapter 1 of the California Building Code is amended to read:

**105.5 Expiration.** Every permit issued shall become invalid unless the work on the site authorized by such permit is commenced within 180 days or 12 months for residential occupancies after its issuance, or if the work authorized on the site by such permit is suspended or abandoned for a period of 180 days after the time the work is commenced. For the purpose of this section, failure to progress a
project to the next level of required inspection shall be deemed to be suspension of the work.

The chief building official or designee is authorized to grant, in writing, no more than three extensions and reactivations of permits that would otherwise expire or reactivations of expired permits, for periods not more than 180 days each and may require:

1) that the construction documents be revised to partially or fully comply with current codes; and
2) payment of a fee; and
3) payment of a penalty pursuant to Chapter 16.62 of the Palo Alto Municipal Code, as it may be amended from time to time.

Extensions and reactivations shall be requested in writing and justifiable cause demonstrated. Additional extensions or reactivations beyond three may only be granted with the approval of the City Council.

105.5.1 Term Limit for Permits. All work associated with a building permit must be completed, and final inspection issued, within 48 months of permit issuance.

16.04.100 Section 109.6 Refunds. Section 109.6 of Chapter 1 of the California Building Code is amended to read:

109.6 Refunds The building official or designee may authorize the refund of any fee paid hereunder which was erroneously paid or collected. The building official or designee may authorize the refund of not more than eighty percent (80%) of the Permit Fee paid when no work has occurred under a permit issued pursuant to this Chapter. The building official or designee may authorize the refund of not more than eighty percent (80%) of the Plan Review Fee paid when a permit application is withdrawn or canceled before any plan review work has started.

16.04.110 Section 109.7 Re-Inspection fees. Section 109.7 of Chapter 1 of the California Building Code is added to read:

109.7 Re-Inspection Fees. A Re-Inspection Fee may be assessed/authorized by the building official or the building inspection supervisor for each re-inspection required when work for which an inspection is requested is not ready for inspection or when required corrections noted during prior inspections have not been completed. A “Re-Inspection Fee” may be assessed/authorized when:
1. The inspection record card is not posted or otherwise available on the work site; or
2. The approved plans are not readily available for the inspector at the time of inspection; or
3. The inspector is unable to access the work at the time of inspection; or
4. When work has substantially deviated from the approved plans without the prior approval of the building official.
5. When a Re-Inspection Fee is assessed, additional inspection of the work will not be performed until the fee has been paid.

16.04.115 Section 110.2.1 Preliminary accessibility compliance inspection. Section 110.2.1 of Chapter 1 of the California Building Code is added to read:

110.2.1 Preliminary accessibility compliance inspection. Before issuing a permit, the building official or designee is authorized to examine or cause to be examined the pre-construction accessibility compliance conditions of the buildings, structures, and sites for which an application has been filed.

16.04.120 Section 110.3.3 Lowest floor elevation. Section 110.3.3 of Chapter 1 of the California Building Code is amended to read:

110.3.3 Lowest floor elevation. In flood hazard areas, upon placement of the lowest floor, including the basement, and prior to further vertical construction, the elevation certification shall be submitted to City Public Works Engineering for inspection approval prior to foundation inspection by City Building Inspection.

16.04.130 Section 111.1 – Use and occupancy. Section 111.1 of Chapter 1 of the California Building Code is amended to read:

111.1 Use and occupancy. A building or structure shall not be used or occupied, and a change in the existing occupancy of a building or structure or portion thereof shall not be made, until the building official has issued a certificate of occupancy therefor as provided herein. Issuance of a certificate of occupancy shall not be construed as an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction.

Exception: Certificates of occupancy are not required for:
1. Work exempt from permits under Section 105.2
2. Group R – Division 2, 3 occupancies
3. Group U occupancies

111.1.1 Change of occupancy or tenancy. Each change of occupancy, official name or tenancy of any building, structure or portion thereof, shall require a new certificate of occupancy, whether or not any alterations to the building are required by this code.

If a portion of any building does not conform to the requirements of this code for a proposed occupancy, that portion shall be made to conform. The building official may issue a new certificate of occupancy without requiring compliance with all such requirements if it is determined that the change in occupancy or
tenancy will result in no increased hazard to life or limb, health, property or public welfare.

When application is made for a new certificate of occupancy under this section, the building official and fire chief shall cause an inspection of the building to be made. The inspector(s) shall inform the applicant of those alterations necessary, or if none are necessary, and shall submit a report of compliance to the building official.

Before any application for a new certificate of occupancy is accepted, a fee shall be paid by the applicant to cover the cost of the inspection of the building required by the change of occupancy or tenancy.

16.04.140 Section 111.3– Temporary occupancy. Section 111.3 of Chapter 1 of the California Building Code is amended to read:

111.3 Temporary occupancy. The building official is authorized to issue a temporary certificate of occupancy before the completion of the entire work covered by the permit, or as otherwise required, provided that such portion or portions shall be occupied safely. The building official shall set a time period during which the temporary certificate of occupancy is valid.

16.04.150 Section 111.5 Posting. Section 111.5 of Chapter 1 of the California Building Code is added to read:

111.5 Posting. The certificate of occupancy shall be posted in a conspicuous, readily accessible place in the building or portion of building to be occupied and shall not be removed except when authorized by the building official.

16.04.153 Section 115 Stop Work Order. Section 115 of Chapter 1 of the California Building Code is amended to read:

SECTION 115
STOP WORK ORDER

115.1 Authority. Whenever the building official finds any work regulated by this code being performed in a manner that is contrary to the provisions of this code, without a permit, beyond the scope of the issued permit, in violation of the Palo Alto Municipal Code or Zoning Ordinance, or dangerous or unsafe, the building official is authorized to issue a stop work order.

115.2 Issuance. The stop work order shall be in writing and shall be posted in a visible location near the location where the work is being conducted. If the owner or owner’s agent is not on site at the time of posting, a notice advising the reasons for the stop work order issuance shall be hand delivered or mailed first-class to the owner of the property.
involved, or to the owner’s agent, or to the person doing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order, the conditions under which the cited work will be permitted to resume, and the name and contact information of the official or agency issuing the order.

115.3 **Unlawful Continuance.** Any person who continues to engage in any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be guilty of a misdemeanor.

115.4 **Removal of Posted Stop Work Order.** Any person who removes a posted stop work order without written consent of the Building Official shall be guilty of a misdemeanor.

115.5 **Response Required.** Violators receiving a stop work order are required to respond to the Building Division within five (5) business days of the issued notice to receive instructions on how to rescind the order.

115.6 **Permit Application Required.** A building permit application with construction or demolition plans and supporting (structural calculations, energy calculations, accessible access) documents must be submitted for approval within fifteen (15) working days following response to the Building Division. Plans will be reviewed and correction letters issued or permit application approved by the Building Division. A response to any correction letter must be submitted within fifteen (15) working days of the date of the correction letter. Ten working days will be required to review this second submission and a permit approved for issuance. Permits ready for issuance must be issued within 5 working days thereafter. All construction must be inspected as work progresses and signed off by all (affected) departments within 180 days of building permit issuance.

115.7 **Stop Work Order Penalty.** The Building Official may impose Stop Work Order Penalties in accordance with Section 1.14.050 of this code and/or other applicable law.

16.04.155 **Section 502.1 Address identification.** Section 502.1 of Chapter 5 of the California Building Code is amended to read:

502.1 **Address identification.** New and existing buildings shall be provided with approved address identification. The address identification shall be legible and placed in a position that is visible from the street or road fronting the property. Address identification characters shall contrast with their background. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall not be spelled out. Each character shall be a minimum of 4 inches (102 mm) high with a minimum stroke width of ½ inch (12.7 mm) unless required to be larger by Section 502.1.2. When required by the fire code official, address identification shall be provided in additional approved locations to facilitate emergency response. Where access is by means of a private road and the building address cannot be viewed from the public way, a monument, pole or other approved sign or means shall be used to identify the structure. Address numbers shall be maintained.
502.1.1 Address illumination. Address identification required by Section 501.2 shall be illuminated.

502.1.2 Address identification size. Address numbers and letters shall be sized as follows:
   1. When the structure is between thirty-six (36) and fifty (50) feet from the road or other emergency means of access, a minimum of one-half inch (0.5”) stroke by six inches (6”) high is required.
   2. When the structure is fifty (50) or more feet from the road or other emergency means of access, a minimum of one inch (1”) stroke by nine inches (9”) high is required.

16.04.160 Section 702A Definitions – Wildland-Urban Interface Fire Area.
Section 702A of Chapter 7A of the California Building Code is amended include the following definition of “Wildland-Urban Interface Fire Area”:

WILDLAND-URBAN INTERFACE FIRE AREA is a geographical area identified by the State of California as a “Fire Hazard Severity Zone” in accordance with Public Resources Code Sections 4201 through 4202 and Government Code Sections 51175 through 51189, or other areas designated by the enforcing agency to be at a significant risk from wildfires. Within the city limits of the City of Palo Alto, “Wild Land-Urban Fire Interface Area” shall also include all areas west of Interstate 280, and all other areas recommended as a “Very High Fire Hazard Severity Zone” by the Director of the California Department of Forestry.

16.04.170 Reserved

Section 903.2 of Chapter 9 the California Building Code is amended to read as follows:

903.2 Automatic sprinkler systems, where required. Approved automatic sprinkler systems in new buildings and structures and in existing modified buildings and structures, shall be provided in the locations described in this section. Automatic fire sprinklers shall be installed per the requirements set forth in Sections 903.2.1 through 903.2.18 and as follows, whichever is the more restrictive:

1. An automatic sprinkler system shall be provided throughout all new buildings and structures.

   Exception: New non-residential occupancies, buildings or structures that do not exceed 350 square feet of building area and contain no plumbing fixtures.
2. An automatic sprinkler system shall be provided for all existing buildings or structures where modifications have been determined by the Building Official to trigger requirements for seismic retrofit.

3. An automatic sprinkler system shall be provided throughout all existing buildings when modifications are made that create conditions described in Sections 903.2.1 through 903.2.18, or that create an increase in fire area to more than 3600 square feet or when the addition is equal or greater than 50% of the existing building square footage whichever is more restrictive.

4. An automatic sprinkler system shall be provided throughout all new or rendered usable for occupancy and/or storage space basements regardless of size and throughout existing basements that are expanded by more than 50% or is conditioned for use. If the addition is only the basement, then only the basement is required to be fire sprinkler protection.

5. An automatic sprinkler system shall be installed throughout when either the roof structure and/or exterior wall structure have been removed and/or replaced by at least 50% of the existing structure.

6. An automatic sprinkler system shall be installed throughout when any change in use or occupancy creating a more hazardous fire/life safety condition, as determined by the Fire Chief.

16.04.190 Section 903.3.1.1 NFPA sprinkler systems.
Section 903.3.1.1 of Chapter 9 of the California Building Code is amended to read as follows:

903.3.1.1 NFPA 13 sprinkler systems. Where the provisions of this code require that a building or portion thereof be equipped throughout with an automatic sprinkler system in accordance with this section, sprinklers shall be installed throughout in accordance with NFPA 13 and State and local requirements except as provided in Section 903.3.1.1.

1. For new buildings having no designated use or tenant, the minimum sprinkler design density shall be Ordinary Hazard Group II.

2. Where future use or tenant is determined to require a higher density, the sprinkler system shall be augmented to meet the higher density.

16.04.200 Section 903.3.1.2 – NFPA 13R sprinkler systems.
Section 903.3.1.2 of Chapter 9 of the California Building Code is amended to read as follows:

903.3.1.2 NFPA 13R sprinkler systems. Where allowed in buildings of Group R Occupancies, up to and including four stories in height, automatic sprinkler systems shall be installed throughout in accordance with NFPA 13 and State and local standards.
16.04.210  Section 903.3.1.3 – NFPA 13D sprinkler systems.
Section 903.3.1.3 of Chapter 9 of the California Building Code is amended to read as follows:

903.3.1.3 NFPA 13D sprinkler systems. Where allowed, automatic sprinkler systems installed in one-and two-family detached dwellings and townhouses shall be installed throughout in accordance with NFPA 13D and State and local standards. Fire sprinkler protection is required under rear covered patios extending 4 feet perpendicular from the exterior of the structure.

16.04.220  Reserved

16.04.230  Reserved

16.04.240  Section 903.4.3 - Floor control valves.
Section 903.4.3 of Chapter 9 of the California Building Code is amended to read as follows:

903.4.3 Floor control valves. Automatic sprinkler systems serving buildings two (2) or more stories in height shall have valves installed so as to control the system independently on each floor including basements.

16.04.250  Section 905.3.1 Standpipe Systems.
Section 905.3.1 of the California Building Code is amended to read as follows:

905.3.1 Height. A Class I standpipe system shall be installed in buildings 3 or more stories in height and in below grade occupied levels.

16.04.255  Section 1203.6 Ventilation of weather-exposed enclosed assemblies.
Section 1203.6 of Chapter 12 of the California Building Code is added to read:

1203.6 Ventilation of weather-exposed enclosed assemblies. Exterior projecting elements and appurtenances exposed to the weather and sealed underneath, including but not limited to balconies, landings, decks, and stairs, shall have cross ventilation for each separate enclosed space by ventilation openings protected against the entrance of rain and snow. Blocking and bridging shall be arranged so as not to interfere with the movement of air. The net free ventilating area shall not be less than 1/150th of the area of the space ventilated. Ventilation openings shall comply with Section1203.2.1. An access panel of sufficient size shall be provided on the underside of the enclosed space to allow for periodic inspection.

Exceptions:
1. An access panel is not required where the exterior coverings applied to the underside of joists are easily removable using only common tools.
2. Removable soffit vents of at least four inches (4\') in width can be used to satisfy both ventilation and access panel requirements.

16.04.260  **Section 1206.3.4 – Roof guardrails at interior courts.**
Section 1206.3.4 of Chapter 12 of the California Building Code is added to read:

1206.3.4 **Roof guardrails at interior courts.** Roof openings into interior courts that are bounded on all sides by building walls shall be protected with guardrails. The top of the guardrail shall not be less than 42 inches in height above the adjacent roof surface that can be walked on. Intermediate rails shall be designed and spaced such that a 12 inch diameter sphere cannot pass through.

**Exception:** Where the roof opening is greater than 600 square feet in area.

16.04.265  **Section 1406.3.1 Projections exposed to weather.**
Section 1406.3.1 of Chapter 14 of the California Building Code is added to read:

1406.3.1 **Projections exposed to weather.** Floor projections exposed to the weather and sealed underneath, including but not limited to balconies, landings, decks, and stairs shall be constructed of naturally durable wood, preservative-treated wood, corrosion-resistant (e.g. galvanized) steel, or similar approved materials.

16.04.270  **Section 1503.2.1 Flashing Locations.**
Section 1503.2.1 of Chapter 15 of the California Building Code is amended to read:

1503.2.1 **Locations.** Flashing shall be installed at wall and roof intersections, gutters, wherever there is a change in roof slope or direction, and around roof openings. Where flashing is of metal, the metal shall be corrosion resistant with a thickness of not less than 0.019 inches (0.483 mm) (e.g. no. 26 galvanized sheet) and shall be primed and painted.

16.04.275  **Section 1613.5 ASCE 7, Section 13.1.4 Seismic Design Requirements for Nonstructural Components.**
Section 1613.5 of Chapter 16 of the California Building Code is added to include the following:

13.1.4 **Exemptions.** The following nonstructural components are exempt from the requirements of this section:
1. Furniture (except storage cabinets as noted in Table 13.5-1).
2. Temporary or movable equipment.
3. Architectural components in Seismic Design Category B other than parapets supported by bearing walls or shear walls provided that the component importance factor, $I_p$, is equal to 1.0.
4. Mechanical and electrical components in Seismic Design Category B.
5. Mechanical and electrical components in Seismic Design Category C provided that the component importance factor, $I_p$, is equal to 1.0.
6. Mechanical and electrical components in Seismic Design Categories D, E, or F where all of the following apply:
   a. The component importance factor, \( I_p \), is equal to 1.0;
   b. The component is positively attached to the structures;
   c. Flexible connections are provided at seismic separation joints and between the component and associated ductwork, piping, and conduit; and either:
      i. The component weighs 400 lb (1,780 N) or less and has a center of mass located 4 ft (1.22 m) or less above the adjacent floor level; or
      ii. The component weighs 20 lb (89 N) or less or, in the case of a distributed system, 5 lb/ft (73 N/m) or less; or
      iii. The component weights 200 lb (890 N) or less and is suspended from roof/floor or mounted on wall.

16.04.280 Section 1612.1.1 - Palo Alto Flood Hazard Regulations.
Section 1612.1.1 of Chapter 16 of the California Building Code is added to read:

1612.1.1 Palo Alto Flood Hazard Regulations. Notwithstanding the provisions of Section 1612.1, all construction or development within a flood hazard area (areas depicted as a Special Flood Hazard Area on Flood Insurance Rate Maps published by the Federal Emergency Management Agency) shall comply with the City of Palo Alto Flood Hazard Regulations (Palo Alto Municipal Code Chapter 16.52). Where discrepancies exist between the requirements of this code and said regulations, the provisions of said regulations shall apply.

16.04.290 Section 1705.3 Concrete Construction.
Section 1705.3 of Chapter 17 of the California Building Code is amended to read:

1705.3 Concrete construction. The special inspections and tests of concrete construction shall be as required by this section and Table 1705.3.

   Exception: Special inspections shall not be required for:

   1. Isolated spread concrete footings of buildings three stories or less above grade plane that are fully supported on earth or rock, where the structural design of the footing is based on a specified compressive strength, \( f''_c \), no greater than 2,500 pounds per square inch (psi) (17.2 Mpa).
   2. Continuous concrete footings supporting walls of buildings three stories or less above grade plane that are fully supported on earth or rock where:
      2.1. The footings support walls of light-frame construction;
      2.2. The footings are designed in accordance with Table 1809.7; or
      2.3. The structural design of the footing is based on a specified compressive strength, \( f''_c \), no greater than 2,500 pounds per square inch (psi) (17.2 Mpa), regardless of the compressive strength specified in the construction documents or used in the footing construction.
3. Nonstructural concrete slabs supported directly on the ground, including pre-stressed slabs on grade, where the effective pre-stress in the concrete is less than 150 psi (1.03 MPa).

4. Concrete foundation walls constructed in accordance with Table 1807.1.6.2.

5. Concrete patios, driveways and sidewalks, on grade.

16.04.300 Table 1809.7 Prescriptive Footings Supporting Walls of Light-Frame Construction.

Table 1809.7 of Chapter 18 of the California Building Code is amended to read:

**TABLE 1809.7**

Prescriptive Footings Supporting Walls of Light-Frame Construction

<table>
<thead>
<tr>
<th>Number of Floors Supported by the Footing</th>
<th>Thickness of Foundation Wall (inches)</th>
<th>Width of Footing (inches)</th>
<th>Thickness of Footing (inches)</th>
<th>Depth of Foundation Below Natural Surface of Ground or Finish Grade (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 &amp; 2</td>
<td>8</td>
<td>15</td>
<td>8</td>
<td>20</td>
</tr>
<tr>
<td>3</td>
<td>8</td>
<td>18</td>
<td>8</td>
<td>30</td>
</tr>
<tr>
<td>Group U Occupancies</td>
<td>8</td>
<td>12</td>
<td>8</td>
<td>12</td>
</tr>
</tbody>
</table>

a. The ground under the floor shall be permitted to be excavated to the elevation of the top of the footing.

b. Interior stud-bearing walls shall be permitted to be supported by isolated footings. The footing width and length shall be twice the width shown in this table, and footings shall be spaced not more than 6 feet on center.

c. See Section 1905 for additional requirements for concrete footings of structures assigned to Seismic Design Category C, D, E or F.

d. All foundations as required in the above Table shall be continuous and have a minimum of three #4 bars of reinforcing steel, except for one story, detached accessory buildings of Group U occupancy where two bars are required.

e. Footings shall be permitted to support a roof in addition to the stipulated number of floors. Footings supporting roof only shall be as required for supporting one floor.

16.04.305 Section 1905.1.7 ACI 318, Section 14.1.4.

Section 1905.1.7 of Chapter 19 of the California Building Code is amended to read:

1905.1.7 ACI 318, Section 14.1.4. Delete ACI 318, Section 14.1.4, and replace with the following:
14.1.4 - Plain concrete in structures assigned to Seismic Design Category C, D, E or F.
14.1.4.1- Structures assigned to Seismic Design Category C, D, E or F shall not have elements of structural plain concrete, except as follows:

(a) Left intentionally blank.

(b) Isolated footings of plain concrete supporting pedestals or columns are permitted, provided the projection of the footing beyond the face of the supported member does not exceed the footing thickness.

(c) Plain concrete footings supporting walls are permitted, provided the footings have at least three continuous longitudinal reinforcing bars not smaller than No. 4, with a total area of not less than 0.002 times the gross cross-sectional area of the footing except for one story, detached accessory buildings of Group U occupancy where two bars are required. A minimum of one bar shall be provided at the top and bottom of the footing. Continuity of reinforcement shall be provided at corners and intersections.

16.04.310   Section 2308.6 Wall Bracing. Section 2308.6 of Chapter 23 of the California Building Code is amended to read:

. . .

2308.6.4 Braced Wall panel construction. For Methods DWB, WSP, SFB, PBS, PCP and HPS, each panel must be not less than 48 inches (1219 mm) in length, covering three stud spaces where studs are spaced 16 inches (406 mm) on center and covering two stud spaces where studs are spaced 24 inches (610 mm) on center. Braced wall panels less than 48 inches (1219 mm) in length shall not contribute toward the amount of required bracing. Braced wall panels that are longer than the required length shall be credited for their actual length.

Vertical joints of panel sheathing shall occur over studs and adjacent panel joints shall be nailed to common framing members. Horizontal joints shall occur over blocking or other framing equal in size to the studding except where waived by the installation requirements for the specific sheathing materials. Sole plates shall be nailed to the floor framing in accordance with Section 2308.7 and top plates shall be connected to the framing above in accordance with Section 2308.6.7.2. Where joists are perpendicular to braced wall lines above, blocking shall be provided under and in line with the braced wall panels.

2308.6.5 Alternate bracing. An alternate braced wall (ABW) or a portal frame with hold-downs (PFH) described in this section is permitted to substitute for a 48-inch (1219 mm) braced wall panel of Method DWB, WSP, SFB, PCP or HPS.

Subsections 2308.6.1 through 2308.6.3 are unchanged.
16.04.315 Table 2308.6.1 – footnote b amended. Footnote “b” of table 2308.6.1 of Chapter 23 of the California Building Code is amended to read:

b. Method GB, gypsum wallboard is prohibited in Seismic Design Categories D & E.

16.04.317 Table 2308.6.3(1) Bracing Methods. Table 2308.6.3(1) – Bracing Methods of Chapter 23 of the California Building Code is amended to add footnote “b” as follows:

<table>
<thead>
<tr>
<th>METHODS, MATERIAL</th>
<th>MINIMUM THICKNESS</th>
<th>FIGURE</th>
<th>CONNECTION CRITERIAa</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fasteners Spacing</td>
</tr>
</tbody>
</table>

b. Method GB, gypsum wallboard is prohibited in Seismic Design Categories D & E.

16.04.320 Section 2308.9 Attachment of sheathing. Section 2308.9 of Chapter 23 of the California Building Code is added to read:

2308.9 Attachment of sheathing. Fastening of braced wall panel sheathing shall not be less than that prescribed in Table 2308.6.3(1) or 2304.10.1 Wall sheathing shall not be attached to framing members by adhesives.

All braced wall panels shall extend to the roof sheathing and shall be attached to parallel roof rafters or blocking above with framing clips (18 gauge minimum) spaced at maximum 24 inches on center with four 8d nails per leg (total eight-8d nails per clip). Braced wall panels shall be laterally braced at each top corner and at maximum 24 inch intervals along the top plate of discontinuous vertical framing.

16.04.322 Chapter 31B – Public Pools. Chapter 31B of the California Building Code has been adopted in its entirety.

The California Building Code, Chapter 31B shall apply to the construction, installation, renovation, alteration, addition, relocation, replacement or use of any public pool and its ancillary facilities, mechanical equipment and related piping.

16.04.325 Section 3304.1 Excavation and fill.
Section 3304.1 of Chapter 33 of the California Building Code is amended to read:

3304.1 Excavation and fill. Excavation and fill for buildings and structures shall be constructed or protected so as not to endanger life or property. Stumps and roots shall be removed from the soil to a depth of not less than 12 inches (305mm) below the surface of the ground in the area to be occupied by the building. Wood forms that have been used in placing concrete, if within the ground or between foundation sills and the ground, shall be removed before a building is occupied or used for any purpose. Wooden stakes shall not
be embedded in concrete. Before completion, loose or casual wood shall be removed from direct contact with the ground under the building.


The California Existing Building Code, 2019 Edition, Title 24, Part 10, which provides alternative building regulations for the rehabilitation, preservation restoration or relocation of existing buildings is adopted and hereby incorporated in this Chapter be reference and made a part hereof the same as if fully set forth herein. One copy of the California, 2019 Edition, has been filed for use and examination of the public in the Office of the Building Official of the City of Palo Alto.


The following Appendix Chapters of the California Existing Building Code (CEBC), 2019 Edition, and International Existing Building Code (IEBC), 2018 Edition, are adopted and hereby incorporated in this Chapter be reference and made a part hereof the same as if fully set forth herein:

A. CEBC Appendix A1 – Seismic Strengthening Provisions for Unreinforced Masonry Bearing Wall Buildings
B. IEBC Appendix Chapter A2 – Earthquake Hazard Reduction in Existing Reinforced Concrete and Reinforced Masonry Wall Buildings with Flexible Diaphragms.
C. CEBC Appendix A3 – Prescriptive Provisions for Seismic Strengthening of Cripple Walls and Sill Plate Anchorage of Light, Wood-Frame Residential Buildings
D. CEBC Appendix A4 – Earthquake Risk Reduction in Wood-Frame Residential Buildings with Soft, Weak or Open Front Walls
E. CEBC Appendix A5 – Referenced Standards

16.04.340 Section 503.17 – Suspended ceiling systems.

Section 503.17 of the California Existing Building Code, Title 24, Part 10 is added to read:

503.17 Suspended ceiling systems. In existing buildings or structures, when a permit is issued for alterations or repairs, the existing suspended ceiling system within the area of the alterations or repairs shall comply with ASCE 7-16 Section 13.5.6.

16.04.345 Section 503.18 - Mechanical and electrical equipment in Seismic Design Categories D, E, or F. Section 503.18 of the California Existing Building Code, Title 24, Part 10 is added to read:

503.18 Mechanical and electrical equipment in Seismic Design Categories D, E, or F. In existing buildings or structures, when a permit is issued for alteration or repairs, the existing mechanical and electrical equipment on the area of the roof shall comply with ASCE 7-16 Section 13.4 Nonstructural Component Anchorage.
16.04.350  **Section 405.2.3.1 – Seismic Evaluation and Design Procedures for Repairs.** Section 405.2.3.1 of the California Existing Building Code, Title 24, Part 10 is amended to read:

**405.2.3.1 Evaluation and design procedures.** The building shall be evaluated by a registered design professional, and the evaluation findings shall be submitted to the code official. The evaluation shall establish whether the damaged building, if repaired to its pre-damage state, would comply with the provisions of the California Building Code for load combinations that include wind or earthquake effects, except that the seismic forces shall be reduced seismic forces. Evaluation for earthquake loads shall be required if the substantial structural damage was caused by or related to earthquake effects or if the building is in Seismic Design Category C, D, E or F. The seismic evaluation and design shall be based on the procedures specified in the building code, ASCE 41 Seismic Evaluation and Upgrade of Existing Buildings. The procedures contained in Appendix A of the International Existing Building Code (IEBC) shall be permitted to be used as specified in Section 405.2.3.1.

Wind loads for this evaluation shall be those prescribed in Section 1609.

**405.2.3.1.1 CEBC level seismic forces.** When seismic forces are required to meet the building code level, they shall be one of the following:

1. One hundred percent of the values in the building code. The R factor used for analysis in accordance with Chapter 16 of the building code shall be the R factor specified for structural systems classified as "Ordinary" unless it can be demonstrated that the structural system satisfies the proportioning and detailing requirements for systems classified as "intermediate" or "special".

2. Forces corresponding to BSE-1 and BSE-2 Earthquake Hazard Levels defined in ASCE 41. Where ASCE 41 is used, the corresponding performance levels shall be those shown in Table 405.2.3.1.

<table>
<thead>
<tr>
<th>TABLE 405.2.3.1 ASCE 41 PERFORMANCE LEVELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>RISK CATEGORY (BASED ON CBC TABLE 1604.5)</td>
</tr>
<tr>
<td>I</td>
</tr>
<tr>
<td>II</td>
</tr>
<tr>
<td>III</td>
</tr>
<tr>
<td>IV</td>
</tr>
</tbody>
</table>

* Only applicable when Tier 3 procedure is used.
405.2.3.1.2 Reduced CEBC level seismic forces. When seismic forces are permitted to meet reduced building code levels, they shall be one of the following:

1. Seventy-five percent of the forces prescribed in the building code. The R factor used for analysis in accordance with Chapter 16 of the building code shall be the R factor as specified in Section 405.2.3.1.1.

2. In accordance with the California Existing Building Code and applicable chapters in Appendix A of the International Existing Building Code, as specified in Items a. through e. below. Structures or portions of structures that comply with the requirements of the applicable chapter in Appendix A shall be deemed to comply with the requirements for reduced building code force levels.
   a. The seismic evaluation and design of unreinforced masonry bearing wall buildings in Risk Category I or II are permitted to be based on the procedures specified in CEBC Appendix Chapter A1.
   b. Seismic evaluation and design of the wall anchorage system in reinforced concrete and reinforced masonry wall buildings with flexible diaphragms in Risk Category I or II are permitted to be based on the procedures specified in IEBC Appendix Chapter A2.
   c. Seismic evaluation and design of cripple walls and sill plate anchorage in residential buildings of light-frame wood construction in Risk Category I or II are permitted to be based on the procedures specified in CEBC Appendix Chapter A3.
   d. Seismic evaluation and design of soft, weak, or open-front wall conditions in multi-unit residential buildings of wood construction in Risk Category I or II are permitted to be based on the procedures specified in CEBC Appendix Chapter A4.
   e. Seismic evaluation and design of concrete buildings and concrete with masonry infill buildings in all risk categories are permitted to be based on the procedures specified in IEBC Appendix Chapter A5.

3. Those associated with the BSE-1 Earthquake Hazard Level defined in ASCE 41 and the performance level as shown in Table 405.2.3.1. Where ASCE 41 is used, the design spectral response acceleration parameters SXS and SX1 shall not be taken less than seventy-five percent of the respective design spectral response acceleration parameters SDS and SD1 defined by the California Building Code and its reference standards.


The California Historical Building Code, 2019 Edition, Title 24, Part 8 (authorized by Health and Safety Code Sections 18950 through 18961), which provides alternative building regulations for the rehabilitation, preservation, restoration, or relocation of designated historic buildings, is adopted and hereby incorporated in this Chapter by reference and made a part hereof the same as
if fully set forth herein. One copy of the California Historical Building Code, 2019 Edition, has been filed for use and examination of the public in the Office of the Building Official of the City of Palo Alto.

**SECTION 2.** The Council adopts the findings for local amendments to the California Building Code, 2019 Edition, attached hereto as Exhibit “A” and incorporated herein by reference.

**SECTION 3.** The Council finds that this ordinance 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 4. This Ordinance shall be effective on the thirty-first day after the date of its adoption.

INTRODUCED: November 4, 2019

PASSED: November 18, 2019

AYES: CORMACK, DUBOIS, FILSETH, KNISS, KOU, TANAKA

NOES: 

ABSENT: FINE

ABSTENTIONS: 

ATTEST:

City Clerk

Deputy City Attorney

APPROVED AS TO FORM: 

APPROVED:

City Manager

Director of Planning and Development Services

Director of Administrative Services
The information provided in this document is general and intended as a guide only. Each project is unique and additional requirements may be enforced as deemed appropriate.

**IMPORTANT**
The following are summaries of the common adoptive ordinances effective on 01/01/2020; for a full list of common adoptive ordinances and for a full description of each one, see the accompanying City of Palo Alto ordinances and/or please visit the following website: [https://www.amlegal.com/?s=palo+alto](https://www.amlegal.com/?s=palo+alto)

**RESIDENTIAL**

- **16.06.090 (CRC R105.1.1) – Demolition Permits**
  - An affidavit or declaration is required before a demolition permit is issued.

- **16.04.100 (CRC R105.5) – Expiration**
  - All work must start within 12 months for residential projects. Extensions can be issued for 180 days.

- **16.04.150 (CRC R202) – Definitions: Wildland Urban Interface Fire Area**
  - City of Palo Alto adopts the definition for Wildland Urban Interface Fire Areas, which includes all areas west of Interstate 280, and all other areas recommended as a “Very High Fire Hazard Severity Zone” by the Director of the California Department of Forestry.

- **16.06.165 (CRC R310.1) – Emergency escape and rescue opening required**
  - Basements, habitable attics and every sleeping room shall have not less than one operable emergency escape and rescue opening.

- **16.06.170 (CRC R310.2.3.3) – Window well fall protection**
  - Window wells with a vertical depth greater than 30 inches shall have guards on all sides. Access ladders shall extend from the bottom of the well to the top of the guard.

- **16.06.180 (CRC R310.4.1) – Security bars**
  - Fire Department plan check review and approval of all security bar submittals shall be required prior to the issuance of a Building Permit.

- **16.06.190 (CRC R313.2) – One- and tow-family dwellings automatic fire sprinklers**
  - Refer to the accompanying City of Palo Alto ordinance for more details.
- 16.04.205 (CRC R13.1.1, CRC R319.1.2) – Address numbers
  - The address identification shall be legible and placed in a position that is visible, must be illuminated, and sized accordingly.

- 16.04.280 (CBC 1612.1.1) – Palo Alto flood hazard regulations
  - All construction or development within a flood hazard area shall comply with the City of Palo Alto Flood Hazard Regulations.

- 16.04.210 (CRC R322.1) – Palo Alto flood hazard regulations
  - All construction or development within a flood hazard area shall comply with the City of Palo Alto Flood Hazard Regulations.

- 16.06.220 (CRC R337.1.5) – Vegetation management compliance
  - Prior to building permit final approval, the property shall be in compliance with the vegetation management requirements.

- 16.06.230 (CRC R403.1.3) – Footing and stem wall reinforcing in Seismic Design Category D₀, D₁, and D₂
  - Concrete footings shall have no fewer than three No. 4 horizontal bars. Refer to the accompanying City of Palo Alto ordinance for more details.

- 16.06.240 (CRC R403.1.8) – Foundations on expansive soils
  - Foundations and floor slabs for buildings located on expansive soils shall be designed in accordance with amended CBC Table 1809.7. Refer to the accompanying ordinance for the minimum dimensions of footings based on number of floors supported by the footing.

- 16.06.245 (CRC R504.3.1) – Projections exposed to weather
  - Floor projections exposed to the weather and sealed underneath shall be constructed of naturally durable wood, preservative-treated wood, corrosion-resistant (e.g. galvanized) steel, or similar approved materials.

- 16.06.247 (CRC R602.10.4.5) – Limits on methods GB and PCP
  - In Seismic Design Categories D₀, D₁, and D₂, method GB is not permitted for use as an intermittent braced wall panels, but gypsum board is permitted to be installed. In Seismic Design Categories D₀, D₁, and D₂, the use of Method PCP is limited to one-story single family dwelling and accessory structures.

- 16.06.250 (CRC Table R602.10.3(3)) – Bracing requirements based on seismic design category
  - In Seismic Design Categories D₀, D₁, and D₂, method GB is not permitted and PCP is limited to one-story dwellings and accessory structures.

- 16.06.253 (CRC R703.8.5.1) – Flashing locations
  - Flashing shall be installed as required. Where flashing is of metal, the metal shall be corrosion resistant with a thickness of not less than 0.019 inches (e.g., no. 26 galvanized sheet) and shall be primed and painted.
16.06.255 (CRC R806.6) – Ventilation of weather-exposed enclosed assemblies
   - Exterior projecting elements and appurtenances exposed to the weather and sealed underneath shall have cross ventilation and an access panel. See applicable exceptions.

16.06.260 (CRC R902.1.4) – Roofing requirements in a Wildland-Urban Interface Fire Area
   - Roof coverings shall be fire-retardant that is at least Class A.

16.06.270 (CRC R1003.9.2.1) – Repairs, replacements, and alterations
   - When any repair, replacement or alteration to the roof of an existing structure is performed, a spark arrester shall be installed on the existing chimney.

16.06.280 (CRC AJ103) – Preliminary meeting
   - The purpose of this preliminary meeting is for the building official to gain an understanding of the prospective applicant’s intentions for the proposed work, and to determine, together with the prospective applicant, the specific applicability of these provisions.
Ordinance No. 5479
Ordinance of the Council of the City of Palo Alto Repealing
Chapter 16.06 of the Palo Alto Municipal Code and Amending Title
16 to Adopt a New Chapter 16.06, California Residential Code,
2019 Edition, and Local Amendments and Related Findings

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

SECTION 1. Chapter 16.06 of Palo Alto Municipal Code is hereby amended by repealing the
Chapter in its entirety and adopting a new Chapter 16.06 to read as follows:

16.06.010 2019 California Residential Code adopted.

The California Residential Code, 2019 Edition, Title 24, Part 2.5 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, 2016,
shall be construed to apply to the corresponding provisions contained within the California Code of
Regulations, Title 24, 2019. Ordinance No. 5391 of the City of Palo Alto and all other ordinances or
parts of ordinances in conflict herewith are hereby suspended and expressly repealed.

Wherever the phrases "California Residential Code" or "Residential Code" are used in this code
or any ordinance of the city, such phrases shall be deemed and construed to refer and apply to
the California Residential Code, 2019 Edition, Title 24, Part 2.5 of the California Code of
Regulations, as adopted by this Chapter.

One copy of the California Residential Code, 2019 Edition, has been filed for use and examination of
the public in the Office of the Building Official of the City of Palo Alto.

16.06.020 2019 California Residential Code Appendix Chapters adopted.

The following Appendix Chapters of the California Residential Code, 2019 Edition, are adopted and
hereby incorporated in this Chapter by reference and made a part hereof the same as if fully set
forth herein:

A. Appendix H – Patio Covers
B. Appendix J – Existing Building and Structures
C. Appendix K – Sound Transmission
D. Appendix V – Swimming Pool Safety Act
16.06.030  Cross - References to California Residential Code.
The provisions of this Chapter contain cross-references to the provisions of the California Residential Code, 2019 Edition, in order to facilitate reference and comparison to those provisions.

16.06.040  Section 1.11.2.1.1 Duties and powers of the enforcing agency/Enforcement is amended with the following language:

Section 1.11.2.1.1 Duties and powers of the enforcing agency/Enforcement
The responsibility for enforcement of building standards adopted by the State Fire Marshal and published in the California Building Standards Code relating to fire and panic safety and other regulations of the State Fire Marshal shall, except as provided in Section 1.11.2.1.2, be as follows:

1. The city, county or city and county with jurisdiction in the area affected by the standard or regulation shall delegate the enforcement of the building standards relating to fire and panic safety and other regulations of the State Fire Marshal as they relate to Group R-3 occupancies, as described in Section 310.1 of Part 2 of the California Building Standards Code, to both enforcement divisions specific to their areas of enforcement disciplines:
   1.1 The chief of the fire authority of the city, county or city and county, or an authorized representative and;
   1.2. The chief building official of the city, county or city and county, or an authorized representative.

16.06.050  Violations -- Penalties.

It is unlawful for any person to violate any provision or to fail to comply with any of the requirements of this Chapter or any permits, conditions, or variances granted under this Chapter. Violators shall be subject to any penalty or penalties authorized by law, including but not limited to: administrative enforcement pursuant to Chapters 1.12 and 1.16 of the Palo Alto Municipal Code; and criminal enforcement pursuant to Chapter 1.08 of the Palo Alto Municipal 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.

When the chief building official determines that a violation of this Chapter has occurred, the chief building official may record a notice of pendency of code violation with the Office of the County Recorder stating the address and owner of the property involved. When the violation has been corrected, the chief building official shall issue and record a release of the notice of pendency of code violation.

16.06.060  Enforcement -- Criminal Enforcement Authority.

The employee positions designated in this section are authorized to exercise the authority provided in California Penal Code section 836.5 for violations of this Chapter. The designated employee positions are: (1) chief building official, (2) assistant chief building official, (3) building
inspection manager, and (4) code enforcement officer.

16.06.070 Local Amendments.

The provisions of this Chapter shall constitute local amendments to the cross-referenced provisions of the California Residential Code, 2019 Edition, and shall be deemed to replace the cross-referenced sections of said Code with the respective provisions set forth in this Chapter.

16.06.080 Section R101.1 Title is amended to read:

R101.1 Title These provisions shall be known as the Residential Code for One- and Two-family Dwellings of City of Palo Alto, and shall be cited as such and will be referred to herein as “this code.”

16.06.090 Section R105.1.1 Demolition permits is added to read:

R105.1.1 Demolition permits. In addition to other requirements of law, every person seeking a permit to demolish a unit used for residential rental purposes shall furnish an affidavit or declaration under penalty of perjury that the unit proposed to be demolished is vacant, or that notice to vacate has been given to each tenant lawfully in possession thereof as required by law or by the terms of such tenancy. No work or demolition shall begin upon any portion of such a unit until each and every portion has been vacated by all tenants lawfully in possession thereof.

16.04.100 Section R105.5 Expiration is amended to read:

R105.5 Expiration. Every permit issued shall become invalid unless the work on the site authorized by such permit is commenced within 12 months after its issuance, or if the work authorized on the site by such permit is suspended or abandoned for a period of 12 months after the time the work is commenced. The chief building official is authorized to grant, in writing, one or more extensions of time, for periods not more than 180 days each and may require:

1) that the construction documents be revised to partially or fully comply with current codes, and
2) payment of a fee.

Extensions shall be requested in writing and justifiable cause demonstrated. For the purpose of this section, failure to progress a project to the next level of required inspection shall be deemed to be suspension of the work.

16.06.110 Section R108.5 Refunds is amended to read:

R108.5 Refunds. The building official or permit center manager may authorize the refund of any fee paid hereunder which was erroneously paid or collected. The building official or permit center manager may authorize the refund of not more than eighty
percent (80%) of the permit fee paid when no work has occurred under a permit issued pursuant to this Chapter. The building official or permit center manager may authorize the refund of not more than eighty percent (80%) of the Plan Review Fee paid when a permit application is withdrawn or canceled before any plan review work has started.

16.06.120  **Section R109.1.3 Floodplain inspections** is amended to read:

**R109.1.3 Floodplain inspections.** In flood hazard areas, upon placement of the lowest floor, including the basement, and prior to further vertical construction, the elevation certification shall be submitted to City Public Works Engineering for inspection approval prior to foundation inspection by city building inspection.

16.06.130  **Section R109.5 Re-inspection fees assessed/authorized** is added to read:

**R109.5 Re-inspection fees.** A Re-Inspection Fee may be assessed/authorized by the building official or building inspection supervisor for each re-inspection required when work for which an inspection is requested is not ready for inspection or when required corrections noted during prior inspections have not been completed. A “Re-Inspection Fee” may be assessed/authorized when:
1. The inspection record card is not posted or otherwise available on the work site; or
2. The approved plans are not readily available for the inspector at the time of inspection; or
3. The inspector is unable to access the work at the time of inspection; or
4. When work has substantially deviated from the approved plans without the prior approval of the building official.
5. When a Re-Inspection Fee is assessed, additional inspection of the work will not be performed until the fee has been paid.

16.06.140  **Section R110.1 Use and occupancy** is amended to read:

**R110.1 Use and occupancy.** A building or structure shall not be used or occupied, and a change of occupancy or change of use of a building or structure or portion thereof shall not be made, until the building official has issued a certificate of occupancy therefor as provided herein. Issuance of a certificate of occupancy shall not be construed as an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction. Certificates presuming to give authority to violate or cancel the provisions of this code or other ordinances of the jurisdiction shall not be valid.

**Exceptions:** Certificates of occupancy are not required for:
1. Work exempt from permits under Section 105.2
2. Accessory buildings or structures
3. Group R - Division 3 occupancies
4. Group U occupancies

16.06.150  **Section R202 amended – Definitions added.**
Section R202 of the California Residential Code is amended to include the following definition:

**WILDLAND-URBAN INTERFACE FIRE AREA** is a geographical area identified by the State of California as a “Fire Hazard Severity Zone” in accordance with Public Resources Code Sections 4201 through 4202 and Government Code Sections 51175 through 51189, or other areas designated by the enforcing agency to be at a significant risk from wildfires. Within the city limits of the City of Palo Alto, “Wildland-Urban Fire Interface Area” shall also include all areas west of Interstate 280, and all other areas recommended as a “Very High Fire Hazard Severity Zone” by the Director of the California Department of Forestry.

16.06.160 Table 301.2(1) Climatic and Geographic Design Criteria: Section Table 301.2(1) of the California Residential Code is added to read:

**TABLE R301.2(1)**

<table>
<thead>
<tr>
<th>GROUND SNOW LOAD</th>
<th>WIND DESIGN</th>
<th>SEISMIC DESIGN CATEGORY</th>
<th>SUBJECT TO DAMAGE FROM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Speed (mph)</td>
<td>Topographic effects</td>
<td>Weathering</td>
</tr>
<tr>
<td>0</td>
<td>110</td>
<td>No</td>
<td>D₀ thru E</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Frost line depth</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5”</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Very High</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WINTER DESIGN TEMP. (°F)</th>
<th>ICE BARRIER UNDERLAYEMENT REQUIRED</th>
<th>FLOOD HAZARDS</th>
<th>AIR FREEZING INDEX</th>
<th>MEAN ANNUAL TEMP. (°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>No</td>
<td>See Footnotes p thru r</td>
<td>0</td>
<td>55</td>
</tr>
</tbody>
</table>

* The effective date of the current Flood Insurance Study and Flood Insurance Rate Map is May 18, 2009.
* The panel numbers and dates of all currently effective FIRMs and FBFMs: 06085CIND0A, 06085C0010H, 06085C0015H through 06085C0019H, 06085C0030H, 06085C0036H, 06085C0038H , 06085C0180H , 06085C0185H (May 18, 2009 for all)

16.06.165 Section R310 Emergency escape and rescue openings: Section R310 of the California Residential Code is amended to read:

**R310.1 Emergency escape and rescue opening required.** Basements, habitable attics and every sleeping room shall have not less than one operable emergency escape and rescue opening. Where basements contain one or more sleeping rooms, an emergency escape and rescue opening shall be required in each sleeping room. Emergency escape
and rescue openings shall open directly into a public way, or to a yard or court that opens to a public way.

Exceptions:
1. Storm shelters and basements used only to house mechanical equipment not exceeding a total floor area of 200 square feet (18.58 m²)

16.06.170 Section R310.2.3.3 Window well fall protection: Section R310.2.3.3 of the California Residential Code is added to read:

R310.2.3.3 Window well fall protection. Window wells with a vertical depth greater than 30 inches shall have guards on all sides. The guards shall be provided in accordance with Section R312.1. Openings shall comply with Section R312.1.3. Access ladder shall comply with Section R310.2.3.1 and shall extend from the bottom of the well to the top of the guard.

16.06.180 Section R310.4.1 Security bars: Section R310.4.1 of the California Residential Code is added to read:

R310.4.1 Security bars. Fire Department plan check review and approval of all security bar submittals shall be required prior to the issuance of a Building Permit.

16.06.190 Section R313.2 One- and two-family dwellings automatic fire sprinkler systems: Section R313.2 of the California Residential Code is amended to read:

R313.2 One- and two-family dwellings automatic fire sprinkler systems. Approved automatic sprinkler systems in new buildings and structures and in existing modified buildings and structures, shall be provided in the locations described in this section. Automatic fire sprinklers shall be installed per the requirements set forth in Sections 903.2.1 through 903.2.18 of the California Building Code and as follows, whichever is the more restrictive:

1. An automatic sprinkler system shall be provided throughout all new buildings and structures.

   Exception: New residential occupancies, buildings or structures that do not exceed 350 square feet of building area.

2. An automatic sprinkler system shall be provided for all existing buildings or structures where modifications have been determined by the Building Official to trigger requirements for seismic retrofit.

3. An automatic sprinkler system shall be provided throughout all existing buildings when modifications are made that create an increase in fire area.
to more than 3600 square feet or when the addition is equal or greater than 50% of the existing building square footage whichever is more restrictive.

4. An automatic sprinkler system shall be provided throughout all new basements regardless of size and throughout existing basements that are expanded by more than 50% or is conditioned for use. If the addition is only the basement, then only the basement is required to be fire sprinkler protection.

5. An automatic sprinkler system shall be installed throughout when either the roof structure and/or exterior wall structure have been removed and/or replaced by at least 50% of the existing structure.

6. An automatic sprinkler system shall be installed throughout when any change in use or occupancy creating a more hazardous fire/life safety condition, as determined by the Fire Chief.

16.04.193 Section R313.1.1 – Design and installation.
Section R313.1.1 of the California Residential Code is amended to read as follows:

R313.1.1 Design and installation. Where allowed, automatic sprinkler systems installed in townhouses shall be installed throughout in accordance with NFPA 13D and State and local standards.

16.04.195 Section R313.2.1 – Design and installation.
Section R313.2.1 of the California Residential Code is amended to read as follows:

R313.2.1 Design and installation. Where allowed, automatic sprinkler systems installed in one-and two-family detached dwellings shall be installed throughout in accordance with NFPA 13D and State and local standards.

16.06.200 Section R314.1 – Smoke detection and notification.
Section R314.1 of the California Residential Code is amended to read:

R314.1 Smoke detection and notification. Listed single- and multiple-station smoke alarms complying with UL 217 shall be installed in accordance with the California Fire Code Sections 907.2.11.1 through 907.2.11.5 and manufacturer’s installation and use instructions.

Smoke alarms and smoke detectors shall be in compliance with this code or subject to the provisions of the Health and Safety Code, they shall also be listed and approved for rapid response to smoldering synthetic materials. All smoke
alarms or detectors shall be of the photoelectric type or shall have equivalent
detection capabilities in compliance with UL 217.

**Exception:** A combination photoelectric/ionization smoke alarm or
detector may be used if located no closer than 20 feet to a kitchen,
bathroom, fireplace or woodburning stove.

16.06.205 **Section R319.1 Address numbers.**
The following subsections are added to Section R319.1 of the California Residential Code:

**R319.1.1 Address illumination.** Address identification required by Section R319.1 shall be illuminated.

**R319.1.2 Address identification size.** Address numbers and letters shall be sized as follows:
1. When the structure is between thirty-six (36) and fifty (50) feet from the road or other emergency means of access, a minimum of one-half inch (0.5”) stroke by six inches (6”) high is required.
2. When the structure is fifty (50) or more feet from the road or other emergency means of access, a minimum of one inch (1”) stroke by nine inches (9”) high is required.

16.06.210 **Section R322.1 – General.**
The following paragraph is added to Section R322.1 of the California Residential Code:

**Palo Alto Flood Hazard Regulations.** Notwithstanding the provisions of this section, all construction or development within a flood hazard area (areas depicted as a Special Flood Hazard Area on Flood Insurance Rate Maps published by the Federal Emergency Management Agency) shall comply with the City of Palo Alto Flood Hazard Regulations (Palo Alto Municipal Code Chapter 16.52). Where discrepancies exist between the requirements of this code and said regulations, the provisions of said regulations shall apply.

16.06.220 **Section R337.1.5 Vegetation management compliance.** Section R337.1.5 of the California Residential Code is amended to read:

**R337.1.5 Vegetation management compliance.** Prior to building permit final approval, the property shall be in compliance with the vegetation management requirements prescribed in California Fire Code section 4906, including California Public Resources Code 4291 or California Government Code Section 51182. Acceptable methods of compliance inspection and documentation shall be determined by the enforcing agency and may include any of the following:

1. Local, state, or federal fire authority or designee authorized to enforce vegetation management requirements.
2. Enforcing agency - City of Palo Alto Fire Inspection shall inspect the aforementioned requirements and indicate compliance prior to building division final inspection sign-off.

3. Third party inspection and certification authorized to enforce vegetation management requirements.

4. Property owner certification authorized by the enforcing agency.

16.06.230 Section R403.1.3 Footing and stem wall reinforcing in Seismic Design Categories D₀, D₁, and D₂. Section R403.1.3 of the California Residential Code is amended to read:

R403.1.3 Footing and stem wall reinforcing in Seismic Design Categories D₀, D₁, and D₂. Concrete footings located in Seismic Design Categories D₀, D₁ and D₂, as established in Table R301.2(1), shall have not fewer than three No. 4 horizontal bars. One No. 4 horizontal bar shall be installed within 12 inches (305 mm) of the top of the stem wall and two No. 4 horizontal bars shall be located 3 to 4 inches (76 mm to 102 mm) from the bottom of the footing.

R403.1.3.1 Concrete stem walls with concrete footings. In Seismic Design Categories D₀, D₁ and D₂ where a construction joint is created between a concrete footing and a stem wall, not fewer than one No. 4 vertical bar shall be installed at not more than 4 feet (1219 mm) on center. The vertical bar shall have a standard hook and extend to the bottom of the footing and shall have support and cover as specified in Section R403.1.3.5.3 and extend not less than 14 inches (357 mm) into the stem wall. Standard hooks shall comply with Section R608.5.4.5. Not fewer than one No. 4 horizontal bar shall be installed within 12 inches (305 mm) of the top of the stem wall and two No. 4 horizontal bars shall be located 3 to 4 inches (76 mm to 102 mm) from the bottom of the footing.

R403.1.3.2 Masonry stem walls with concrete footings. In Seismic Design Categories D₀, D₁ and D₂ where a grouted masonry stem wall is supported on a concrete footing, not fewer than one No. 4 vertical bar shall be installed at not more than 4 feet (1219 mm) on center. The vertical bar shall have a standard hook and extend to the bottom of the footing and have support and cover as specified in Section R403.1.3.5.3 and extend not less than 14 inches (357 mm) into the stem wall. Standard hooks shall comply with Section R608.5.4.5. Not fewer than one No. 4 horizontal bar shall be installed within 12 inches (305 mm) of the top of the wall and two No. 4 horizontal bars shall be located 3 to 4 inches (76 mm to 102 mm) from the bottom of the footing. Masonry stem walls shall be solid grouted.

In Seismic Design Categories D₀, D₁ and D₂ masonry stem walls without solid grout and vertical reinforcing are not permitted.

16.06.240 Section R403.1.8 – Foundations on expansive soils.
Section R403.1.8 of the California Residential Code is amended to read:
R403.1.8 Foundations on expansive soils. Foundations and floor slabs for buildings located on expansive soils shall be designed in accordance with Section 1808.6 or Table 1809.7 of the California Building Code.

Table 1809.7 of the California Building Code is added and amended to read:

**TABLE 1809.7**

<table>
<thead>
<tr>
<th>Prescriptive Footings Supporting Walls of Light-Frame Constructionabcd</th>
<th>Number of Floors Supported by the Footing e</th>
<th>Thickness of Foundation Wall (inches)</th>
<th>Width of Footing (inches)</th>
<th>Thickness of Footing (inches)</th>
<th>Depth of Foundation Below Natural Surface of Ground or Finish Grade (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&amp;2</td>
<td>8</td>
<td>15</td>
<td>8</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>8</td>
<td>18</td>
<td>8</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Group U Occupancies</td>
<td>8</td>
<td>12</td>
<td>8</td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

a) The ground under the floor shall be permitted to be excavated to the elevation of the top of the footing.

b) Interior stud-bearing walls shall be permitted to be supported by isolated footings. The footing width and length shall be twice the width shown in this table, and footings shall be spaced not more than 6 feet on center.

c) See Section 1905 of California Building Code for additional requirements for concrete footings of structures assigned to Seismic Design Category C, D, E or F.

d) All foundations as required in the above Table shall be continuous and have a minimum of three #4 bars of reinforcing steel, except for one story, detached accessory buildings of Group U occupancy where two bars are required.

e) Footings shall be permitted to support a roof in addition to the stipulated number of floors. Footings supporting roof only shall be as required for supporting one floor.

16.06.245 Section R504.3.1 Projections exposed to weather.
Section R504.3.1 of the California Residential Code is added to read:
R504.3.1 Projections exposed to weather. Floor projections exposed to the weather and sealed underneath, including but not limited to balconies, landings, decks, and stairs shall be constructed of naturally durable wood, preservative-treated wood, corrosion-resistant (e.g. galvanized) steel, or similar approved materials.

16.06.247 Section R602.10.4.5 Limits on methods GB and PCP. Section R602.10.4.5 of the California Residential Code is added to read:

R602.10.4.5 Limits on methods GB and PCP. In Seismic Design Categories D₀, D₁, and D₂, Method GB is not permitted for use as an intermittent braced wall panels, but gypsum board is permitted to be installed when required by this Section to be placed on the opposite side of the studs form other types of braced wall panel sheathing. In Seismic Design Categories D₀, D₁, and D₂, the use of Method PCP is limited to one-story single family dwelling and accessory structures.

16.06.250 Table R602.10.3(3) – Bracing requirements based on seismic design category. Footnote e to Table R602.10.3(3) is amended to read as follows:

g. In Seismic Design Categories D₀, D₁ and D₂, Method GB is not permitted and PCP is limited to one-story dwellings and accessory structures.

16.06.253 Section R703.8.5.1 Locations. Section R703.8.5.1 of the California Residential Code is added to read:

R703.8.5.1 Locations. Flashing shall be installed at wall and roof intersections, gutters, wherever there is a change in roof slope or direction, and around roof openings. Where flashing is of metal, the metal shall be corrosion resistant with a thickness of not less than 0.019 inches (0.483 mm) (e.g. no. 26 galvanized sheet) and shall be primed and painted.

16.06.255 Section R806.6 Ventilation of weather-exposed enclosed assemblies. Section R806.6 of the California Residential Code is added to read:

R806.6 Ventilation of weather-exposed enclosed assemblies. Exterior projecting elements and appurtenances exposed to the weather and sealed underneath, including but not limited to balconies, landings, decks, and stairs, shall have cross ventilation for each separate enclosed space by ventilation openings protected against the entrance of rain and snow. Blocking and bridging shall be arranged so as not to interfere with the movement of air. The net free ventilating area shall not be less than 1/150th of the area of the space ventilated. Ventilation openings shall comply with Section R806.1. An access panel of sufficient size shall be provided on the underside of the enclosed space to allow for periodic inspection.

Exceptions:
1. An access panel is not required where the exterior coverings applied to the underside of joists are easily removable using only common tools.
2. Removable soffit vents 4 inches minimum in width can be used to satisfy both ventilation and access panel requirements.

16.06.260  Section R902.1.4 – Roofing requirements in a Wildland-Urban Interface Fire Area.
Section R902.1.4 of the California Residential Code is amended to read:

**R902.1.4**  Roofing requirements in a Wild Land-Urban Interface Fire Area. The entire roof covering on new structures and existing structures on which more than 50 percent of the total roof area is replaced within any one-year period, and any roof covering applied in the alteration, repair or replacement of roofs on existing structures, shall be a fire-retardant roof covering that is at least Class A. Roofing requirements for structures located in a Wildland-Urban Interface Fire Area shall also comply with Section R337.5.

16.06.270  Section R1003.9.2.1 – Repairs, replacements and alterations.
Section R1003.9.2.1 is added to the California Residential Code to read:

**R1003.9.2.1**  Repairs, replacements and alterations. When any repair, replacement or alteration to the roof of an existing structure is performed, a spark arrester shall be installed on the existing chimney in accordance with Section R1003.9.2.

16.06.280  Section AJ103 – Preliminary Meeting.  Section AJ103 of Appendix J of the California Residential Code is amended to read:

**Section AJ103.1 General.** If a building permit is required at the request of the prospective permit applicant, the building official or his or her designee may meet with the prospective applicant to discuss plans for any proposed work under these provisions prior to the application for the permit. The purpose of this preliminary meeting is for the building official to gain an understanding of the prospective applicant’s intentions for the proposed work, and to determine, together with the prospective applicant, the specific applicability of these provisions.

**SECTION 2.** The Council adopts the findings for local amendments to the California Residential Code, 2013 Edition, attached hereto as Exhibit “A” and incorporated herein by reference.

**SECTION 3.** 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 4. This ordinance shall be effective on the thirty-first day after the date of its adoption.

INTRODUCED: November 4, 2019

PASSED: November 18, 2019

AYES: CORMACK, DUBOIS, FILSETH, KNISS, KOU, TANAKA

NOES:

ABSENT: FINE

ABSTENTIONS:

ATTEST:

Beth Minors
City Clerk

Eric Filseth
Mayor

Sandra Lee
Senior Deputy City Attorney

Ed Sickels
City Manager

Director of Planning & Development Services

Director of Administrative Services
The information provided in this document is general and intended as a guide only. Each project is unique and additional requirements may be enforced as deemed appropriate.

IMPORTANT
The following are summaries of the common adoptive ordinances effective on 01/01/2020; for a full list of common adoptive ordinances and for a full description of each one, see the accompanying City of Palo Alto ordinances and/or please visit the following website: [https://www.amlegal.com/?s=palo+alto](https://www.amlegal.com/?s=palo+alto)

MECHANICAL
☐ No additional locally adopted amendments.

ELECTRICAL
☐ 16.16.040 (CEC 89.102.4) – Third party field evaluation
   ○ City of Palo Alto approved applications for Third-Party Field Evaluators shall be submitted for each project submitting evaluation reports on Electrical Systems and others as required for these types of reports.

☐ 16.16.050 (CEC 110.13(A)(1)) – Slab-on-grade supporting electrical equipment
   ○ When electrical equipment is proposed to be installed in locations where the deleterious effects of the environment may create adverse maintenance issues with ground mounted electrical equipment a concrete slab-on-grade shall be installed to elevate, protect, and attach equipment to per City of Palo Alto Electrical Utilities Standards or approved engineering design.

PLUMBING
☐ 16.08.080 (CPC 701.2, Part 4) – Drainage piping
   ○ Copper, copper alloys, lead and lead alloys, including brass, shall not be used for building sanitary drainage lines, connectors or seals coming in contact with sewage except for domestic waste sink traps and short lengths of associated connecting pipes where alternate materials are impracticable.
   ○ Where permitted by the building official, copper tube for drainage piping shall have a weight of not less than that of copper drainage tube type DWV.
16.08.090 (CPC 719.7) – Cleanouts
   A cleanout shall be provided at the point of connection between the building sewer and the city lateral and an approved fitting shall be used to bring the cleanout riser to grade. Where sewer cleanouts are to be connected to existing city laterals, such connections shall be accomplished by use of a City of Palo Alto Utility-approved fitting.

16.08.100 (CPC 808.2) – Cooling water
   Clean running water used exclusively as a cooling medium in an appliance, device, or apparatus is prohibited.

16.08.110 (CPC 1014.1.3) – Food waste disposal units and dishwashers
   Unless specifically required or permitted by the Authority Having Jurisdiction, no dishwasher shall be connected to or discharge into any grease interceptor. Commercial Food Waste Disposal Units are prohibited.

16.08.120 (CPC 1101.4) – Material uses
   See the accompanying City of Palo Alto ordinances for more information.
   ABS or PVC installations are limited to not more than two stories of areas of residential accommodation.

16.08.130 (CPC 1101.4.2) – Conductors
   See the accompanying City of Palo Alto ordinances for more information.
   ABS or PVC installations are limited to not more than two stories of areas of residential accommodation.

16.08.140 (CPC 1101.4.3) – Leaders
   Leaders installed outside shall be in accordance with the applicable standards referenced in Table 701.2 for aboveground drain, waste, and vent pipe; aluminum sheet metal; or galvanized steel sheet metal.

16.08.150 (CPC 1102.1) – Roof Drains
   Roof drains shall be constructed of aluminum, cast-iron, stainless steel, ABS, PVC, polypropylene, polyethylene, or nylon and shall comply with ASME A112.3.1 or ASME A112.6.4.
Ordinance No. 5478
Ordinance of the Council of the City of Palo Alto Repealing Chapter 16.05 of the Palo Alto Municipal Code and Amending Title 16 to Adopt a New Chapter 16.05, California Mechanical Code, 2019 Edition, and Local Amendments and Related Findings

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

SECTION 1. Chapter 16.05 of the Palo Alto Municipal Code is hereby amended by repealing in its entirety 16.05 and adopting a new Chapter 16.05 to read as follows:

16.05 CALIFORNIA MECHANICAL CODE

16.05.010 2019 California Mechanical Code adopted.

The California Mechanical Code, 2019 Edition, Title 24, Part 4 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, 2016, shall be construed to apply to the corresponding provisions contained within the California Code of Regulations, Title 24, 2019. Ordinance No. 5390 of the City of Palo Alto and all other ordinances or parts of ordinances in conflict herewith are hereby suspended and expressly repealed.

Wherever the phrases "California Mechanical Code" or "Mechanical Code" are used in this code or any ordinance of the City, such phrases shall be deemed and construed to refer and apply to the California Mechanical Code, 2019 Edition, Title 24, Part 4 of the California Code of Regulations, as adopted by this Chapter. One copy of the California Mechanical Code, 2019 edition, has been filed for use and examination of the public in the Office of the Building Official of the City of Palo Alto.

16.05.020 2019 California Mechanical Code Appendix Chapters adopted.

The following Appendix Chapters of the California Mechanical Code, 2019 Edition, are adopted and hereby incorporated in this Chapter by reference and made a part hereof the same as if fully set forth herein:

A. Appendix B – Procedures to be Followed to Place Gas Equipment in Operation
B. Appendix C – Installation and Testing of Oil (Liquid) Fuel-Fired Equipment
C. Appendix F – Sizing of Venting Systems and Outdoor Combustion and Ventilation
Opening Design

16.05.030  Cross - References to California Mechanical Code.

The provisions of this Chapter contain cross-references to the provisions of the California Mechanical Code, 2019 Edition, in order to facilitate reference and comparison to those provisions.

16.05.040  Violations -- Penalties.

It is unlawful for any person to violate any provision or to fail to comply with any of the requirements of this Chapter or any permits, conditions, or variances granted under this Chapter. Violators shall be subject to any penalty or penalties authorized by law, including but not limited to: administrative enforcement pursuant to Chapters 1.12 and 1.16 of the Palo Alto Municipal Code; and criminal enforcement pursuant to Chapter 1.08 of the Palo Alto Municipal 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.

When the chief building official determines that a violation of this Chapter has occurred, the chief building official may record a notice of pendency of code violation with the Office of the County Recorder stating the address and owner of the property involved. When the violation has been corrected, the chief building official shall issue and record a release of the notice of pendency of code violation.

16.05.050  Enforcement -- Citation authority.

The employee positions designated in this section are authorized to exercise the authority provided in California Penal Code section 836.5 for violations of this Chapter. The designated employee positions are: (1) chief building official, (2) assistant chief building official, (3) building inspection manager, and (4) code enforcement officer.

16.05.060  Local Amendments

The provisions of this Chapter shall constitute local amendments to the cross-referenced provisions of the California Mechanical Code, 2019 Edition, and shall be deemed to replace the cross-referenced sections of said Code with the respective provisions set forth in this Chapter.


SECTION 3. 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 4. This ordinance shall be effective on the commencement of the thirty-first day after the date of its adoption.

INTRODUCED: November 4, 2019

PASSED: November 18, 2019

AYES: CORMACK, DUBOIS, FILSETH, KNISSE, KOU, TANAKA

NOES:

ABSENT: FINE

ABSTENTIONS:

ATTEST:

[Signatures]

APPROVED AS TO FORM:

[Signatures]

APPROVED:

[Signatures]
Ordinance No. 5482

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

SECTION 1. Chapter 16.16 of the Palo Alto Municipal Code is hereby amended by repealing in its entirety 16.16 and adopting a new Chapter 16.16 to read as follows:

16.16 CALIFORNIA ELECTRICAL CODE


The California Electrical Code, 2019 Edition, Title 24, Part 4 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, 2016, shall be construed to apply to the corresponding provisions contained within the California Code of Regulations, Title 24, 2019. Ordinance No. 5394 of the City of Palo Alto and all other ordinances or parts of ordinances in conflict herewith are hereby suspended and expressly repealed.

Wherever the phrases "California Electrical Code" or "Electrical Code" are used in this code or any ordinance of the City, such phrases shall be deemed and construed to refer and apply to the California Electrical Code, 2019 Edition, as adopted by this Chapter.

One copy of the California Electrical Code, 2019 edition, has been filed for use and examination of the public in the Office of the Building Official of the City of Palo Alto.


The following Annex Chapters of the California Electrical Code, 2019 Edition, are adopted and hereby incorporated in this Chapter by reference and made a part hereof the same as if fully set forth herein:

A. Annex B – Application Information for Ampacity Calculations
B. Annex C – Conduit and Tubing Fill Tables for Conductors and Fixture Wires of the Same Size
C. Annex I – Unit Recommended Tightening Torque Tables from UL Standard 486A-B
16.16.030 Cross - References to California Electrical Code.

The provisions of this Chapter contain cross-references to the provisions of the California Electrical Code, 2019 Edition, in order to facilitate reference and comparison to those provisions.

16.16.040 Section 89.102.4 Third Party Field Evaluation.

Section 89.102.4 is added to read:

89.102.4 Third-Party Field Evaluation. City of Palo Alto approved applications for Third-Party Field Evaluators shall be submitted for each project submitting evaluation reports on Electrical Systems and others as required for these types of reports. Educational background, training experience, professional licenses, registrations or certificates, and other applicable qualifications for each key personnel shall include information as required and defined in NFPA 790 and 791 including but not limited to:

a. Technical Manager, direct Supervisor of FEB operations, and individual(s) managing the management system, minimum competency for personnel completing Field Evaluation projects, including educational background, experience, training, and professional registration.

b. Provide information on the basic evaluation process to the building official in determining the adequacy and completeness of submitted evaluations and evaluation reports.

16.16.050 Section 110.13 Mounting and Cooling of Equipment.

Section 110.13 (A) (1) is added to read:

110.13 (A) (1) Slab-On-Grade Supporting Electrical Equipment. When electrical equipment is proposed to be installed, including temporary electrical for construction, in locations where the deleterious effects of the environment may create adverse maintenance issues with ground mounted electrical equipment a concrete slab-on-grade shall be installed to elevate, protect, and attach equipment to per City of Palo Alto Electrical Utilities Standards or approved engineering design.

16.16.060 Violations -- Penalties.

It is unlawful for any person to violate any provision or to fail to comply with any of the requirements of this Chapter or any permits, conditions, or variances granted under this Chapter. Violators shall be subject to any penalty or penalties authorized by law, including but not limited to: administrative enforcement pursuant to Chapters 1.12 and 1.16 of the Palo Alto Municipal Code; and criminal enforcement pursuant to Chapter 1.08 of the Palo Alto Municipal 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.
When the chief building official determines that a violation of this Chapter has occurred, the chief building official may record a notice of pendency of code violation with the Office of the County Recorder stating the address and owner of the property involved. When the violation has been corrected, the chief building official shall issue and record a release of the notice of pendency of code violation.

**16.16.070 Enforcement -- Criminal Enforcement Authority.**

The employee positions designated in this section are authorized to exercise the authority provided in California Penal Code section 836.5 for violations of this Chapter. The designated employee positions are: (1) chief building official, (2) assistant chief building official, (3) building inspection manager, and (4) code enforcement officer.

**16.16.080 Local Amendments.**

The provisions of this Chapter shall constitute local amendments to the cross-referenced provisions of the California Electrical Code, 2019 Edition, and shall be deemed to replace the cross-referenced sections of said Code with the respective provisions set forth in this Chapter.

**SECTION 2.** The Council adopts the findings for local amendments to the California Electrical Code, 2019 Edition, attached hereto as Exhibit “A” and incorporated herein by reference.

**SECTION 3.** 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 4. This Ordinance shall be effective on the commencement of the thirty-first day after the date of its adoption.

INTRODUCED: November 4, 2019

PASSED: November 18, 2019

AYES: CORMACK, DUBOIS, FILSETH, KNISEL, KOU, TANAKA

NOES:

ABSENT: FINE

ABSTENTIONS:

ATTEST:

Beth Mires
City Clerk

Mayor

APPROVED AS TO FORM:

Sandra Lee
Deputy City Attorney

APPROVED:

Ed Siskadis
City Manager

Director of Planning and Development Services

Director of Administrative Services
Ordinance No. 5480

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

SECTION 1. Chapter 16.08 of the Palo Alto Municipal Code is hereby amended by repealing it in its entirety and adopting a new Chapter 16.08 to read as follows:

16.08 CALIFORNIA PLUMBING CODE


The California Plumbing Code, 2019 Edition, Title 24, Part 5 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, 2016, shall be construed to apply to the corresponding provisions contained within the California Code of Regulations, Title 24, 2019. Ordinance No. 5392 of the City of Palo Alto and all other ordinances or parts of ordinances in conflict herewith are hereby suspended and expressly repealed.

Wherever the phrases "California Plumbing Code" or "Plumbing Code" are used in this code or any ordinance of the City, such phrases shall be deemed and construed to refer and apply to the California Plumbing Code, 2019 Edition, as adopted by this Chapter. One copy of the California Plumbing Code, 2019 Edition, has been filed for use and examination of the public in the Office of the Building Official of the City of Palo Alto.


The following Appendix Chapter of the California Plumbing Code, 2019 Edition, is adopted and hereby incorporated in this Chapter by reference and made a part hereof the same as if fully set forth herein:

A. Appendix A – Recommended Rules for Sizing the Water Supply System

16.08.030 Cross - References to California Plumbing Code.
The provisions of this Chapter contain cross-references to the provisions of the California Plumbing Code, 2019 Edition, in order to facilitate reference and comparison to those provisions.

**16.08.040 Violations -- Penalties.**

It is unlawful for any person to violate any provision or to fail to comply with any of the requirements of this Chapter or any permits, conditions, or variances granted under this Chapter. Violators shall be subject to any penalty or penalties authorized by law, including but not limited to: administrative enforcement pursuant to Chapters 1.12 and 1.16 of the Palo Alto Municipal Code; and criminal enforcement pursuant to Chapter 1.08 of the Palo Alto Municipal 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.

When the chief building official determines that a violation of this Chapter has occurred, the chief building official may record a notice of pendency of code violation with the Office of the County Recorder stating the address and owner of the property involved. When the violation has been corrected, the chief building official shall issue and record a release of the notice of pendency of code violation.

**16.08.050 Enforcement -- Criminal Enforcement Authority.**

The employee positions designated in this section are authorized to exercise the authority provided in California Penal Code section 836.5 for violations of this Chapter. The designated employee positions are: (1) chief building official, (2) assistant chief building official, (3) building inspection manager, and (4) code enforcement officer.

**16.08.060 Local Amendments.**

The provisions of this Chapter shall constitute local amendments to the cross-referenced provisions of the California Plumbing Code, 2019 Edition, and shall be deemed to replace the cross-referenced sections of said Code with the respective provisions set forth in this Chapter.

**16.08.070 Section 306.3 Palo Alto Sewer Use.**

Section 306.3 is added to the California Plumbing Code to read:

**306.3 Palo Alto Sewer Use.** All non-domestic waste shall comply with the City of Palo Alto Sewer Use Ordinance (Palo Alto Municipal Code Chapter 16.09). Where discrepancies exist between the requirements of this code and said ordinance, the provisions of said ordinance shall apply.

**16.08.080 Section 701.2, Part 4 Drainage Piping.**
Section 701.2, Part (4) of the California Plumbing Code is amended to read:

701.2   (4) Copper, copper alloys, lead and lead alloys, including brass, shall not be used for building sanitary drainage lines, connectors or seals coming in contact with sewage except for domestic waste sink traps and short lengths of associated connecting pipes where alternate materials are impracticable.

Where permitted by the building official, copper tube for drainage piping shall have a weight of not less than that of copper drainage tube type DWV.

16.08.090   Section 719.7 Cleanouts.

Section 719.7 is added to the California Plumbing Code to read:

719.7   A cleanout shall be provided at the point of connection between the building sewer and the city lateral and an approved fitting shall be used to bring the cleanout riser to grade. Where sewer cleanouts are to be connected to existing city laterals, such connections shall be accomplished by use of a City of Palo Alto Utility-approved fitting.

16.08.100   Section 808.2 Cooling Water.

Section 808.2 of the California Plumbing Code is added to read:

808.2   Single Pass Cooling Water Systems Prohibited. Clean running water used exclusively as a cooling medium in an appliance, device, or apparatus is prohibited.

16.08.110   Section 1014.1.3 Food Waste Disposal Units and Dishwashers.

Section 1014.1.3 of the California Plumbing Code is amended to read:

1014.1.3   Food Waste Disposal Units and Dishwashers. Unless specifically required or permitted by the Authority Having Jurisdiction, no dishwasher shall be connected to or discharge into any grease interceptor. Commercial Food Waste Disposal Units are prohibited.

16.08.120   Section 1101.4 Material Uses.
Section 1101.4 of the California Plumbing Code is amended to read:

1101.4 Material Uses. Pipe, tube, and fittings conveying rainwater shall be of such materials and design as to perform their intended function to the satisfaction of the Authority Having Jurisdiction. Conductors within a vent or shaft shall be of cast-iron, galvanized steel, wrought iron, Schedule 40 ABS DWV, Schedule 40 PVC DWV, stainless steel 304 or 316L (stainless steel 304 pipe and fittings shall not be installed underground and shall be kept not less than 6 inches (152 mm) aboveground), or other approved materials, and changes in direction shall be in accordance with the requirements of Section 706.0. ABS and PVC DWV piping installations shall be installed in accordance with applicable standards referenced in Table 1701.1 and the firestop protection requirements in the California Building Code. Except for individual single-family dwelling units, materials exposed within ducts or plenums shall have a flame-spread index of not more than 25 and a smoke-developed index of not more than 50, where tested in accordance with ASTM E84 or UL 723. These tests shall comply with all requirements of the standards to include the sample size, both for width and length. Plastic pipe shall not be tested filled with water.

[HCD 1 & HCD 2] ABS or PVC installations are limited to not more than two stories of areas of residential accommodation.

(OSHPD 1, 2, 3 & 4] ABS and PVC installations are not allowed.

16.08.130 Section 1101.4.2 Conductors

Section 1101.4.2 of the California Plumbing Code is amended to read:

1101.4.2 Conductors. Conductors installed aboveground in buildings shall be in accordance with the applicable standards referenced in Table 701.2 for aboveground drain, waste, and vent pipe. Conductors installed above ground level shall be of: service weight cast-iron soil pipe or hubless cast-iron soil pipe; standard weight galvanized steel pipe; stainless steel 304 or 316L [stainless steel 304 pipe and fittings shall not be installed underground and shall be kept not less than 6 inches (152 mm) aboveground]; or Schedule 40 ABS or Schedule 40 PVC plastic pipe.

1101.4.2.1 [HCD 1]

ABS or PVC installations are limited to not more than two stories of areas of residential accommodation.

1101.4.2.2 [OSHPD 1, 2, 3 & 4]
ABS and PVC installations are not allowed.

16.08.140 Section 1101.4.3 Leaders

Section 1101.4.3 of the California Plumbing Code is amended to read:

1101.4.3 Leaders. Leaders installed outside shall be in accordance with the applicable standards referenced in Table 701.2 for aboveground drain, waste, and vent pipe; aluminum sheet metal; or galvanized steel sheet metal.

16.08.150 Section 1102.1 Roof Drains (Applications).

Section 1102.1 of the California Plumbing Code is amended to read:

1102.1 Roof drains shall be constructed of aluminum, cast-iron, stainless steel, ABS, PVC, polypropylene, polyethylene, or nylon and shall comply with ASME A112.3.1 or ASME A112.6.4.


SECTION 3. 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 4. This Ordinance shall be effective on the commencement of the thirty-first day after the date of its adoption.
INTRODUCED: November 4, 2019

PASSED: November 18, 2019

AYES: CORMACK, DUBOIS, FILSETH, KNISS, KOU, TANAKA

NOES:

ABSENT: FINE

ABSTENTIONS:

ATTEST:

City Clerk

APPROVED AS TO FORM:

Assistant City Attorney

APPROVED:

City Manager

Director of Planning and Development Services

Director of Administrative Services
2020 LOCAL AMENDMENTS – GREEN BUILDING

INSPECTION CODE: N/A
SCOPE: RESIDENTIAL AND COMMERCIAL

APPLICABLE CODES: 2019 CBC, CRC, CPC, CMC, CEC, CALGreen, CEnC, and PAMC

The information provided in this document is general and intended as a guide only. Each project is unique and additional requirements may be enforced as deemed appropriate.

IMPORTANT
The following are summaries of the common adoptive ordinances effective on 01/01/2020; for a full list of common adoptive ordinances and for a full description of each one, see the accompanying City of Palo Alto ordinances and/or please visit the following website: https://www.amlegal.com/?s=palo+alto

GREEN BUILDING
☐ 16.14.080 (CGBSC 301) – Voluntary tiers added
  ☐ Refer to the accompanying ordinance for a full description of the Tier 1 and Tier 2 requirement for residential and non-residential projects.

☐ 16.14.090 (CGBSC 702.2) – Special Inspection
  ☐ The owner or responsible entity acting as the owner’s agent shall employ one or more Special Inspectors to provide inspection or other duties necessary to substantiate compliance.

☐ The following residential mandatory, Tier 1, and Tier 2 electives have been adopted (with some exceptions, as noted) by the City of Palo Alto; refer to the accompanying ordinance for a full description of each one.
  ☐ 16.14.120 (CGBSC A4.104.1) – Supervision and education by a Special Inspector
  ☐ 16.14.130 (CGBSC A4.105.1) – Deconstruction and reuse of exiting materials
  ☐ 16.14.130 (CGBSC A4.105.2) – Reuse of materials
  ☐ 16.14.160 (CGBSC A4.106.9) – Bicycle parking
  ☐ 16.14.170 (CGBSC A4.106.10) – Light Pollution Reduction
  ☐ 16.14.220 (CGBSC A4.304.3) – Irrigation metering device
  ☐ 16.14.250 (CGBSC A4.403.2) – Reduction in cement use
  ☐ 16.14.260 (CGBSC A4.408.1) – Enhance construction waste reduction
  ☐ 16.14.265 (CGBSC A4.504.1) – Compliance with formaldehyde limits
  ☐ 16.14.270 (CGBSC A4.504.3) – Thermal insulation (Not adopted by CPA)
The following non-residential mandatory, Tier 1, and Tier 2 electives have been adopted (with some exceptions, as noted) by the City of Palo Alto; refer to the accompanying ordinance for a full description of each one.

- 16.14.295 (CGBSC 5.106.8) – Light pollution reduction
- 16.14.300 (CGBSC 5.305.1.3) – Dual plumbing
- 16.14.360 (CGBSC 5.304.2) – Invasive species prohibited
- 16.14.365 (CGBSC 5.306) – Non-residential enhances water budget
- 16.14.370 (CGBSC A5.408) – Construction waste reduction, disposal, and recycling
- 16.14.380 (CGBSC 5.410.4.6) – Energy STAR portfolio manager
- 16.14.390 (CGBSC 5.410.4.7) – Performance reviews – energy
- 16.14.400 (CGBSC 5.410.4.8) – Performance reviews – water
- 16.14.410 (CGBSC 5.506) – Indoor Air Quality
- 16.14.430 (CGBSC A5.106.5.3) – Electric vehicle (EV) charging
Ordinance No. 5481

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

SECTION 1. Title 16 of the Palo Alto Municipal Code is hereby amended by repealing in its entirety Chapter 16.14 and adopting a new Chapter 16.14 to read as follows:


The California Green Building Standards Code, 2019 Edition, Title 24, Part 11 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, shall be construed to apply to the corresponding provisions contained within the California Code of Regulations, Title 24, 2019. Ordinance No. 5393 of the City of Palo Alto and all other ordinances or parts of ordinances in conflict herewith are hereby suspended and expressly repealed.

Wherever the phrases “California Green Building Standards Code” or “CALGreen” are used in this code or any ordinance of the City, such phrases shall be deemed and construed to refer and apply to the California Green Building Standards Code, 2019 Edition, as adopted and amended by this chapter.

One copy of the California Green Building Standards Code, 2019 Edition, has been filed for use and examination of the public in the Office of the Building Official of the City of Palo Alto.


The following Appendix Chapters of the California Green Building Standards Code, 2019 Edition, are adopted and hereby incorporated in this Chapter by reference and made a part hereof the same as if fully set forth herein:

A. Appendix A4 - Residential Voluntary Measures (Tier 1 and Tier 2)
B. Appendix A5 - Non-residential Voluntary Measures (Tier 1 and Tier 2)

The provisions of this Chapter contain cross-references to the provisions of the California Green Building Standards Code, 2019 Edition, in order to facilitate reference and comparison to those provisions.


It is unlawful for any person to violate any provision or to fail to comply with any of the requirements of this Chapter or any permits, conditions, or variances granted under this Chapter. Violators shall be subject to any penalty or penalties authorized by law, including but not limited to: administrative enforcement pursuant to Chapters 1.12 and 1.16 of the Palo Alto Municipal Code; and criminal enforcement pursuant to Chapter 1.08 of the Palo Alto Municipal 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.

When the chief building official determines that a violation of this Chapter has occurred, the chief building official may record a notice of pendency of code violation with the Office of the County Recorder stating the address and owner of the property involved. When the violation has been corrected, the chief building official shall issue and record a release of the notice of pendency of code violation.


The employee positions designated in this section are authorized to exercise the authority provided in California Penal Code section 836.5 for violations of this Chapter. The designated employee positions are: (1) chief building official, (2) assistant chief building official, (3) building inspection manager, and (4) code enforcement officer.


The provisions of this Chapter shall constitute local amendments to the cross-referenced provisions of the California Green Building Standards Code, 2019 Edition, and shall be deemed to replace the cross-referenced sections of said Code with the respective provisions set forth in this Chapter.


Section 202 of the California Green Building Standards Code is amended to include the following definitions:
CPAU: The City of Palo Alto Utilities Department.

CALGREEN MANDATORY: CALGreen mandatory requirements are triggered for projects outlined in Section 301.1 Scope of the code, as amended. Projects that trigger only CALGreen mandatory measures are not required to fulfill CALGreen Tier 1 or Tier 2 as listed in Appendix A4 and A5.

CALGREEN “TIER 1”: To achieve Tier 1 status, a project must comply with the requirements identified in Appendix A4, section A4.601.4 for residential projects and Appendix A5, section A5.601.2 for non-residential projects. The local adaptations to these appendices are identified in this ordinance. Projects subject to Tier 1 must fulfill CALGreen mandatory measures and CALGreen Tier 1 prerequisite measures. Tier 1 projects must also select the minimum amount of CALGreen elective measures required for Tier 1.

CALGREEN “TIER 2”: To achieve Tier 2 status, a project must comply with the requirements identified in Appendix A4, section A4.601.5 for residential projects and Appendix A5, section A5.601.3 for non-residential projects. The local adaptations to these appendices are identified in this ordinance. Projects subject to Tier 2 must fulfill CALGreen mandatory measures and CALGreen Tier 2 prerequisite measures. Tier 2 projects must also select the minimum amount of CALGreen elective measures required for Tier 2.

CALGREEN “TIER 1” AND “TIER 2” PREREQUISITE MEASURES: Projects subject to CALGreen Tier 1 or Tier 2 must fulfill the minimum prerequisites as described within Appendix A4, section A4.6 for residential projects and Appendix A5, section A5.6 for non-residential Projects, and local amendments within this ordinance. Tier 1 and Tier 2 prerequisite and elective measures are generally preceded by an “A”.

CALGREEN “TIER 1” AND “TIER 2” ELECTIVE MEASURES: Projects subject to CALGreen Tier 1 or Tier 2 must fulfill the minimum number of electives as described within Appendix A4, section A4.6 for residential projects and Appendix A5, section A5.6 for non-residential Projects, and local amendments within this ordinance. Tier 1 and Tier 2 prerequisite and elective measures are generally preceded by an “A”.

CALGREEN INSPECTOR: An individual certified through the International Code Council (ICC) CALGreen Inspector/Plans Examiner Certification for demonstrating knowledge and application of Green Building concepts during plan review and inspection. For projects that require a CALGreen Inspector/Plans Examiner verification, the Inspector must be contracted directly with the owner and may not be a contractor or employee of the design or construction firm.
MODEL WATER EFFICIENT LANDSCAPE ORDINANCE. The California Department of Water Resources Model Water Efficient Landscape Ordinance.

PROCESS WATER. Process water means untreated wastewater, uncontaminated by toilet discharge or an unhealthy bodily waste, which is not a threat from unhealthful processing, manufacturing or operating wastes.

SALVAGE. Salvage means the controlled removal of items and material from a building, construction, or demolition site for the purpose of on- or off-site reuse, or storage for later reuse. Examples include air conditioning and heating systems, columns, balustrades, fountains, gazebos, molding, mantels, pavers, planters, quoins, stair treads, trim, wall caps, bath tubs, bricks, cabinetry, carpet, doors, ceiling fans, lighting fixtures, electrical panel boxes, fencing, fireplaces, flooring materials of wood, marble, stone or tile, furnaces, plate glass, wall mirrors, door knobs, door brackets, door hinges, marble, iron work, metal balconies, structural steel, plumbing fixtures, refrigerators, rock, roofing materials, siding materials, sinks, stairs, stone, stoves, toilets, windows, wood fencing, lumber and plywood.

SQUARE FOOTAGE. For application of green building requirements, square footage means all new square footage, including basement areas (7 feet or greater in height).


Section 301 of the California Green Building Standards Code is amended to read:

SECTION 301 GENERAL

301.1 Scope. Buildings shall be designed to include the green building measures specified as mandatory in the application checklists contained in this code and any applicable local amendments. In addition, the City requires the use of Voluntary Tiers, as provided in Appendices A4 and A5, for certain residential and non-residential new construction, additions, and alterations.

301.1.1 Residential additions and alterations. [HCD] The mandatory provisions of Chapter 4 shall be applied to additions and/or alterations of existing residential buildings where the addition and/or alteration increases the building’s conditioned area, volume, or size. The requirements shall apply only to and/or within the specific area of the addition or alteration.
**Tier 1 adopted (Residential).** All residential building additions and/or alterations exceeding 1000 square feet must meet CALGREEN MANDATORY plus the Tier 1 requirements, as amended by this Chapter and as applicable to the scope of work.

For Tier 1 projects, the area of alterations will include any construction or renovation to an existing structure other than repair or addition. Alterations include remodeling, reconstruction, historic restoration, changes or rearrangements of the structural parts or elements, and changes or rearrangement in the plan configuration of walls and full height partitions. Normal maintenance, reroofing, painting or wall papering, floor finishes, or replacement-in-kind of mechanical, plumbing and electrical systems are not alterations for the purposes of establishing scope of Tier 1 projects. The area of alteration should be limited to the footprint of the component(s) being altered. This does not exclude mandatory CALGreen requirements.

**Exception:** Attached and detached Accessory Dwelling Units, ADU conversions of existing structures shall meet the California Green Building Standards Code Mandatory requirements only.

301.2 Low-rise and high-rise residential buildings. [HCD] The provisions of individual sections of CALGreen may apply to either low-rise residential buildings, high-rise residential buildings, or both. Individual sections will be designated by banners to indicate where the section applies specifically to low-rise only (LR) or high-rise only (HR). When the section applies to both low-rise and high-rise buildings, no banner will be used.

301.3 Non-residential additions and alterations. [BSC] The provisions of individual sections of Chapter 5 apply to building non-residential additions of 1,000 square feet or greater, and/or building alterations with a permit valuation of $200,000 or above (for occupancies within the authority of California Building Standards Commission). Code sections relevant to additions and alterations shall only apply to the portions of the building being added or altered within the scope of the permitted work.

A code section will be designated by a banner to indicate where the code section only applies to newly constructed buildings [N] or to additions and alterations [A]. When the code section applies to both, no banner will be used.

**Tier 1 adopted.** Non-residential alterations (including tenant improvements or renovations) of 5,000 square feet that include replacement of at least two of the following: HVAC system, building envelope, hot water system, or lighting system, must
comply with CALGREEN MANDATORY plus Tier 1 requirements, as amended by this Chapter and as applicable to the scope of work.

**Tier 2 adopted.** Non-residential additions of 1000 square feet or greater must comply with CALGREEN MANDATORY plus Tier 2 requirements, as amended by this Chapter and as applicable to the scope of work.

### 301.1.2 Residential new construction – Tier 2 adopted.

All newly constructed Residential Buildings must meet CALGREEN MANDATORY plus Tier 2 requirements, as amended by this Chapter and as applicable to the scope of work.

**Exception:** Free standing detached Accessory Dwelling Units of new construction shall meet the following:

1. California Green Building Standards Code Mandatory plus Tier 2 prerequisite requirements.
2. No Planning and Design electives.
3. Two (2) Water Efficiency and Conservation electives.
5. One (1) Environmental Quality elective.

### 301.3.3 Non-residential new construction – Tier 2 adopted.

All new non-residential construction must meet CALGREEN MANDATORY plus Tier 2 requirements, as amended by this Chapter and as applicable to the scope of work.

### 301.6 Special Inspector Requirements.

Residential and non-residential project owners subject to CALGREEN MANDATORY plus Tier 1 or Tier 2 requirements shall contract a Special Inspector in accordance with section 702.2 of CALGreen, as amended.

#### 16.14.090 Section 702.2 Special Inspection.

Section 702.2 of the California Green Building Standards Code is amended to read:

**702.2 Special Inspection.** When required by the enforcing agency, the owner or responsible entity acting as the owner’s agent shall employ one or more Special Inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special Inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition to other certifications or qualifications acceptable to the enforcing agency, the following certifications or education may be considered by the enforcing agency when evaluating the qualifications of a Special Inspector. The City shall maintain a list of pre-
approved Special Inspectors in accordance with this section. The owner shall contract a Special Inspector from the pre-approved list meeting one of the following:

1) Certification by a national or regional green building program:

**ICC Certified CALGreen Inspector/Plans Examiner:** Contract a CALGreen Inspector to provide third-party verification of compliance prior to Permit Issuance and prior to Final Inspection.

2) Other programs acceptable to the enforcing agency.

When required by the enforcing agency, the owner or responsible entity acting as the owner’s agent shall employ one or more Special Inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special Inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition, the Special Inspector shall have a certification from a recognized state, national or international association, as determined by the local agency. The city shall maintain a list of pre-approved Special Inspectors in accordance with this section.

*Note:* Special Inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code.

16.14.100 Reserved.


A preface is added to Chapter 4 of the California Green Building Standards Code to read:

**Preface - Green Building Requirements for Project Type and Scope.** For design and construction of residential projects, the City of Palo Alto requires compliance with the mandatory measures of Chapter 4, in addition to use of Tier 1 and Tier 2 as specified in Palo Alto Municipal Code Chapter 16.14. See Section 202 for definitions on CALGREEN MANDATORY, Tier 1 prerequisites and electives, and Tier 2 prerequisites and electives. All elective measures are adopted as written under Appendix A4 unless otherwise indicated in this Section.

16.14.120 Section A4.104 Site Preservation.

Section A4.104.1 is adopted as a Tier 1 and Tier 2 elective and is amended to read:
A4.104.1 Supervision and Education by a Special Inspector. Individuals with oversight authority on the project, as defined in section 16.14.090 of this code, who have been trained in areas related to environmentally friendly development, shall teach green concepts to other members of the builder’s staff and ensure training and written instruction has been provided to all parties associated with the development of the project. Prior to the beginning of the construction activities, the builder shall receive a written guideline and instruction specifying the green goals of the project.

Note: Lack of adequate supervision and dissemination of the project goals can result in negative effects on green building projects. If the theme of green building is not carried through the project, the overall benefit can be substantially reduced by the lack of knowledge and information provided to the various entities involved with the construction of the project.


Section A4.105.1 Section A4.105.1 is adopted as an elective measure effective through June 30, 2020. Starting July 1, 2020 per Chapter 5.24 of Title 5 of the Municipal Code, Section A4.105.1 is not adopted as an elective measure. See Chapter 5.24 of the Municipal Code for the local deconstruction requirements.

Section A4.105.2 is adopted as a Tier 1 and Tier 2 elective measure.

A4.105.2 Reuse of materials. Nonhazardous materials which can be easily reused include but are not limited to the following:

1. Light fixtures
2. Plumbing fixtures
3. Doors and trim
4. Masonry
5. Electrical devices
6. Appliances
7. Foundations or portions of foundations

Note: Reused material must be in compliance with the appropriate Title 24 requirements.


Section A4.106.8 is not adopted as a Tier 1 and Tier 2 elective measure. Projects must comply with the mandatory electric vehicle supply equipment (EVSE) requirements stated in Section A4.106.8, as amended.


Section A4.106.9 is not adopted as a Tier 1 and Tier 2 elective measure. Projects must comply with the bicycle parking requirements in the Palo Alto Municipal Code.


Section A4.106.10 is adopted as a Tier 1 and Tier 2 elective measure for all covered projects and is amended to read:

**A4.106.10 Light pollution reduction.** Outdoor lighting systems shall be designed and installed to comply with the following:

1. The minimum requirements in the California Energy Code for Lighting Zones 1-4 as defined in Chapter 10 of the California Administrative Code; and
2. Backlight, Uplight and Glare (BUG) ratings as defined in IES TM-15-11; and
3. Allowable BUG ratings not exceeding those shown in Table A4.106.10; or
4. Comply with a local ordinance lawfully enacted pursuant to Section 101.7 of this code, whichever is more stringent.

Projects may use an approved equal reference standard for light fixtures where BUG ratings are unavailable.

**Exceptions:**
1. Luminaires that qualify as exceptions to the California Energy Code.
2. Emergency lighting.
3. One- and two-family dwellings.

Note: The International Dark-Sky Association (IDA) and the Illuminating Engineering Society of North America (IESNA) have developed a Model Lighting
Ordinance (MLO). The MLO was designed to help municipalities develop outdoor lighting standards that reduce glare, light trespass, and skyglow. The model ordinance and user guides for the ordinance may be accessed at the International Dark-Sky Association web site.


Sections A4.203.1 is not adopted as a Tier 1 and Tier 2 elective measure. Projects shall comply with Chapter 16.17 of the Palo Alto Municipal Code (Energy Reach Code).


Section A4.304.3 is adopted as a Tier 1 and Tier 2 elective measure and is amended to read:

**A4.304.3 Irrigation Metering Device.** Dedicated irrigation meters from CPAU are to be installed in all new construction and rehabilitated landscapes when the landscape is greater than 1,000 square feet.


Sections A4.305.1, A4.305.2, and A4.305.3 are adopted as Tier 1 and Tier 2 elective measures, and are amended to read:

**A4.305.1 Graywater.** Alternative plumbing piping is installed to permit the discharge from the clothes washer and other fixtures (except toilets and kitchen sinks) to be used for an irrigation system in compliance with the California Plumbing Code. In the event that the whole house graywater system is installed in compliance with the California Plumbing Code, then this measure shall count as 3 electives.

**A4.305.2 Recycled Water Piping.** Based on projected availability, dual water piping is installed for future use of recycled water at the following locations:

1. Interior piping for the use of recycled water is installed to serve all water closets, urinals, and floor drains.
2. Exterior piping is installed to transport recycled water from the point of connection to the structure. Recycled water systems shall be designed and installed in accordance with the California Plumbing Code.

**A4.305.3 Recycled water for landscape irrigation.** Recycled water piping is used for landscape irrigation.

Section A4.305.4 is added as Tier 1 and Tier 2 prerequisite and shall read as follows:

**A4.305.4 Additions and alterations.** All multifamily residential additions and alterations must install recycled water infrastructure for irrigation when the landscape area exceeds 1,000 square feet.


Sections A4.403.1 is not adopted as a Tier 1 and Tier 2 elective measure.


Section A4.403.2 is not adopted as a Tier 1 and Tier 2 prerequisite. Section A4.403.2 is adopted as a Tier 1 and Tier 2 elective measure and shall read as:

**A4.403.2 Reduction in cement use.** As allowed by the enforcing agency, cement used in foundation mix design shall be reduced as follows:

**Tier 1.** Not less than a 20 percent reduction in cement.

**Tier 2:** Not less than a 25 percent reduction in cement.

**Note:** Products commonly used to replace cement in concrete mix designs include, but are not limited to:

1. Fly ash
2. Slag
3. Silica fume
4. Rice hull ash


Section A4.408.1 is adopted as mandatory and is amended to read:
A4.408.1 Enhanced Construction Waste Reduction. Nonhazardous construction and demolition debris generated at the site is diverted to recycle or salvage in compliance with the following:

Projects with a given valuation of $25,000 or more must have at least an 80-percent reduction. Any mixed recyclables that are sent to mixed-waste recycling facilities shall include a qualified third party verified facility average diversion rate. Verification of diversion rates shall meet minimum certification eligibility guidelines, acceptable to the local enforcing agency.

A4.408.1.1 Documentation. Documentation shall be provided to the enforcing agency which demonstrates compliance with all construction and demolition waste reduction requirements.


Section A4.504.1 is adopted as a Tier 1 and Tier 2 elective measure.


Section A4.504.3 is not adopted as a Tier 1 and Tier 2 prerequisite. Section A4.504.3 is adopted as a Tier 1 and Tier 2 elective measure.

16.14.280 Non-Residential Projects: Chapter 5 Preface Green Building Requirements for Project Type and Scope.

A Preface is added to Chapter 5 of the California Green Building Standards Code to read:

Preface – Green Building Requirements for Project Type and Scope. For design and construction of non-residential projects, the City requires compliance with the mandatory measures of Chapter 5, in addition to use of Tier 1 and Tier 2 as specified in Palo Alto Municipal Code Chapter 16.14. See Section 202 for definitions on CALGREEN MANDATORY, Tier 1 prerequisites and electives, and Tier 2 prerequisites and electives. All elective measures are adopted as written under Appendix A5 unless otherwise indicated in this Section.

16.14.290 Section 5.106.1.1 Local storm water pollution prevention.

Section 5.106.1.1 Local ordinance is amended to read:
5.106.1.1 Local ordinance. Newly constructed projects and additions shall comply with additional storm water pollution prevention measures as applicable. (See Chapter 16.11, Storm Water Pollution Prevention, of the Palo Alto Municipal Code.)

16.14.295 Section 5.106.8 Light pollution reduction

Section 5.106.8 Light pollution reduction is amended to read:

5.106.8 Light pollution reduction. Outdoor lighting systems shall be designed and installed to comply with the following:

1. The minimum requirements in the California Energy Code for Lighting Zones 0-4 as defined in Chapter 10, Section 10-114 of the California Administrative Code; and
2. Backlight (B) ratings as defined in IES TM-15-11 (shown in Table A-1 in Chapter 8);
3. Uplight and Glare ratings as defined in California Energy Code (shown in Tables 130.2-A and 130.2-B in Chapter 8); and
4. Allowable BUG ratings not exceeding those shown in Table 5.106.8 [N]; or
5. Comply with a local ordinance lawfully enacted pursuant to Section 101.7, whichever is more stringent.

Projects may use an approved equal reference standard for light fixtures where BUG ratings are unavailable.

Exceptions:
1. Luminaires that qualify as exceptions in Section 140.7 of the California Energy Code.
2. Emergency lighting.
3. Building facade meeting the requirements in Table 140.7-B of the California Energy Code, Part 6.
4. Custom lighting features as allowed by the local enforcing agency, as permitted by Section 101.8 Alternate materials, designs and methods of construction.

16.14.300 Section 5.305.1.3 Dual Plumbing.

Section 5.305.1.3 Dual plumbing is added as mandatory and is amended to read:
5.305.1.3 **Dual plumbing.** New buildings and facilities shall be dual plumbed for potable and recycled water systems for toilet flushing when recycled water is available. All building projects for which CPAU recycled water service is available must install dual plumbing and use recycled water for toilet and urinal flushing when the building area is greater than 10,000 square feet or where installation of 25 or more toilets and urinals is proposed. All projects for which CPAU recycled water service is not yet available must install dual plumbing for use of recycled water for toilet and urinal flushing when the building area exceeds 50,000 square feet or where installation of 50 or more toilets and urinals is proposed.

16.14.310  **Reserved.**

16.14.320  **Reserved.**

16.14.330  **Reserved.**


16.14.350  **Reserved.**

16.14.360  **Section 5.304.2 Invasive species prohibited.**

Section 5.304.2 is added as mandatory to read:

**5.304.2 Invasive species prohibited.** All non-residential new construction, additions, and alterations shall not install invasive species in a landscape area of any size.

16.14.365  **Section 5.306 Non-residential enhanced water budget.**

Section 5.306 Non-residential enhanced water budget is added as mandatory to read:

**5.306 Non-residential enhanced water budget.** Non-residential buildings anticipated to use more than 1,000 gallons of water a day shall complete an Enhanced Water Budget Calculator as established by the Chief Building Official or designee.

16.14.370  **Section A5.408 Construction Waste Reduction, Disposal and Recycling.**

Section A5.408.3.1.1 Enhanced Construction Waste Reduction is adopted at Tier 2 (80% construction waste reduction) as a mandatory requirement for all non-residential construction, including new construction, additions, and alterations, as long as the construction has a
valuation exceeding $25,000. Non-residential projects with a lower valuation shall remain subject to California Green Building Code Chapter 5 mandatory requirements.


Section 5.410.4.6 Energy STAR portfolio manager is added as mandatory to read:

5.410.4.6 Energy STAR portfolio manager. All non-residential projects exceeding $100,000 valuation must provide evidence of an Energy STAR Portfolio Manager project profile for both water and energy use prior to Permit Issuance, acquire an Energy STAR Portfolio Manager Rating, and submit the rating to the City of Palo Alto once the project has been occupied after 12 months.


Section 5.410.4.7 Performance reviews - energy is added to read:

5.410.4.7 Performance reviews – energy. All projects over 10,000 square feet. The City reserves the right to conduct a performance review, no more frequently than once every five years unless a project fails review, to evaluate the building's energy use to ensure that resources used at the building and/or site do not exceed the maximum allowance set forth in the rehabilitation or new construction design. Following the findings and recommendations of the review, the City may require adjustments to the energy usage or energy-using equipment or systems if the building is no longer compliant with the original design. Renovation or rehabilitation resulting from such audit activity shall be considered a project and shall be subject to applicable documentation submittal requirements of the City. This section is effective only for those projects for which a building permit was issued after January 1, 2009.

16.14.400 Section 5.410.4.8 Performance reviews – water.

Section 5.410.4.8 Performance reviews - water is added to read:

5.410.4.8 Performance reviews – water. All sites greater than one acre: The City reserves the right to conduct performance reviews, no more frequently than once every five years unless a project fails review, to evaluate water use to ensure that resources used at the building and/or site do not exceed a maximum allowance set forth in the rehabilitation or new construction design. Water use reviews may be initiated by the
Building Division, or as a coordinated effort between the CPAU and the Santa Clara Valley Water District (SCVWD), or as part of SCVWD’s established water conservation programs. Following the findings and recommendations of the review, the City may require adjustments to irrigation usage, irrigation hardware, and/or landscape materials to reduce consumption and improve efficiency. Renovation or rehabilitation resulting from such audit activity shall be considered a project and shall be subject to applicable documentation submittal requirements of the City.


Section 5.506.3 is added as mandatory to read:


Section A4.106.8 of the California Green Building Standards Code is adopted as mandatory and amended to read:

A4.106.8 Electric Vehicle (EV) Charging for Residential Structures. Newly constructed single family and multifamily residential structures, including residential structures constructed as part of a mixed-use development, shall comply with the following requirements for electric vehicle supply equipment (EVSE). All parking space calculations under this section shall be rounded up to the next full space. The requirements stated in this section are in addition to those contained in Section 4.106.4 of the California Green Building Standards Code. In the event of a conflict between this section and Section 4.106.4 of the California Green Building Standards Code, the more robust EV Charging requirements shall prevail.

Definitions. For the purposes of this section, the following definitions shall apply:

(a) Level 2 EVSE. “Level 2 EVSE” shall mean an EVSE capable of charging at 30 amperes or higher at 208 or 240 VAC. An EVSE capable of simultaneously charging at 30 amperes for each of two vehicles shall be counted as two Level 2 EVSE.
(b) Conduit Only. “Conduit Only” shall mean, at minimum: (1) a panel capable to accommodate a dedicated branch circuit and service capacity to install a 208/240V, 50 amperes grounded AC outlet; and (2) raceway or wiring with capacity to accommodate a 100 ampere circuit; terminating in (3) a listed cabinet, box, enclosure, or NEMA receptacle. The raceway shall be installed so that minimal removal of materials is necessary to complete the final installation.

(c) EVSE-Ready Outlet. “EVSE-Ready Outlet” shall mean, at minimum: (1) a panel capable to accommodate a dedicated branch circuit and service capacity to install a 208/240V, 50 amperes grounded AC outlet; (2) a two-pole circuit breaker; (3) raceway with capacity to accommodate 100-ampere circuit; (4) 50 ampere wiring; terminating in (5) a 50 ampere NEMA receptacle in a covered outlet box.

(d) EVSE Installed. “EVSE Installed” shall mean an installed Level 2 EVSE.

A4.106.8.1 New one-family, two-family and townhouse dwellings. The following standards apply to newly constructed detached and attached single family, two-family and townhouse residences.

(a) In general. The property owner shall provide Conduit Only, EVSE-Ready Outlet, or EVSE Installed for each residence.

(b) Location. The proposed location of a charging station may be internal or external to the dwelling and shall be in close proximity to an on-site parking space consistent with City guidelines, rules, and regulations.

A4.106.8.2 New Multi-Family Dwellings. The following standards apply to newly constructed residences in a multi-family residential structure, except as provided in section A4.106.8.2.1.

(a) Resident parking. The property owner shall provide at least one EVSE-Ready Outlet or EVSE Installed for each residential unit in the structure.

(b) Guest parking. The property owner shall provide Conduit Only, EVSE-Ready Outlet, or EVSE Installed, for at least 25% of guest parking spaces, among which at least 5% (and no fewer than one) shall be EVSE Installed.

(c) Accessible spaces. Projects shall comply with the 2019 California Building Code requirements for accessible electric vehicle parking.
(d) Minimum total circuit capacity. The property owner shall ensure sufficient circuit capacity, as determined by the Chief Building Official or designee, to support a Level 2 EVSE in every location where Circuit Only, EVSE-Ready Outlet or EVSE Installed is required.

(e) Location. The EVSE, receptacles, and/or raceway required by this section shall be placed in locations allowing convenient installation of and access to EVSE. In addition, if parking is deed-restricted to individual residential units, the EVSE or receptacles required by subsection (a) shall be located such that each unit has access to its own EVSE or receptacle. Location of EVSE or receptacles shall be consistent with all City guidelines, rules, and regulations.

A4.106.8.2.2 Exception – Multi-Family Residential Structures with Individual, Attached Parking. The property owner shall provide Conduit Only, EVSE-Ready Outlet, or EVSE Installed for each newly constructed residence in a multi-family residential structure featuring: (1) a parking space attached to the residence; and (2) a shared electrical panel between the residence and parking space (e.g., a multi-family structure with tuck-under garages).

A4.106.8.3 New Hotels. The following standards apply to newly constructed hotels.

(a) In general. The property owner shall provide Conduit Only, EVSE-Ready Outlet, or EVSE Installed for at least 30% of parking spaces, among which at least 10% (and no fewer than one) shall be EVSE Installed.

(b) Accessible spaces. Projects shall comply with the 2019 California Building Code requirements for accessible electric vehicle parking.

(c) Minimum total circuit capacity. The property owner shall ensure sufficient circuit capacity, as determined by the Chief Building Official or designee, to support a Level 2 EVSE in every location where Circuit Only, EVSE-Ready Outlet or EVSE Installed is required.

(d) Location. The EVSE, receptacles, and/or raceway required by this section shall be placed in locations allowing convenient installation of and access to EVSE. Location of EVSE or receptacles shall be consistent with all City guidelines, rules, and regulations.

Section A5.106.5.3 of the California Green Building Standards Code is adopted as mandatory and amended to read:

**A5.106.5.3 Electric Vehicle (EV) Charging for Non-Residential Structures.** New non-residential structures shall comply with the following requirements for electric vehicle supply equipment (EVSE). All parking space calculations under this section shall be rounded up to the next full space. The requirements stated in this section are in addition to those contained in Section 5.106.5.3 of the California Green Building Standards Code. In the event of a conflict between this section and Section 5.106.5.3, the more robust EV Charging requirements shall prevail.

**Definitions.** For the purposes of this section, the following definitions shall apply:

(a) Level 2 EVSE. “Level 2 EVSE” shall mean an EVSE capable of charging at 30 amperes or higher at 208 or 240 VAC. An EVSE capable of simultaneously charging at 30 amperes for each of two vehicles shall be counted as two Level 2 EVSE.

(b) Conduit Only. “Conduit Only” shall mean, at minimum: (1) a panel capable to accommodate a dedicated branch circuit and service capacity to install at least a 208/240V, 50 amperes grounded AC outlet; and (2) raceway or wiring with capacity to accommodate a 100 ampere circuit; terminating in (3) a listed cabinet, box, enclosure, or NEMA receptacle. The raceway shall be installed so that minimal removal of materials is necessary to complete the final installation.

(c) EVSE-Ready Outlet. “EVSE-Ready Outlet” shall mean, at minimum: (1) a panel capable to accommodate a dedicated branch circuit and service capacity to install at least a 208/240V, 50 amperes grounded AC outlet; (2) a two-pole circuit breaker; (3) raceway with capacity to accommodate a 100-ampere circuit; (4) 50 ampere wiring; terminating in (5) a 50 ampere NEMA receptacle in a covered outlet box.

(d) EVSE Installed. “EVSE Installed” shall mean an installed Level 2 EVSE.

**A5.106.5.5 Non-Residential Structures Other than Hotels.** The following standards apply to newly constructed non-residential structures other than hotels.
(a) In general. The property owner shall provide Conduit Only, EVSE-Ready Outlet, or EVSE Installed for at least 25% of parking spaces, among which at least 5% (and no fewer than one) shall be EVSE Installed.

(b) Accessible spaces. Projects shall comply with the 2019 California Building Code requirements for accessible electric vehicle parking.

(c) Minimum total circuit capacity. The property owner shall ensure sufficient circuit capacity, as determined by the Chief Building Official or designee, to support a Level 2 EVSE in every location where Circuit Only, EVSE-Ready Outlet or EVSE Installed is required.

(d) Location. The EVSE, receptacles, and/or raceway required by this section shall be placed in locations allowing convenient installation of and access to EVSE. Location of EVSE or receptacles shall be consistent with all City guidelines, rules, and regulations.

**SECTION 2.** The Council adopts the findings for local amendments to the California Green Building Standards Code, 2019 Edition, attached hereto as Exhibit “A” and incorporated herein by reference.

**SECTION 3.** Section 16.12.035 of Chapter 16.12 of Title 16 of the Palo Alto Municipal Code is hereby amended to read as follows:

16.12.035 New construction; recycled water use for toilet and urinal flushing and floor trap priming.

(a) All applications for building permits for new or remodeled buildings or groups of buildings within the boundaries of a recycled water project area, filed after the adoption of this chapter, where the building square footage total, including both the original square footage and any addition, is greater than 10,000 square feet or where installation of twenty-five or more toilets and urinals is proposed, shall incorporate dual plumbing in the design of the facility to allow the use of recycled water, when it becomes available, for flushing toilets and urinals and priming floor traps. Dual plumbing requirements shall not apply to single family homes.

(b) All applications for building permits for new or remodeled buildings or groups of buildings in geographic areas not within the boundaries of a recycled water project area, filed after the adoption of this chapter, where the building square footage total, including both the original square footage and any addition, is greater than 50,000 square feet or where installation of 50 or more toilets and urinals is proposed, shall incorporate dual plumbing in the design of the facility to allow the use of recycled water, when it becomes available, for flushing toilets and urinals and priming floor traps. Dual plumbing requirements shall not apply to single family homes.
recycled water, when it becomes available, for flushing toilets and urinals and priming floor traps. Dual plumbing requirements shall not apply to single family homes.

(c) When dual plumbing requirements are triggered by remodeling, only those restroom facilities located within the remodel project area shall be required to incorporate dual plumbing.

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 declared 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.

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

INTRODUCED: November 4, 2019
PASSED: November 18, 2019
AYES: CORMACK, DUBOIS, FILSETH, KNIS, KOU, TANAKA
NOES:
ABSENT: FINE
ABSTENTIONS:

ATTEST:

DocuSigned by:
Beth Minor
City Clerk

DocuSigned by:
Eric Filseth
Mayor

DocuSigned by:
Sandra Lee
Deputy City Attorney

DocuSigned by:
Ed Sihota
City Manager

DocuSigned by:

Director of Planning and Development Services

DocuSigned by:

Director of Administrative Services

APPROVED AS TO FORM:

APPROVED:

DocuSigned by:

Director of Planning and Development Services

DocuSigned by:

Director of Administrative Services
2020 LOCAL AMENDMENTS – ENERGY

INSPECTION CODE: N/A

SCOPE: RESIDENTIAL AND COMMERCIAL

APPLICABLE CODES: 2019 CBC, CRC, CPC, CMC, CEC, CALGreen, CEnC, and PAMC

The information provided in this document is general and intended as a guide only. Each project is unique and additional requirements may be enforced as deemed appropriate.

IMPORTANT

The following are summaries of the common adoptive ordinances effective on 01/01/2020; for a full list of common adoptive ordinances and for a full description of each one, see the accompanying City of Palo Alto ordinances and/or please visit the following website: https://www.amlegal.com/?s=palo+alto

ENERGY

RESIDENTIAL

The proposed energy reach code ordinance encourages all electric new construction projects and will require higher energy efficiency standards than the 2019 Building Energy Standards and all electric readiness for newly constructed residential and non-residential buildings with connected natural gas service. The efficiency requirements will vary by building type.

In the 2019 California Energy Code, there will also be a new rating for the energy performance for new residential buildings. New low-rise residential construction will be measured by an Energy Design Rating (EDR) and will be used in the energy modelling software. The EDR score is a metric for energy performance measured on a scale of zero (0) to one hundred (100). A score of zero is a zero net energy building and a score of 100 represents an inefficient building with the energy consumption of a building built to the requirements of the 2006 International Energy Conservation Code. The lower the EDR index score, the better. The proposed building’s EDR score will be required to be lower than the Standard Building EDR based on the building type and use (see Table 1).

The residential energy reach code ordinance for one- and two-family dwellings do not apply to additions and Accessory Dwelling Units, ADUs. This is an effort to encourage and not restrict the construction of ADU’s to alleviate the housing shortage within Palo Alto. Residential additions and alterations are also not subject to the energy reach code.

NON-RESIDENTIAL

New nonresidential buildings, such as office, retail, hotels, motels and high-rise residential buildings of four stories or more, will have performance design requirements that increase the building’s energy performance standards by reducing the building’s energy budget compared to the Standard Building Design by 5-12%, depending upon the occupancy type (see Table 1).

In addition, new non-residential industrial and manufacturing buildings do not fall under the reach code and are not required to be designed with a higher efficiency margin than the standard design.
Table 1: Palo Alto’s Reach Code

<table>
<thead>
<tr>
<th>Description</th>
<th>All-Electric Design</th>
<th>Mixed-Fuel design</th>
</tr>
</thead>
</table>
| New one- and two-family residential building     | No additional efficiency requirements above the Standard Building Design              | • Increase building efficiency to achieve an EDR 10 point less than the Standard Building Design  
|                                                  |                                                                                      | • Electrification ready for water and space heating, cooking, and clothes drying |
| New low-rise multi-family buildings (3 stories or less) | No additional efficiency requirements above the Standard Building Design              | • Increase building efficiency to achieve an EDR 10 point less than the Standard Building Design  
|                                                  |                                                                                      | • Electrification ready for water and space heating, cooking, and clothes drying |
| New office/retail building                       | No additional efficiency requirements above the Standard Building Design              | • Increase building efficiency to achieve 12% margin above the Standard Building Design  
|                                                  |                                                                                      | • Electrification ready for water and space heating, cooking, and clothes drying |
| New hotel/motel/multi-family buildings (4 stories or more) | No additional efficiency requirements above the Standard Building Design              | • Increase building efficiency to achieve 5% margin above the Standard Building Design  
|                                                  |                                                                                      | • Electrification ready for water and space heating, cooking, and clothes drying |

- 16.17.050 (CEnC 100.1) – Definitions and rules of construction
  - The amendments include definitions per Palo Alto’s energy reach code.

- 16.17.060 (CEnC 110.10) – Mandatory requirements for solar ready buildings
  - In the event of a conflict between the energy ordinance and the Palo Alto tree ordinance, the latter prevails.

- 16.17.070 (CEnC 140.0) – Performance and prescriptive compliance approaches
  - Amendments include items related to Palo Alto’s Reach Code such as electric-ready mixed-fuel buildings in terms of water heating, clothes drying, cooktop or range, and other gas equipment.

- 16.17.080 (CEnC 140.1) – Performance approach: energy budgets
  - The amendment describes how newly constructed all-electric and mixed-fuel buildings comply with the performance approach and the energy budgets requirements.

- 16.17.090 (CEnC 140.2) – Prescriptive approach
  - To comply using the prescriptive approach, a building shall be designed with and shall have constructed and installed systems and components meeting the applicable requirements.

- 16.17.100 (CEnC 150.0) – Mandatory Features and Devices
  - Amendments include items related to Palo Alto’s Reach Code and mandatory requirements for low-rise residential buildings in terms of space-conditioning equipment, water heating, clothes drying, and cooking range.
16.17.110 (CEnC 150.1) – Performance and prescriptive compliance approaches for low-rise residential buildings
  - The amendments add requirements related to Palo Alto’s Energy Reach Code (e.g., electrification and additional requirements for mixed-fuel buildings) when using the performance approach for newly constructed buildings and additions and alterations to existing buildings.
  - The Certificate of Compliance is prepared by a Certified Energy Analyst.
  - The prescriptive approach is amended to include additional requirements for duct system sealing and leakage testing, slab insulation, compact hot water, and ducted central forced air heating systems.
  - There are additional prescriptive requirements for multifamily buildings that include ducts in conditioned space, roofing products, slab insulation, compact hot water, and central fan integrated ventilation systems.

16.17.120 – Infeasibility exemption
  - An applicant may request an exemption based on circumstances.
Ordinance No. 5485

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


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, shall be construed to apply to the corresponding provisions contained within the California Code of Regulations, Title 24, 2016. Ordinance No. 5383 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, 2019 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.

It is unlawful for any person to violate any provision or to fail to comply with any of the requirements of this Chapter or any permits, conditions, or variances granted under this Chapter. Violators shall be subject to any penalty or penalties authorized by law, including but not limited to: administrative enforcement pursuant to Chapters 1.12 and 1.16 of the Palo Alto Municipal Code; and criminal enforcement pursuant to Chapter 1.08 of the Palo Alto Municipal 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.

When the chief building official determines that a violation of this Chapter has occurred, the chief building official may record a notice of pendency of code violation with the Office of the County Recorder stating the address and owner of the property involved. When the violation has been corrected, the chief building official shall issue and record a release of the notice of
pendency of code violation.

16.17.030 Enforcement -- Criminal Enforcement authority.

The employee positions designated in this section are authorized to exercise the authority provided in California Penal Code section 836.5 for violations of this Chapter. The designated employee positions are: (1) chief building official, (2) assistant chief building official, (3) building inspection manager, and (4) 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, 2019 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 100.1 Definitions and Rules of Construction
Section 100.1(b) is amended by adding the following definitions:

ALL-ELECTRIC BUILDING or ALL-ELECTRIC DESIGN is a building or building design that uses a permanent supply of electricity as the source of energy for all space heating, water heating (including pools and spas), cooking appliances, and clothes drying appliances, and has no natural gas or propane plumbing installed in the building.

CERTIFIED ENERGY ANALYST is a person registered as a Certified Energy Analyst with the California Association of Building Energy Consultants as of the date of submission of a Certificate of Compliance as required under Section 10-103 of the Building Energy Efficiency Standards for Residential and Non-Residential Buildings.

FREE STANDING ACCSESSORY DWELLING UNIT is a detached building that is not intended for sale separate from the primary residence, on a lot that is zoned for single-family or multifamily use, located on the same lot as an existing dwelling, and does not exceed 900 square feet of total floor area.

MIXED-FUEL BUILDING or MIXED-FUEL DESIGN is a building or building design that uses natural gas or propane as fuel for space heating, water heating (including pools and spas), cooking appliances or clothes drying appliances or is plumbed for such equipment.

16.17.60 Section 110.10 Mandatory Requirements For Solar Ready Buildings.

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

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

(f) Existing tree canopies. In the event of a conflict between the provisions of this Code, 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 SUBCHAPTER 5 - NONRESIDENTIAL, HIGH-RISE RESIDENTIAL AND HOTEL/MOTEL OCCUPANCIES – PERFORMANCE AND PRESCRIPTIVE COMPLIANCE APPROACHES FOR ACHIEVING ENERGY EFFICIENCY

Section 140.0 - Performance and Prescriptive Compliance Approaches

Section 140.0 of the 2019 California Energy Code is amended to as follows:

(b) The requirements of Sections 120.0 through 130.5 (mandatory measures for nonresidential, high-rise residential and hotel/motel buildings) and:

for all newly constructed buildings and additions, including new equipment installed to serve additions:

1. The entire solar zone, as specified in Section 110.10, shall have a solar PV system installed that meets the minimum qualification requirements as specified in Joint Appendix JA11, subject to the exceptions in Section 110.10.

   A. Exception to 140.0(b)1. Additions.

2. Electric-Ready Mixed-Fuel Buildings. Mixed-fuel buildings shall meet the following requirements:

   A. Water Heating

      i. A dedicated 240 volt 30-amp electrical receptacle is required, that is connected to the electric panel with conductors of adequate capacity, within 3 feet from the water heater and accessible to the water heater with no obstructions.

      ii. Both ends of the unused conductor shall be labeled with the words “For Future Heat Pump Water Heater” and shall be electrically isolated.

      iii. A condensate drain is required, that is no more than 2 inches higher than the base of the installed water heater and allows natural draining without pump assistance.

      iv. Water heaters shall be located in an area with a minimum of 700 cubic feet of volume, or a ducting plan is required for eight-inch supply and exhaust ducts to the exterior or to a space with 700 cubic feet of volume.

   Exception to 140.0(b)2.A.iv. The space and ventilation requirements may be reduced to conform with the manufacturer’s recommendations for a specific heat pump hot water heater that meets the requirements of Sections 110.0, 110.1 and 110.3.

1. Clothes Drying

   i. A dedicated 240-volt, 40 amp electrical receptacle is required that is connected to the electric panel with conductors of adequate capacity, within 3 feet of the appliance and accessible with no obstructions.
ii. Both ends of the unused conductor shall be labeled with the words “For Future Heat Pump Clothes Drying” and be electrically isolated.

2. **Cooktop or Range.**
   
i. A dedicated 240-volt, 50 amp electrical receptacle that is connected to the electric panel with conductors of adequate capacity, within 3 feet of the appliance and accessible with no obstructions.
   
ii. Both ends of the unused conductor shall be labeled with the words “For Future Inductive Range” and shall be electrically isolated.

**EXCEPTION to 140.0(b)2.A, B, and C:** If gas or propane plumbing is not installed for the specified end uses.

3. **Other Gas Equipment.**
   
i. For equipment that is specified or connected to natural gas or propane plumbing, the building shall include designated raceways and reserved capacity on the main electrical panel and subpanels, if applicable, sufficient to power electric equipment that provides the equivalent function to the intended function of the gas equipment; or,
   
ii. If gas plumbing exists but no gas equipment is specified or connected, the building shall include designated raceways and reserved capacity on the main electrical panel and subpanels, if applicable, sufficient to provide equivalent power at a maximum gas flow rate under normal gas service pressure. Plans shall include calculations for delivered gas power and equivalent electrical power, conductors, raceway sizes and panel capacities.

**Exception to 140.0(b)2.D.** If the applicant demonstrates that there is no viable electrical equipment that can perform the intended function of the gas equipment.

4. All newly installed raceways between the main electric panel and any subpanels, and the point at which the conductors serving the building connect to the common conductors of the utility distribution system shall be sized for conductors adequate to serve all of the building’s electrical requirements, including PV as specified Section 140.0(b)1 and future electric loads as specified in Section 140.0(b)2.

5. If the building includes an electrical transformer(s) feeding the main panel or any subpanels, the transformer(s) shall be located in a space large enough to accommodate a transformer(s) with a rated capacity sufficient to serve all of the building’s electrical requirements, including PV as specified in Section 140.0(b)1 and future electric loads as specified in Section 140.0(b)2.
16.17.80  **Section 140.1 – Performance Approach: Energy Budgets**
Section 140.1 of the 2019 California Energy Code is amended to read as follows:

A newly constructed All-Electric Building complies with the performance approach if the energy budget calculated for the proposed design building under Subsection (b) is no greater than the energy budget calculated for the Standard Design Building under Subsection (a).

A newly constructed Mixed-Fuel Building complies with the performance approach if the energy budget calculated for the proposed design building under Subsection (b) has a compliance margin, relative to the energy budget calculated for the Standard Design Building under Subsection (a), of at least the value specified for the corresponding occupancy type in Table 140.1-A below.

<table>
<thead>
<tr>
<th>Occupancy Type</th>
<th>Compliance Margins</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office Building</td>
<td>12%</td>
</tr>
<tr>
<td>Retail Store</td>
<td>12%</td>
</tr>
<tr>
<td>Hotel/motel and High-rise residential</td>
<td>5%</td>
</tr>
<tr>
<td>Industrial/Manufacturing</td>
<td>0%</td>
</tr>
<tr>
<td>All other Nonresidential occupancies</td>
<td>5%</td>
</tr>
</tbody>
</table>

(a) **Energy Budget for the Standard Design Building.** The energy budget for the Standard Design Building is determined by applying the mandatory and prescriptive requirements to the proposed design building. The energy budget is the sum of the TDV energy for space-conditioning, indoor lighting, mechanical ventilation, service water heating, and covered process loads.

(b) **Energy Budget for the Proposed Design Building.** The energy budget for a proposed design building is determined by calculating the TDV energy for the proposed design building. The energy budget is the sum of the TDV energy for space-conditioning, indoor lighting, mechanical ventilation and service water heating and covered process loads.

(c) **Calculation of Energy Budget.** The TDV energy for both the Standard Design Building and the proposed design building shall be computed by Compliance Software certified for this use by the Commission. The processes for Compliance Software approval by the Commission are documented in the ACM Approval Manual.

(d) **Certificate of Compliance.** The Certificate of Compliance shall be prepared and signed by a Certified Energy Analyst and the energy budget for the Proposed Design shall be no greater than the Standard Design Building.
16.17.90  
**Section 140.2 - Prescriptive Approach**

Section 140.2 of the 2019 California Energy Code is amended to read as follows:

To comply using the prescriptive approach, a building shall be designed with and shall have constructed and installed systems and components meeting the applicable requirements of Sections 140.3 through 140.9, and the following requirements, as applicable:

(a) **Mixed-Fuel Buildings of Hotel, Motels or High-Rise Multifamily Occupancies**

1. Install fenestration with a solar heat gain coefficient no greater than 0.22.
2. Design Variable Air Volume (VAV) box minimum airflows to be equal to the zone ventilation minimums.
3. Include economizers and staged fan control in air handlers with a mechanical cooling capacity \( \geq 33,000 \text{ Btu/h} \).
4. Reduce the lighting power density (Watts/ft\(^2\)) by ten percent (10%) from that required from Table 140.6-C.
5. In common areas, improve lighting without claiming any Power Adjustment Factor credits:
   A. Control to daylight dimming plus off per Section 140.6(a)2H, and
   B. Perform Institutional Tuning per Section 140.6(a)2J
6. Install one drain water heat recovery device per every three guest rooms that is field verified as specified in the Reference Appendix RA3.6.9.

(b) **All Other Nonresidential Mixed-Fuel Buildings**

1. Install fenestration with a solar heat gain coefficient no greater than 0.22.
2. Limit the fenestration area on east-facing and west-facing walls to one-half of the average amount of north-facing and south-facing fenestration.
3. Design Variable Air Volume (VAV) box minimum airflows to be equal to the zone ventilation minimums where VAV systems are installed.
4. Include economizers and staged fan control in air handlers with a mechanical cooling capacity \( \geq 33,000 \text{ Btu/h} \).
5. Reduce the lighting power density (Watts/ft\(^2\)) by ten percent (10%) from that required from Table 140.6-C.
6. Improve lighting without claiming any Power Adjustment Factor credits:
   A. Perform Institutional Tuning per Section 140.6(a)2J, and
   B. In office spaces, control to daylight dimming plus off per Section 140.6(a)2H, and
   C. Install Occupant Sensing Controls in Large Open Plan Offices per Section 140.6(a)2I.
16.17.100 SUBCHAPTER 7 - LOW-RISE RESIDENTIAL BUILDINGS- MANDATORY FEATURES AND DEVICES

Section 150.0 - Mandatory Features and Devices. Section 150.0 of the 2019 California Energy Code is amended to read as follows:

Low-rise residential buildings shall comply with the applicable requirements of Sections 150(a) through 150(r).

NOTE: The requirements of Sections 150.0 (a) through (r)-apply to newly constructed buildings. Sections 150.2(a) and 150.2(b) specify which requirements of Sections 150.0(a) through 150.0(r) also apply to additions or alterations. The amendments to sections 150.0 (h), 150.0 (n), and 150.0 (s) do not apply to additions, alterations, or ADUs.

Sections 150.0 (a) – (d) are adopted without modifications.

Section 150.0(e) Installation of fireplaces. Fireplaces shall be electric, not fueled by natural gas.

Section 150.0(f) is adopted without modifications.

Section 150.0(h) is amended to read:

Section 150.0(h) Space-conditioning equipment. Space-conditioning equipment shall be electric, not fueled by natural gas.

Sections 150.0(i) - (m) are adopted without modifications.

Section 150.0(n) Water heating system. Section 150.0 (n) is modified as follows:

(n) Water Heating System.

1. Water heating systems and equipment shall be electric, not fueled by natural gas.
   A. Deleted
   B. Deleted
   C. A condensate drain that is no more than 2 inches higher than the base of the installed water heater, and allows natural draining without pump assistance, and
   D. Deleted

2. Water heating recirculation loops serving multiple dwelling units shall meet the requirements of Section 110.3(c)5.
3. Solar water-heating systems and collectors shall be certified and rated by the Solar Rating and Certification Corporation (SRCC), the International Association of Plumbing and Mechanical Officials, Research and Testing (IAPMO R&T), or by a listing agency that is approved by the chief building official.

4. Deleted

Sections 150.0(o) – (r) are adopted without modifications.

Section 150.0 is amended to add a new subsection (s) as follows:

(s) **Clothes Drying and Cooking.**

1. **Clothes Drying.** Clothes dryers shall be electric, not fueled by natural gas.

2. **Cooking Range.** Cooking appliances shall be electric, not fueled by natural gas.

16.17.110 **SUBCHAPTER 8 – LOW-RISE RESIDENTIAL BUILDINGS- PERFORMANCE AND PRESCRIPTIVE COMPLIANCE APPROACHES**

**Section 150.1 - Performance and Prescriptive Compliance Approaches for Low-Rise Residential Buildings.** Section 150.1 of the 2019 California Energy Code is amended to read as follows:

(a) **Section (a) is adopted without modification**

(b) **Performance Standards.** A building complies with the performance standards if the energy consumption for the proposed design building is no greater than the energy budget calculated for the Standard Design Building using Commission-certified compliance software as specified by the Alternative Calculation Methods Approval Manual.

1. **Newly Constructed Buildings.** The Energy Budget for newly constructed buildings is expressed in terms of the Energy Design Rating, which is based on TDV energy. The Energy Design Rating (EDR) has two components, the Energy Efficiency Design Rating, and the Solar Electric Generation and Demand Flexibility Design Rating. The Solar Electric Generation and Demand Flexibility Design Rating shall be subtracted from the Energy Efficiency Design Rating to determine the Total Energy Design Rating. The Proposed Building shall separately comply with the Energy Efficiency Design Rating and the Total Energy Design Rating.

A. **An All-Electric Building complies with the performance standard if both the Total Energy Design Rating and the Energy Efficiency Design Rating for the Proposed Building are no greater than the corresponding Energy Design Ratings for the Standard Design Building.**
2. **Additions and Alterations to Existing Buildings.** The Energy Budget for additions and alterations is expressed in terms of TDV energy. A building complies with the performance standards if the energy consumption calculated for the Proposed Building is no greater than the energy budget calculated for the Standard Design Building.

3. **Compliance demonstration requirements for performance standards.** Section 150.1(b)3A is modified to add subsection as follows:

   i. **Certificate of Compliance.** The Certificate of Compliance is prepared and signed by a Certified Energy Analyst and the Total Energy Design Rating of the Proposed Design shall be no greater than the Standard Design Building.

**16.17.120 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 Planning and 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 it 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 of Planning and Development Services 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 of Planning and Development Services, 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 of Planning and Development Services or designee 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 of Planning and Development Services.

**16.17.130 Appeal.**

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

(b) Any appeal must be filed in writing with the Planning and 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.** The Council adopts the findings for local amendments to the California Energy Code, 2019 Edition, attached hereto as Exhibit “A” and incorporated herein by reference.

**SECTION 3.** Under the authority granted by Public Resources Code Section 25402.1(h)(2), which permits local California Energy Code amendments, and based on staff’s analysis of the “2019 Nonresidential New Construction Reach Code Cost Effectiveness Study” and “2019 Cost-effectiveness Study: Low-Rise Residential New Construction” developed for the California Energy Codes and Standards Program and attached to staff’s report to Council, the Council finds the proposed local amendments to the 2019 California Energy Code that affect building energy performance to be cost-effective and consume less energy than permitted by Title 24, Part 6.
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 action is exempt from the provisions of the California Environmental Quality Act (“CEQA”), under Section 15308 of the CEQA Guidelines, because it is a regulatory action for the protection of the environment, and under Section 15061(b)(3) on the grounds that the proposed standards are more stringent than the State energy standards, there are no reasonably foreseeable adverse environmental impacts and there is no possibility that the activity in question may have a significant effect on the environment.

SECTION 6. This Ordinance shall be effective on April 1, 2020.

INTRODUCED: November 4, 2019

PASSED: December 2, 2019

AYES: CORMACK, DUBOIS, FILSETH, FINE, KNIS, KOU, TANAKA

NOES:

ABSENT:

ABSTENTIONS:

ATTEST:

Beth Mire
City Clerk

APPROVED AS TO FORM:

Amy Bartel
Assistant City Attorney

APPROVED:

Ed Sikada
City Manager

Director of Planning and Development Services

Director of Administrative Services
2020 LOCAL AMENDMENTS – SWIMMING POOLS AND SPAS

INSPECTION CODE: N/A
SCOPE: RESIDENTIAL AND COMMERCIAL

APPLICABLE CODES: 2019 CBC, CRC, CPC, CMC, CEC, CALGreen, CEnC, PAMC, 2018 ISPSC

The information provided in this document is general and intended as a guide only. Each project is unique and additional requirements may be enforced as deemed appropriate.

IMPORTANT
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IMPORTANT
In the event of any conflict between Chapter 16.18 of the Palo Alto Municipal Code (PAMC) and provisions of the California Health and Safety Code or the building regulations adopted by the California Building Standards Commission in Title 24 of the California Code of Regulations, the provisions of the Health and Safety Code and Title 24 shall prevail. (PAMC 16.18.050)

SWIMMING POOLS AND SPAS

☐ 16.18.070 (ISPSC 105.1.1) – Agreements to build; notice of provisions
   ○ Any person entering into an agreement to build a swimming pool or spa, or to engage in permitted work on a pool or spa covered by this article, shall give the consumer notice of approved pool safety information available for consumers to download form the California Department of Health Services website.

☐ 16.18.080 (ISPSC 105.6.1 and 105.6.2) – Sections deleted

☐ 16.18.090 (ISPSC 106.19.2) – Added – Final Approval
   ○ Prior to the issuance of any final approval for the completion of permitted construction or remodeling work, the code official shall inspect the drowning safety prevention devices required and if no violations are found, shall give final approval.

☐ 16.18.100 (ISPSC 107) – Section deleted

☐ 16.18.120 (ISPSC 303.3.1) – Added – Operating time
   ○ The time switch or other control mechanism shall be installed as part of a pool water circulation control system that will allow all pumps to be set or programmed to run only during off-peak electric demand period, and for the minimum time necessary to maintain the water in the condition required by applicable public health standards.
☐ 16.18.130 (ISPSC 301.3) – Amended – Covers
   O Heated pools and outdoor spas shall be provided with a vapor retardant cover.
      ▪ Exception: Where pools or spas deriving at least 60 percent of the annual heating energy from site solar or recovered energy.

☐ 16.18.140 (ISPSC 305.2) – Amended – Outdoor swimming pools and spas
   O Other than those facilities regulated by Section 305.8, all outdoor pools and spas and indoor swimming pools shall be surrounded by a barrier that complies with Sections 305.2.1 through 305.7.

☐ 16.18.150 (ISPSC 305.8) – Added – Private swimming pools and drowning prevention safety features
   O Whenever a building permit is issued for construction of a new swimming pool or spa, or any building permit is issued for remodeling of an existing pool or spa, at a private, single-family home, it shall be equipped with at least one of the following seven drowning prevention safety features.

☐ 16.18.160 (ISPSC 305.9) – Added – Enclosure
   O Enclosures for private swimming pools shall have all of the characteristics described in the ordinance.

☐ 16.18.170 (ISPSC 310.2) – Added – Construction requirements for building a pool or spa
   O Whenever a building permit is issued for the construction of a new private swimming pool or spa, the pool or spa shall meet all of the requirements described in the ordinance.

☐ 16.18.180 (ISPSC 316.2.1) – Added – Construction requirements for building a pool or spa
   O Certifications by manufacturers for compliance (see all requirements in the ordinance)
   O Equipment shall be installed with the features noted in the ordinance.

☐ 16.18.190 (ISPSC 504.1) – Amended – Emergency shutoff switch
   O One emergency shutoff switch shall be provided to disconnect power to circulation and jet system pumps and air blowers.
Ordinance No. 5484
Ordinance of the Council of the City of Palo Alto Repealing Chapter 16.18 of the Palo Alto Municipal Code and Amending Title 16 to Adopt a New Chapter 16.18, International Swimming Pool and Spa Code, With Local Amendments

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

SECTION 1. Chapter 16.18 of the Palo Alto Municipal Code is hereby amended by repealing in its entirety Chapter 16.18 and adopting a new Chapter 16.18 to read as follows:


Chapters 1 through 3 and chapters 7 through 11 of the International Swimming Pool and Spa Code, 2018 Edition, are adopted and hereby incorporated into this Chapter by reference and made a part hereof as if fully set forth herein. The provisions of this Chapter shall constitute local amendments to the referenced provisions of the International Swimming Pool and Spa Code, Edition.

One copy of the International Swimming Pool and Spa Code, 2018 Edition, has been filed for use and examination by the public in the Office of the Chief Building Official of the City of Palo Alto.

16.18.020 Violations -- Penalties.

It is unlawful for any person to violate any provision or to fail to comply with any of the requirements of this Chapter or any permits, conditions, or variances granted under this Chapter. Violators shall be subject to any penalty or penalties authorized by law, including but not limited to: administrative enforcement pursuant to Chapters 1.12 and 1.16 of the Palo Alto Municipal Code; and criminal enforcement pursuant to Chapter 1.08 of the Palo Alto Municipal 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.

When the chief building official determines that a violation of this Chapter has occurred, the chief building official may record a notice of pendency of code violation with the Office of the County Recorder stating the address and owner of the property involved. When the violation has been corrected, the chief building official shall issue and record a release of the notice of pendency of code violation.

16.18.030 Enforcement – Criminal Enforcement Authority.
The employee positions designated in this section are authorized to exercise the authority provided in California Penal Code section 836.5 for violations of this Chapter. The designated employee positions are: (1) chief building official, (2) assistant chief building official, (3) building inspection manager, and (4) code enforcement officer.

16.18.040 References to California Building Codes

The International Swimming Pool and Spa Code, 2018 Edition, is hereby amended to refer to those building regulations adopted by the California Building Standards Commission in Title 24 of the California Code of Regulations, as follows:

1. Where the term “International Building Code” is used it shall be replaced with the term “California Building Code (CBC).”
2. Where the term “International Residential Code” is used it shall be replaced with the term “California Residential Code.”
3. Where the term “International Plumbing Code” is used it shall be replaced with the term “California Plumbing Code.”
4. Where the term “International Energy Conservation Code” is used it shall be replaced with the term “California Energy Code.”
5. Where the term “International Fire Code” is used it shall be replaced with the term “California Fire Code.”
6. Where the term “International Fuel Gas Code” is used it shall be replaced with the term “California Plumbing Code.”
7. Where the term “International Mechanical Code” is used it shall be replaced with the term “California Mechanical Code.”
8. Where the term “NFPA 70” is used it shall be replaced with the term “California Electrical Code.”

16.18.050 Precedence of California Building Codes.

In the event of any conflict between this Chapter and provisions of the California Health and Safety Code or the building regulations adopted by the California Building Standards Commission in Title 24 of the California Code of Regulations, the provisions of the Health and Safety Code and Title 24 shall prevail.

16.18.060 Section 101.1 amended – Title.
Section 101.1 of the International Swimming Pool and Spa Code is hereby amended to read:

101.1 Title. These regulations shall be known as the International Swimming Pool and Spa Code of the City of Palo Alto, hereinafter referred to as “this code.”

16.08.070 Section 105.1.1 added – Agreements to build; notice of provisions.
Section 105.1.1 of the International Swimming Pool and Spa Code is hereby added to read:

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105.1.1 Agreements to build; notice of provisions. Any person entering into an agreement to build a swimming pool or spa, or to engage in permitted work on a pool or spa covered by this article, shall give the consumer notice of the requirements of this code.

Pursuant to existing law, the California Department of Health Services shall have available on the department's web site, commencing January 1, 2007, approved pool safety information available for consumers to download. Pool contractors are encouraged to share this information with consumers regarding the potential dangers a pool or spa poses to toddlers. Additionally, pool contractors may provide the consumer with swimming pool safety materials produced from organizations such as the United States Consumer Product Safety Commission, Drowning Prevention Foundation, California Coalition for Children's Safety & Health, Safe Kids Worldwide, Association of Pool and Spa Professionals, or the American Academy of Pediatrics. [CBC 3109.1, 115924]

16.18.080 Sections 105.6.1 and 105.6.2 deleted.
Sections 105.6.1 and 105.6.2 of the International Swimming Pool and Spa Code are hereby deleted in their entireties.

16.18.090 Section 106.19.2 Added – Final Approval.
Section 106.19.2 of the International Swimming Pool and Spa Code is hereby added to read:

106.19.2 Final Approval. Prior to the issuance of any final approval for the completion of permitted construction or remodeling work, the code official shall inspect the drowning safety prevention devices required and if no violations are found, shall give final approval. [CBC 3109.1, 15922(b)]

16.18.100 Section 107 deleted.
Section 107 of the International Swimming Pool and Spa Code is hereby deleted in its entirety.

16.18.110 Section 108 Amended – Means of appeal.
Section 108 of the International Swimming Pool and Spa Code is hereby amended to read:

Section 108 – Means of appeal. A final decision of the Chief Building Official under this code may be appealed pursuant to the provisions of Section 1.8.8 of the California Building Code, as amended.

16.18.120 Section 303.3.1 Added – Operating time.
Section 303.3.1 of the International Swimming Pool and Spa Code is hereby added to read:
303.3.1 Operating time. The time switch or other control mechanism shall be installed as part of a pool water circulation control system that will allow all pumps to be set or programmed to run only during off-peak electric demand period, and for the minimum time necessary to maintain the water in the condition required by applicable public health standards. [California Energy Code (CEnC) 110.4(b)3ii]

16.18.130 Section 301.3 Amended – Covers.
Section 301.3 of the International Swimming Pool and Spa Code is hereby amended to read:

301.3 Covers. Heated pools and outdoor spas shall be provided with a vapor retardant cover.

Exception: Where pools or spas deriving at least 60 percent of the annual heating energy from site solar or recovered energy.

16.18.140 Section 305.2 Amended – Outdoor swimming pools and spas.
Section 305.2 of the International Swimming Pool and Spa Code is hereby amended to read:

305.2 Outdoor swimming pools and spas. Other than those facilities regulated in Section 305.8, all outdoor pools and spas and indoor swimming pools shall be surrounded by a barrier that complies with Sections 305.2.1 through 305.7. [CBC 3109.1, 115922]

16.18.150 Section 305.8 Added – Private swimming pools.
Section 305.8 of the International Swimming Pool and Spa Code is hereby added to read:

305.8 Private swimming pools. Whenever a building permit is issued for construction of a new swimming pool or spa, or any building permit is issued for remodeling of an existing pool or spa, at a private, single-family home, it shall be equipped with at least one of the following seven drowning prevention safety features:

1. The pool shall be isolated from access to a home by an enclosure that meets the requirements of Section 305.8.1. [CBC 3109.2, 115922(a)(1)]

2. The pool shall incorporate removable mesh pool fencing that meets ASTM F 2286 in conjunction with a gate that is self-closing and self-latching and can accommodate a key lockable device. [CBC 3109.2, 115922(a)(2)]

3. The pool shall be equipped with an approved safety pool cover that meets all requirements of the ASTM F 1346. [CBC 3109.2, 115922(a)(3)]

4. The residence shall be equipped with exit alarms on those doors providing direct access to the pool. [CBC 3109.2, 115922(a)(4)]

5. All doors providing direct access from the home to the swimming pool shall be equipped with a self-closing, self-latching device with a release mechanism placed no lower than 54 inches (1372 mm) above the floor. [CBC 3109.2, 115922(a)(5)]

6. Swimming pool alarms that, when placed in pools, will sound upon detection of
accidental or unauthorized entrance into the water. These pool alarms shall meet and be independently certified to the ASTM F 2208 which includes surface motion, pressure, sonar, laser and infrared type alarms. For purposes of this section, "swimming pool alarms" shall not include swimming protection alarm devices designed for individual use, such as an alarm attached to a child that sounds when the child exceeds a certain distance or becomes submerged in water. [CBC 3109.2, 115922(a)(6)]

7. Other means of protection, if the degree of protection afforded is equal to or greater than that afforded by any of the devices set forth in items 1-4, and have been independently verified by an approved testing laboratory as meeting standards for those devices established by the ASTM or ASME. [CBC 3109.2, 115922(a)(7)]

Exceptions:
1. Public swimming pools. [CBC 3109.1, 115925(a)]
2. Hot tubs or spas with locking safety covers that comply with the ASTM ES 13-89. [CBC 3109.1, 115925(b)]
3. An apartment complex, or any residential setting other than a single-family home. [CBC 3109.1, 115925(c)]

16.18.160 Section 305.9 Added – Enclosure.
Section 305.9 of the International Swimming Pool and Spa Code is hereby added to read:

305.9 Enclosure. The enclosure for private swimming pools shall have all of the following characteristics:
1. Any access gates through the enclosure open away from the swimming pool and are self-closing with a self-latching device placed no lower than 60 inches (1524 mm) above the ground. [CBC 3109.1, 115923(a)]
2. A minimum height of 60 inches (1524 mm). [CBC 3109.1, 115923(b)]
3. A maximum vertical clearance from the ground to the bottom of the enclosure of 2 inches (51 mm). [CBC 3109.1, 115923(c)]
4. Gaps or voids, if any, do not allow passage of a sphere equal to or greater than 4 inches (102 mm) in diameter. [CBC 3109.1, 115923(d)]
5. An outside surface free of protrusions, cavities or other physical characteristics that would serve as handholds or footholds that could enable a child below the age of five years to climb over. [CBC 3109.1, 115923(e)]

16.18.170 Section 310.2 Added – Construction Requirements for building a pool or spa.
Section 310.2 of the International Swimming Pool and Spa Code is hereby added to read:

310.2 Construction Requirements for building a pool or spa. Whenever a building permit is issued for the construction a new private swimming pool or spa, the pool or spa shall meet all of the following requirements:
1. The suction outlet of the pool or spa for which the permit is issued shall be equipped to provide circulation throughout the pool or spa as prescribed in Paragraph 2.

2. The swimming pool or spa shall have at least two circulation drains per pump that shall be hydraulically balanced and symmetrically plumbed through one or more "T" fittings, and that are separated by a distance of at least three feet in any dimension between the drains. Suction outlets that are less than 12 inches across shall be covered with antientrapment grates, as specified in the ASME/ANSI Standard A 112.19.8, that cannot be removed except with the use of tools. Slots of openings in the grates or similar protective devices shall be of a shape, area and arrangement that would prevent physical entrapment and would pose any suction hazard to bathers.

3. Any backup safety system that an owner of a new swimming pools or spa may choose to install in addition to the requirements set forth in subdivisions (1) and (2) shall meet the standards as published in the document, "Guidelines for Entrapment Hazards: Making Pools and Spas Safer," Publication Number 363, March 2005, United States Consumer Products Safety Commission.

4. Whenever a building permit is for the remodel or modification of any existing swimming pool, toddler pool or spa, the permit shall require that the suction outlet of the existing swimming pool, toddler pool or spa be upgraded so as to be equipped with an antientrapment cover meeting current standards of the American Society for Testing and Materials (ASTM) or the American Society of Mechanical Engineers (ASME).

Authority: Health and Safety Code Section 18942(b)
Reference: Health and Safety Code Section 115928 AB 3305 (Statutes 1996, c.925); AB 2977 (Statutes 2006, c.926); AB 382 (Statutes 2007, c.XXX)

16.18.180 Section 316.2.1 Added – Construction Requirements for building a pool or spa.
Section 316.2.1 of the International Swimming Pool and Spa Code is hereby added to read:

316.2.1 Certification and Installation.
(a) Certification by manufacturers. Heating systems and equipment shall be certified by the manufacturer that the heating system and equipment complies with the following:
1. Efficiency. A thermal efficiency that complies with the Appliance Efficiency Regulations in Title 20, Division 2, Chapter 4, Article 4 of the California Code of Regulations; and [CEnC 110.4(a)(1)]
2. On-off switch. A readily accessible on-off switch, mounted on the outside of the heater that allows shutting off the heater without adjusting the thermostat setting; and [CEnC 110.4(a)(2)]
3. Instructions. A permanent, easily readable and weatherproof plate or card that gives instruction for the energy efficient operation of the pool or spa heater and
for the proper care of pool or spa water when a cover is used; and [CEnC 110.4(a)3]

4. Electric resistance heating. No electric resistance heating.

   **Exception 1 to Section 110.4(a)4:** Listed package units with fully insulated enclosures, and with tight-fitting covers that are insulated to at least R-6.

   **Exception 2 to Section 110.4(a)4:** Pools or spas deriving at least 60 percent of the annual heating energy from site solar energy or recovered energy. [CEnC 110.4(a)4]

(b) Installation. Any pool or spa system or equipment shall be installed with all of the following:

1. Piping. At least 36 inches of pipe shall be installed between the filter and the heater or dedicated suction and return lines, or built-in or built-up connections shall be installed to allow for the future addition of solar heating equipment. [CEnC 110.4(b)1]

2. Directional inlets. The swimming pool shall have directional inlets that adequately mix the pool water. [CEnC 110.4(b)3i]

### 16.18.190 Section 504.1 Amended – Emergency shutoff switch.

Section 504.1 of the International Swimming Pool and Spa Code is hereby amended to read:

**504.1 Emergency shutoff switch.** One emergency shutoff switch shall be provided to disconnect power to circulation and jet system pumps and air blowers. Emergency shutoff switches shall be clearly labeled, accessible, located within sight of the spa and shall be located not less than 5 feet (1524 mm) but not greater than 10 feet (3048 mm) horizontally from the inside walls of the spa. [California Electrical Code (CEC), 680.41]

**SECTION 2.** 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 declared invalid.

**SECTION 3.** 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.

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SECTION 4. This Ordinance shall be effective on the thirty-first day after the date of its adoption.

INTRODUCED: November 4, 2019

PASSED: November 18, 2019

AYES: CORMACK, DUBOIS, FILSETH, KNISS, KOU, TANAKA

NOES:

ABSENT: FINE

ABSTENTIONS:

ATTEST:

Beth Minor
City Clerk

Eric Filseth
Mayor

APPROVED AS TO FORM:

Sandra Lee
Deputy City Attorney

APPROVED:

Ed Schedo
City Manager

Director of Planning and Development Services

Director of Administrative Services
LOCAL ORDINANCE – SEWER USE

INSPECTION CODE: N/A
SCOPE: RESIDENTIAL AND COMMERCIAL

APPLICABLE CODES: 2019 CBC, CRC, CPC, CMC, CEC, CALGreen, CEnC, PAMC, 2018 ISPSC

The information provided in this document is general and intended as a guide only. Each project is unique and additional requirements may be enforced as deemed appropriate.

IMPORTANT
For a full description of the sewer use ordinance, see the accompanying City of Palo Alto ordinances and/or please visit the following website: https://www.amlegal.com/?s=palo+alto
Chapter 16.09 SEWER USE ORDINANCE

Palo Alto Municipal Code

16.09.005 Purpose and applicability.

The overall goal of this chapter and the city’s water quality control program is to prevent and control pollution and protect and foster human health and the environment. The specific purpose of this chapter is to prevent the discharge of any pollutant into the sanitary sewer system, the storm drain system, or surface waters, which would: 1) obstruct or damage the sanitary sewer or storm drain system; 2) interfere with, inhibit or disrupt the Palo Alto Regional Water Quality Control Plant (the "plant"), or its treatment processes, or operations, or its sludge processes, use or disposal; 3) pass through the treatment system and contribute to violations of the regulatory requirements placed upon the plant; or 4) result in or threaten harm to or deterioration of human health or the environment. It is the intent of the city to update and modify this chapter as needed to continue to provide a program for protection of the storm drain system and pretreatment of industrial wastes which is approved by federal and state regulatory agencies. Therefore, this chapter is designed to be no less stringent than the U.S. Environmental Protection Agency "General Pretreatment Requirements for Existing and New Sources of Pollution" published at Title 40 of the Code of Federal Regulations (CFR), Part 403 and the Federal Water Pollution Control Act, 33 U.S.C. section 1251, as applicable, and as such requirements may be amended from time to time (hereinafter the "pretreatment requirements" and "Clean Water Act").

(Ord. 5084 § 2 (part), 2010)

16.09.180 Requirements for newly constructed, remodeled or converted multi-residential, commercial and industrial facilities.

(a) Dischargers of industrial waste from newly constructed, remodeled or converted commercial and industrial facilities shall be in full compliance with the provisions of this chapter at the time of commencement of discharge. Dischargers from newly constructed, remodeled, or converted commercial and industrial facilities, upon request of the superintendent, shall complete a waste minimization study in accordance with guidelines published by the superintendent, and shall certify that measures have been taken to minimize toxic constituents in the discharge.

(b) The owner of every newly constructed, remodeled, or converted commercial or industrial facility shall comply with the following requirements. These requirements shall apply to remodeled or converted facilities to the extent that the portion of the facility being remodeled or converted is related to the subject of the requirement:

(1) Segregated Industrial Waste Plumbing. The owner of every new commercial and industrial building or portion thereof shall cause the building to be constructed so that industrial waste is segregated, by means of separate plumbing, from domestic waste prior to converging with other waste streams in the sanitary sewer system. For the purposes of this section only, the term “new” shall also include change to a use that requires plumbing for industrial waste;

(2) Exterior drains shall be connected to the storm drain system;

(3) Loading docks: See Section 16.09.175(k);
(4) Fueling areas shall have impermeable floors and rain covers that extend a minimum of ten feet in each direction from each pump. Fueling areas shall be designed to prevent water run-on to the covered area;

(5) Condensate lines shall not be connected or allowed to drain to the storm drain system;

(6) Copper, copper alloys, lead and lead alloys, including brass, shall not be used in sewer lines, connectors, or seals coming in contact with sewage except for domestic waste sink traps and short lengths of associated connecting pipes where alternate materials are not practical;

(7) Sacrificial zinc anodes are not permitted to be in contact with the water supply in a water distribution system;

(8) Discharge drains for swimming pools, spas and fountains shall not be connected directly to the storm drain system or to the sanitary sewer system. When draining is necessary the discharge will be allowed by way of either:

(A) A hose or other temporary system shall be directed into a sanitary sewer (not storm drain system) clean out. A sewer clean out shall be installed in a readily accessible area;

(B) A fixed pipe with an air gap and receiving sink directed to the sanitary sewer.

(9) If installed, parking garage floor drains on interior levels shall be connected to an oil/water separator prior to discharging to the sanitary sewer system. The oil/water separator shall be cleaned at a frequency of at least once every twelve months or more frequently if recommended by the manufacturer or the superintendent. Oil/water separators shall have a minimum capacity of 100 gallons;

(10) New buildings and residential developments providing centralized solid waste collection, except for single-family and duplex residences, shall provide a covered area for a dumpster. The area shall be adequately sized for all waste streams and designed with grading or a berm system to prevent water run-on and runoff from the area;

(11) New multi-family residential units and residential development projects with twenty-five or more units shall provide a covered area for occupants to wash their vehicles. A drain shall be installed to capture all vehicle wash waters and shall be connected to an oil/water separator prior to discharge to the sanitary sewer system. The oil/water separator shall be cleaned at a frequency of at least once every six months or more frequently if recommended by the manufacturer or the superintendent. Oil/water separators shall have a minimum capacity of 100 gallons. The area shall be graded or bermed in such a manner as to prevent the discharge of storm water to the sanitary sewer system;

(12) Mercury switches shall not be installed in sewer or storm drain sumps;

(13) Fire sprinkler system flush, test or drain water shall not be discharged to the storm drain system. Discharges to the sanitary sewer system shall not exceed thirty gallons per minute (GPM). Higher discharge rates shall be diverted to a detention tank to achieve the thirty GPM flow; or

(14) Copper Roofing Materials. On and after January 1, 2003, copper metal roofing, copper metal gutters, copper metal down spouts, and copper granule containing asphalt shingles shall not be permitted for use on any residential, commercial or industrial building for which a building permit is required. Copper flashing for use under tiles or slates and small copper ornaments are exempt from this prohibition. Replacement roofing, gutters and downspouts on historic structures are exempt, provided that the roofing material used shall be repatinated at
the factory. For the purposes of this exemption, the definition of “historic” shall be limited to structures designated as Category 1 or Category 2 buildings in the current edition of the Palo Alto Historical and Architectural Resources Report and Inventory.

(Ord. 5084 § 2 (part), 2010)
LOCAL ORDINANCE – RECYCLED WATER

INSPECTION CODE: N/A
SCOPE: RESIDENTIAL AND COMMERCIAL

APPLICABLE CODES: 2019 CBC, CRC, CPC, CMC, CEC, CALGreen, CEnC, PAMC, 2018 ISPSC

The information provided in this document is general and intended as a guide only. Each project is unique and additional requirements may be enforced as deemed appropriate.

IMPORTANT
For a full description of the sewer use ordinance, see the accompanying City of Palo Alto ordinances and/or please visit the following website: https://www.amlegal.com/?s=palo+alto
Chapter 16.12
RECYCLED WATER

Sections:

16.12.010  Definitions.
16.12.015  Compliance with state and local regulations.
16.12.020  Converting existing potable water users to recycled water for irrigation.
16.12.025  Converting existing potable water users (with existing dual plumbing) to recycled water for toilet and urinal flushing and floor trap priming.
16.12.030  New construction; recycled water use for irrigation.
16.12.035  New construction; recycled water use for toilet and urinal flushing and floor trap priming.
16.12.040  Recycled water permit required.
16.12.045  Recycled water permit conditions; verification of compliance.
16.12.050  Exemptions and adjustments.
16.12.055  Appeals.
16.12.060  Failure to comply with this chapter.

16.12.010  Definitions.

(a) "Dual plumbing" means a system of two sets of water pipes, one for recycled water for toilets and urinals and one for potable water for other interior uses.

(b) "Floortrap priming" means the practice of adding water to traps beneath floor drains to ensure a barrier from sewer gas.

(c) "Identified customers" are entities purchasing water from the city who are adjacent to a recycled water pipeline shown in a Final Palo Alto Recycled Water Project Plan. Identified customers do not include single family residences.

(d) "Recycled water" means wastewater treated by the Regional Water Quality Control Plant that meets state requirements for reuse.

(e) "Recycled water permit" means a permit issued by the city manager or his/her designee to allow a customer to use recycled water at its facility.
(f) "Recycled water project area" means a geographical area of the city designated by resolution of city council as an area where recycled water will be served.

(Ord. 5002 § 2, 2008)

16.12.015  Compliance with state and local regulations.

All users of recycled water shall comply with the California Department of Public Health regulations contained in Title 17 and Title 22 of the California Code of Regulations, and with the Palo Alto Water Reuse Rules and Regulations for the use of recycled water.

Additional opportunities and/or requirements for adding recycled water infrastructure or nonresidential and multifamily new construction and major renovation projects are described in Chapter 16.14 (California Green Building Code).

(Ord. 5108 § 4, 2010: Ord. 5002 § 2, 2008)

16.12.020  Converting existing potable water users to recycled water for irrigation.

Within the boundaries of any recycled water project area, identified customers who are notified by mail by the city shall use recycled water for irrigation when available. Any such notification shall include the conditions of use, pricing, and construction schedule for the city's recycled water pipeline and the connections to it.

(Ord. 5002 § 2, 2008)

16.12.025  Converting existing potable water users (with existing dual plumbing) to recycled water for toilet and urinal flushing and floor trap priming.

For facilities with existing dual plumbing within the boundaries of any recycled water project area, identified customers shall use recycled water when it is available following notification by mail by the city that a conversion to recycled water for toilet and urinal flushing and floor trap priming purposes is required. Any such notification shall include the conditions of use, pricing, and construction schedule for the city's pipeline and the connections to it.

(Ord. 5002 § 2, 2008)

16.12.030  New construction; recycled water use for irrigation.

(a) All applications for land use permits, building permits and other discretionary actions for projects other than single family homes, within the boundaries of any recycled water project area, filed after the adoption of this chapter, shall include the following:

(1) Plans demonstrating that recycled water will be used, when available, for all irrigation.

(2) Consideration of plants suitable for irrigation with recycled water.

(3) The installation of the on-site infrastructure necessary to connect the irrigation system to the city's recycled water supply when it becomes available.
(b) All applications for land use permits, building permits and other discretionary actions for projects other than single family homes, in geographic areas not within the boundaries of a recycled water project area, where the total landscape area exceeds 1,500 square feet, filed after the adoption of this chapter, shall include the following:

(1) Plans demonstrating that recycled water will be used, when available, for all irrigation.

(2) Consideration of plants suitable for irrigation with recycled water.

(3) The installation of on-site infrastructure necessary to connect the site's irrigation system to the city's recycled water supply when it becomes available.

(Ord. 5002 § 2, 2008)

16.12.035 New construction; recycled water use for toilet and urinal flushing and floor trap priming.

(a) All applications for building permits for new or remodeled buildings or groups of buildings within the boundaries of a recycled water project area, filed after the adoption of this chapter, where the building square footage total, including both the original square footage and any addition, is greater than 10,000 square feet or where installation of twenty-five or more toilets and urinals is proposed, shall incorporate dual plumbing in the design of the facility to allow the use of recycled water, when it becomes available, for flushing toilets and urinals and priming floor traps. Dual plumbing requirements shall not apply to single family homes.

(b) All applications for building permits for new or remodeled buildings or groups of buildings in geographic areas not within the boundaries of a recycled water project area, filed after the adoption of this chapter, where the building square footage total, including both the original square footage and any addition, is greater than 100,000 square feet or where installation of 100 or more toilets and urinals is proposed, shall incorporate dual plumbing in the design of the facility to allow the use of recycled water, when it becomes available, for flushing toilets and urinals and priming floor traps. Dual plumbing requirements shall not apply to single family homes.

(c) When dual plumbing requirements are triggered by remodeling, only those restroom facilities located within the remodel project area shall be required to incorporate dual plumbing.

(Ord. 5002 § 2, 2008)

16.12.040 Recycled water permit required.

Upon written notification pursuant to §§ 16.12.020 and 16.12.025 that recycled water is available and must be used, the recycled water customer shall obtain a recycled water permit by submitting a recycled water permit application, which shall include plans detailing the recycled and potable water distribution systems at the facility. A city representative shall review the plans and conduct a field inspection before the recycled water permit is issued. The applicant must make any required changes as directed by the city before a recycled water permit may be issued.

(Ord. 5002 § 2, 2008)
16.12.045 Recycled water permit conditions; verification of compliance.

The recycled water permit shall specify the requirements for the applicant's use of recycled water based on the water reuse rules and regulations adopted pursuant to § 16.12.015, and shall require compliance with the California Department of Public Health regulations contained in Title 17 and Title 22 of the California Code of Regulations and with any additional requirements specified by the state water resources control board. Recycled water shall not be supplied to a facility until inspection by a city representative determines that the applicant is in compliance with the permit conditions.

(Ord. 5002 § 2, 2008)

16.12.050 Exemptions and adjustments.

An application for an exemption or an adjustment to the requirements of this chapter shall be made to the director of public works or his/her designee. Requests for an exemption or adjustment may be made consistent with state law and shall be based on the finding by the director of public works that the use of recycled water demonstrates an adverse effect to the applicant's landscaping installed prior to the effective date of the ordinance codified herein. The director of public works may also consider any additional factors, including any special costs or hardships which may be created by the use of recycled water. A written determination will be made on all requests for exemptions or adjustments within ten business days and mailed to the applicant. If the exemption or adjustment is not granted, the applicant must fully comply with the requirements of this section.

(Ord. 5002 § 2, 2008)

16.12.055 Appeals.

Denial of any application for an exemption and/or adjustment to the provisions of recycled water use may be appealed to the city manager or his/her designee, whose decision shall be final. An application for appeal shall be filed with the city clerk in writing within ten business days after the director of public works' decision and shall state the specific grounds for the appeal. The city manager or his/her designee shall hear the appeal within sixty calendar days after the appeal has been filed with the city clerk and shall issue a written decision within thirty days.

(Ord. 5002 § 2, 2008)

16.12.060 Failure to comply with this chapter.

In addition to existing penalties in state and local law for violation of the provisions of this chapter, the city manager or his/her designee may assess the following penalties, subject to the appeal provisions set forth above:

(a) A water service surcharge of fifty percent of the general water service rate, as set forth in utility rate schedule, for each billing period during which potable water is used for irrigation.

(b) Continued use of potable water for irrigation, after a written warning by the city manager or his/her designee, may result in the discontinuation of water service supplied for irrigation by
the city following a noticed hearing. A charge as set forth in the city’s administrative fee schedule shall be paid prior to the reactivation or restoration of water service.

(c) Any use of recycled water in a manner contrary to the provisions of this chapter, is hereby declared to be a nuisance and may be abated in the manner provided for the abatement of nuisances in Chapter 9.56 of the Palo Alto Municipal Code.

(Ord. 5002 § 2, 2008)


Representatives of the city and the San Francisco Bay Regional Water Quality Control Board shall be authorized to enter the premises of any recycled water user to carry out inspections and monitoring to assure compliance with this chapter and applicable state of California regulations.

(Ord. 5002 § 2, 2008)


If any provision or clause of this chapter is held to be unconstitutional or otherwise invalid by any court of competent jurisdiction, such invalidity shall not affect other provisions of this chapter, and clauses of this chapter are declared to be severable.

(Ord. 5002 § 2, 2008)