

*City of Brisbane*  
*Memo*

To: Honorable Mayor and City Council

From: Ingrid Padilla, Interim City Clerk

Subject: Ordinance No. 613-to Amend Brisbane Municipal Code Title 15 by Adopting the 2016 California Building Standards Codes, with Certain Local Modifications to the Fire and Energy codes and Other Related Sections and Adopting the 2015 International Property Maintenance Code

Date: City Council Meeting of January 5, 2017

The Ordinance listed above was introduced at the City Council Meeting of December 8, 2016. No changes were made at the time.

It is on this agenda for consideration of adoption.

# *City of Brisbane*

## *Agenda Report*

**TO:** Honorable Mayor and City Council

**FROM:** Community Development Director via City Manager

**SUBJECT:** **Ordinance No. 613** to Amend Brisbane Municipal Code Title 15 by Adopting the 2016 California Building Standards Codes, with Certain Local Modifications to the Fire and Energy Codes and Other Related Sections, and Adopting the 2015 International Property Maintenance Code.

**DATE:** Meeting of December 8, 2016

### **City Council Goals:**

To provide for effective and efficient delivery of City services (Goal #1)

To develop plans and pursue opportunities to protect natural resources (Goal #8).

To provide public service that assures the safety of property and citizens residing, working, or visiting in Brisbane (Goal #9)

### **Purpose:**

To adopt the most recent version of the California Building Standards Codes (Code of Regulations, Title 24 or CBC) with local modifications to the Energy Code (Title 24, Part 6), the Fire Code (Title 24, Part 9) and the 2015 International Property Maintenance Code.

### **Recommendation:**

That the City Council introduce Ordinance No. 613.

### **Background:**

Every three years a new set of construction codes is published by the State. Local adoption of these codes allows the City to enforce them under the authority of the Municipal Code, and to adopt local modifications. If the City elects not to adopt the state codes by local ordinance, the state codes automatically become effective January 1, 2017.

The last Code adoption cycle was in 2013 when the City amended Chapter 15.04 of the Municipal Code to adopt the 2013 Edition of the California Building Standards Code, amended Chapter 15.44 to adopt the 2015 Edition of the International Maintenance Code, and the 2013 Edition of the California Fire Code with local modifications.

**Discussion:**

*Building Code and Property Maintenance Code Adoption:*

The following construction codes have been published this year by the California Building Standards Commission:

1. 2016 California Administrative Code, Title 24, Part 1.
2. 2016 California Building Code, Volumes 1 and 2, based on the 2015 International Building Code (ICC), Title 24, Part 2, including Appendix Chapters G (Flood Construction) and H (Signs) and I (Patio Covers).
3. 2016 California Residential Code, based on the 2015 Edition International Residential Code (ICC), Title 24, Part 2.5, including Appendix Chapters H (Patio Covers), and J (Existing Buildings and Structures) and V (Swimming Pool Safety Act).
4. 2016 California Electrical Code, based on the 2014 Edition National Electric Code as published by the National Fire Protection Association (NFPA), Title 24, Part 3.
5. 2016 California Mechanical Code, based on the 2015 Uniform Mechanical Code as published by the International Association of Plumbing and Mechanical Officials (IAPMO), including all appendix chapters, Title 24, Part 4.
6. 2016 California Plumbing Code, based upon the 2015 Uniform Plumbing Code as published by the International Association of Plumbing and Mechanical Officials (IAPMO), including all appendix chapters, Title 24, Part 5.
7. 2016 California Energy Code, Title 24, Part 6. 3. (See also, local Energy Code provisions in Chapter 15.82.)
8. 2016 California Historical Building Code, Title 24, Part 8.
9. 2016 California Fire Code, Title 24, Part 9.
10. 2016 California Green Building Standards Code (CalGreen), Title 24, Part 11.
11. 2016 California Referenced Standards Code, Title 24, Part 12.

The proposed ordinance would adopt these by updating Brisbane Municipal Code Chapter 15.04, Adoption of Construction Codes. Additionally, in order to keep current with property maintenance provisions, it is recommended that the 2015 International Property Maintenance Code be adopted to replace the 2012 edition.

Other proposed revisions to the Municipal Code related to adoption of these state codes are described below.

Fire Code:

Since 2007, the City has adopted local modifications to the Fire Code requiring automatic fire sprinklers on certain structures, fire access turnarounds on dead end roads, removal of combustible materials from property, limitations on storage of explosives and flammable liquids, and other provisions. Similar local modifications to the Fire Code are proposed in BMC Chapter 15.44 of the attached draft ordinance. In order to modify the standard fire codes, a local jurisdiction must make a finding that the modification is required due to climatic, geographical, topographical or other conditions. The findings included in Section 1 of the draft ordinance are consistent with those recited in the 2007, 2010 and 2013 ordinances. These relate to the heavily vegetated hillsides; narrow, steep public streets and private access-ways; proximity to the San Andreas Fault; exposure to strong winds; and location immediately adjacent to protected habitat conservation areas subject to wildland fires.

Additional local Fire Code amendments are proposed with this code update as described below:

15.44.080 – Automatic Sprinklers section amended to address condominium conversions and specific service areas of a building, such as garbage compartments, rubbish and linen shuts, etc.;

15.44.090 – Fireworks display section amended to clarify wording on prohibition of fireworks;

15.44.185 – Sprinkler Protection of Car Stackers section proposed to be added;

15.44.190 – Access to Exterior Door section proposed to be added;

15.44.195 – Large Building Access section proposed to be added;

15.44.200 – Access Road Clearance section proposed to be added;

15.44.210 – Access Road Exception section to be added;

15.44.220 – Definition of Fire Access Road section to be added; and

15.44.225 – Marking of fire lanes section to be added.

A new amendment is also proposed for BMC Section 15.44.080 relating to the threshold for when a building alteration triggers current health and safety code compliance for existing buildings, including fire sprinklers and road widening where applicable. This was cross referenced in the 2013 update to the BMC Fire Code Section 15.08.140. The proposed BMC Section 15.44.080 has now been restructured for clarity and a new provision has been added to include “Major Rebuilds” as covered projects under BMC Section 15.44.080, where 75 percent or more of the total interior wall and ceiling surfaces for the building have been removed.

The amendment to BMC Section 15.44.080 is included in Section 4 and the various Fire Code amendments are included as Sections 6 through 17 of the draft ordinance.

Seismic Codes:

The current language in BMC Section 15.08.145 references outdated seismic regulations that have been superseded by the CBC and this section is proposed to be repealed, as shown in Section 5 of the draft ordinance.

Local Water Use Codes:

Brisbane has local regulations for outdoor and indoor water conservation, BMC Chapters 15.70 and 15.72 respectively. These were originally adopted based on the Bay Area Water Supply and Conservation Agency (BAWSCA) model ordinances of 2010 which surpassed the state's regulations. The indoor water conservation provisions included in 2016 State Code are more stringent than the City's adopted requirements. Therefore, the indoor water conservation ordinance, BMC Chapter 15.72, is proposed to be repealed, per Section 18 of the draft ordinance, and the state code indoor water conservation provisions shall apply.

In regard to outdoor water use, earlier this year the City Council adopted an updated ordinance based on the latest BAWSCA model. This ordinance is more stringent and water conserving than the state's requirements as set forth in CalGreen, Title 24, Part 11. Therefore no changes to the City's outdoor water conservation ordinance are proposed at this time.

Waste Diversion:

The City's waste recycling and diversion ordinance surpasses the state's new mandatory requirements in some areas but not in others and amendments are included in the draft ordinance for consistency, while retaining requirements that surpass state requirements.

The 2016 Edition of CalGreen covers only waste for new construction, whereas the City's ordinance covers demolition of 200 square feet or more and reroofing of 500 square feet or more. These provisions would be retained. Although the City's ordinance is more stringent by covering more projects, it needs to be amended to achieve consistency with CalGreen in regard to 1) ensuring terminology consistency; 2) addressing waste management plans requirements; and 3) to increasing the minimum requirements for recycling, salvage and reuse for covered projects from 50 to 65 percent, as required under CalGreen.

The amendments to the Recycling and Diversion of Debris from Construction and Demolition, BMC Chapter 15.75, are contained in Section 19 of the draft ordinance.

Local Energy Conservation and Generation:

With the 2013 Edition of the CBC, the improvements in building energy efficiencies for new construction were estimated to yield energy use reductions of 25 percent for new residential buildings over the 2010 Edition of the CBC and 30 percent for non-residential buildings. With

this new 2016 Edition, it is estimated by the CEC that residential buildings will use 28 percent less energy versus buildings constructed under the 2013 CBC. The state's goal, as expressed in these CBC code trends, is that all new residential construction will be zero net energy (ZNE) by 2020 and that non-residential will be ZNE by 2030. To date, energy use reductions are largely achieved by building envelope, HVAC and lighting efficiencies. Solar readiness is also required in the 2016 CBC, although the installation of solar on new buildings is not.

A local code amendment is proposed with the draft ordinance to add new energy generation/conservation provisions in addition to the state's Energy Code, Title 24, Part 6. These provisions would be applicable to new construction of residential and non-residential buildings and would include "cool roof" requirements for low pitched roofs and the installation of solar photovoltaic for all new buildings, with an alternative of solar thermal. Cool roofs have specific minimum solar reflectance and thermal emittance values, which relate to the capacity of a roof to reflect sunlight and to radiate heat away from itself, thus reducing heating of the attic space. Solar photovoltaic and solar thermal systems are those which absorb and convert sunlight into electricity or heating of water.

The solar voltaic requirements would start at a minimum of 1 kilowatt systems for single family residences up to 3 kilowatt systems for large multifamily buildings. For non-residential new construction the minimum would be 3 kilowatts for buildings with less than 10,000 sq. ft. and 5 kilowatts for buildings over 10,000 sq. ft. The requirements for solar are fairly modest and may be considered as a starting point for individual applicants to right-size to a larger system based on site specific design considerations. Note that the provisions of this proposed ordinance would not apply to existing homes, so remodeling, additions and new roofs on existing structures would not be subject to the ordinance. Additionally, the proposed ordinance includes waivers or exceptions to the provisions. Cool roofs are not required for areas that would be covered by solar panels or where the proposed roof meets minimum mass requirements, since such roofs have the effect of providing insulation to the space beneath. The proposed ordinance also includes provisions for an applicant to request an infeasibility exemption to the cool roof or solar provisions of the chapter, based on site specific factors.

The proposed ordinance is based on provisions adopted by the City of San Mateo. This was selected as the model for several reasons. An important consideration is that any local jurisdiction's energy code that exceeds state requirements must have a Cost Effectiveness Study completed and approved by the CEC prior to the effective date of the ordinance. Independently undertaking this process can be costly and time consuming. However, the City may use another jurisdiction's approved Cost Effectiveness Study for the same provisions within the same climate zone. San Mateo lies within the same climate zone as Brisbane and their Cost Effectiveness Study has been approved by the CEC.

San Mateo's cost effectiveness study showed that the added costs for the compliance measures would be cost effective over time through reduced energy bills. The assumptions for San Mateo are applicable to Brisbane, including the same climate zone, similar cost for construction within the San Mateo County market, and new home sizes that are of similar size to those studied. The size of the average new homes for permits issued in Brisbane was tracked over the last two years and the average was slightly larger than the San Mateo model, at 3,274 square feet, versus 2,700

square feet. It is assumed that the return on investment would be at least as good for larger homes since they would typically use more energy than smaller homes. This average includes six Central Brisbane homes and one Brisbane Acres home that were permitted for construction since January 2015. For commercial construction, the solar requirements of the ordinance are readily transferrable to Brisbane, although there are no recent examples of new commercial construction in Brisbane. The same climate factors assumed for the cool roofs requirements in the City of San Mateo would also apply to Brisbane, since they are in the same climate zone. The complete cost effectiveness report is attached for Council's reference. If the draft ordinance is adopted, the cost effectiveness study would be filed with CEC for review and approval.

This proposed amendment is consistent with the City's Climate Action Plan (CAP) goal of reducing the City's carbon footprint, to aid in reducing the future impacts of increased global warming. Additionally the Planning Commission, in reviewing a variety of planning applications over the past several years, has expressed its interest in ensuring that renewable energy production be incorporated into new buildings.

As a matter of information, an overview of the code update (including the proposed energy provisions) was presented to both the Planning Commission and the Open Space and Ecology Committee in November for review and comment. Both bodies expressed support for the proposed ordinance. OSEC also suggested that a provision addressing mixed-use be added, to clarify that the residential and non-residential portions of a new development should be additive for solar. Also, OSEC suggested that the portion of a low-pitched roof for a single family home that is to be covered by solar would be exempted from cool-roof requirements, so as to encourage greater use of solar. Those suggestions have been incorporated into the attached draft ordinance.

#### City Green Building Ordinance:

The City's Green Building Ordinance (GBO), BMC 15.80, was originally adopted in 2007 and remains effective today. The Green Building ordinance still requires LEED Silver equivalency for non-residential covered projects (10,000 sq. ft. or more for commercial and 5,000 sq. ft. for City sponsored projects) and Build-It-Green rating equivalency for covered residential projects (20 units or more). To date, no projects have been built in Brisbane that were subject to the ordinance.

In 2012, City Council directed that OSEC and the Planning Commission form a subcommittee, which was comprised of 2 members each, to provide recommendations on potential updates to the Green Building Ordinance (GBO). The subcommittee worked from 2012 to 2013 to provide recommendations for updates to that chapter. Ultimately, it was unclear if the 2013 state code update would surpass the subcommittee's draft GBO update recommendations, and no update to the GBO was recommended at that time. The subcommittee questioned the use of these third party systems and the apparently small incremental advantage over the state's mandatory requirements relative to the cost. Due to the increasingly conservative nature of the state codes and the iterative nature of proprietary rating systems like LEED and GreenPoint in responding to code updates, it remains difficult to quantitatively demonstrate that adhering to systems like LEED result in higher performing buildings than would result by complying with CalGreen.

The 2007 GBO remains effective and applicable to both large residential and non-residential projects in Brisbane. and is not proposed to be amended as part of the draft ordinance.

**Environmental Determination**

Actions by regulatory agencies to assure the maintenance, restoration, enhancement, or protection of the environment where the regulatory process involves procedures for protection of the environment are categorically exempt from the provisions of the California Environmental Quality Act per Section 15308 of the State CEQA Guidelines.

**Fiscal Impact:**

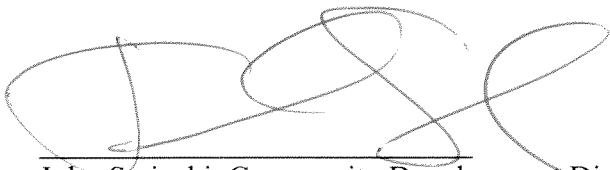
None.

**Measures of Success:**

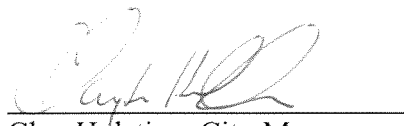
Application of updated standards to comply with State law, including local amendments as proposed to reflect Brisbane’s unique circumstances and needs.

**Attachments:**

- Draft City Ordinance No. 613
- “Redline” Version
- City of San Mateo 2016 Building Energy Efficiency Reach Code, Cost Effectiveness Study, May 9, 2016, by TRC
- Staff Memorandum to the Planning Commission and Open Space and Ecology Committee, dated November 4, 2016



John Swiecki, Community Development Director



Clay Holstine, City Manager