2016

PORT OF SAN FRANCISCO GREEN BUILDING STANDARDS CODE

Based on the 2016
California
Green Standards Code

Revised May 2017

PORT OF SAN FRANCISCO

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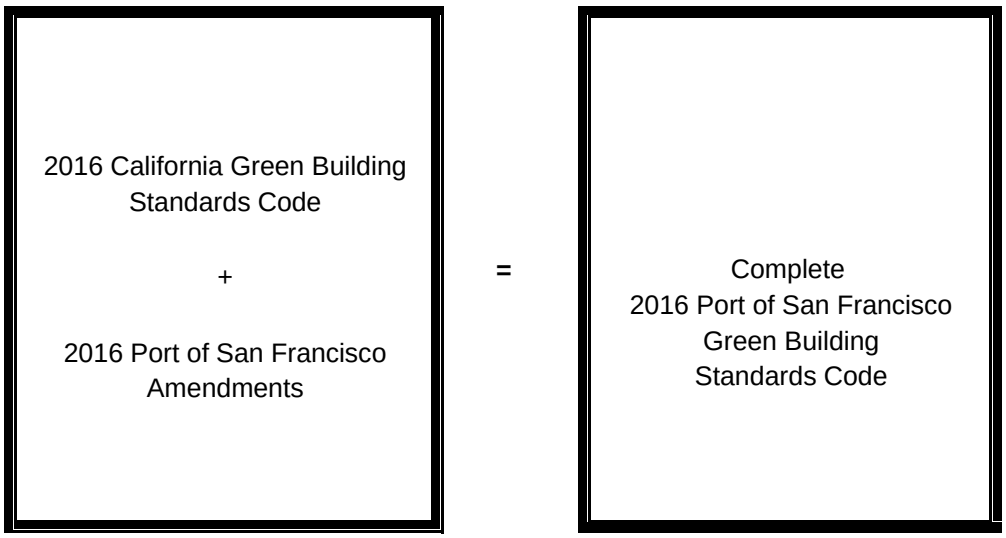
2016 Port of San Francisco Green Building Standards Code

The complete 2016 Port of San Francisco Green Building Standards Code adopts and amends the 2016 edition of the California Building Standards Code

Effective Date: July 15, 2017



PUBLISHERS NOTE

To simplify the use of the Port of San Francisco amendments with corresponding sections of the 2016 California Codes, explanatory remarks appearing in italics are provided at the beginning of each amendment indicating whether the Port of San Francisco Amendments to the 2016 California Codes are adding, revising, or replacing a section or portion of a section.

Should you find publication (e.g. typographical) errors or inconsistencies in this code or wish to offer comments toward improving its format, please address your comments to:

Port of San Francisco Engineering Division -
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Chapter 1

ADMINISTRATION

SECTION 101
GENERAL

101.1 *Revise this section as follows:*

101.1 Title. These regulations shall be known as the Port of San Francisco Green Building Standards Code and may be cited as such and will also be referred to herein as "this code". -The Port of San Francisco Green Building Standards Code consists of Part 11-of the official compilation and publication of the adoption, amendment and repeal of building regulations in the California Code of Regulations, Title 24 (also known as and referred to herein as the California Building Standards Code).

101.2 *Revise this section as follows:*

101.2 Purpose. The purpose of this chapter is to promote the health, safety and welfare of San Francisco residents, workers, and visitors by minimizing waste of energy, water, and other resources in the construction and operation of buildings in the City and County of San Francisco and by providing a healthy indoor environment. The green building practices required by this chapter will also further the goal of reducing the greenhouse gas emissions in the City and County of San Francisco to a level 25 percent below 1990 levels by the year 2017, as stated in Board of Supervisors Resolution No. 158-02 and San Francisco Environment Code Chapter 9.

101.3 *Revise this section as follows:*

101.3 Scope. The provisions of this code shall apply to the planning, design, operation, construction, use and occupancy of every newly constructed building or structure, unless otherwise indicated in this code, as well as alterations to existing buildings throughout the Port of San Francisco's jurisdictional area.

While this code references various green building programs, the Port of San Francisco does not confer or grant certification under any particular green building program.

101.3.1 *Revise this section as follows:*

101.3.1 Regulated buildings, structures and applications. Provisions of this code shall apply to the following buildings, structures, and applications regulated by state agencies as specified in Sections 103 through 106 of California Green Building Standards Code Title 24 Part 11, modified by local ordinance with supplemental requirements applicable to occupancy types A, B, I, M, and R as defined by California Building Code Title 24 Section 302 (2016) as amended pursuant to Section 101.7. When adopted by a state agency, the provisions of this code shall be enforced by the appropriate enforcing agency, but only to the extent of authority granted to such agency by statute.

101.4 *Revise this section as follows:*

101.4 Appendices. **[Reserved]**

101.6.1 Revise this section as follows:

101.6.1 Differences. In the event of any differences between these building standards and the California Green Building Standards, the text that is more restrictive shall govern.

101.6.3 *Revise this section as follows:*

101.6.3 Conflicts. When the requirements of this code conflict with the requirements of any part of the California Building Standards Code, Title 24, any provision contained elsewhere in the San Francisco Municipal Code, or any regulation or requirement adopted by the San Francisco Public Utilities Commission or other City agency under its Charter authority, the most restrictive requirement shall prevail.

101.7 *Revise this section as follows:*

101.7 Port of San Francisco amendments, additions or deletions. This code includes the amendments, deletions, and additions to California Green Building Standards Code which maintain stricter local green building standards.

101.10 *Revise this section as follows:*

101.10 Equivalency. Wherever reference is made to the LEED® Silver certification or GreenPoint Rated systems, a comparable equivalent rating system may be used if approved by the Chief Harbor Engineer. The applicable LEED®, GreenPoint Rated or equivalent versions of performance standards for applications subject to this chapter are:

LEED®V4 for Interior Design and Construction (LEED v4 ID+C)
LEED® V4 for Building Design and Construction (LEED v4 BD+C)
LEED® V4 for Homes Design and Construction()
GreenPoint Rated (GPR) Single Family New Home Construction – v7.0
GreenPoint Rated (GPR) Multifamily New Home Construction – v7.0

GreenPoint Rated (GPR) Existing Multifamily – v1.0

Wherever specific LEED® prerequisites or credits are cited, such references are to LEED® v4 BD+C. More recent LEED® and GreenPoint Rated versions may be used, provided the credits and points achieved are as or at least as stringent as LEED® v4 or GPR v7.0.

Wherever the LEED® Silver certification or GreenPoint Rated systems include a minimum energy or other performance requirement, the permit applicant may choose to meet the minimum performance requirements with an alternative equivalent method approved by the Chief Harbor Engineer.

Compliance with any of these requirements may be verified and/or certified by any means, including third-party review **or equivalent requirements verified via other rating systems**, as approved by the Chief Harbor Engineer.

101.11 *Revise this section as follows:*

101.11 Effective use of this code. The following steps may be used to establish which provisions of this code are applicable to a specific occupancy:

1. Establish the type of occupancy.
2. **Find** the section which covers the established occupancy.
3. **Identify** the minimum requirements of this code for the established occupancy **in Sections 4 and 5**.

101.12 Waiver. Wherever reference is made to the LEED® Gold certification for

- New Construction of 10,000 sf or more, OR
- Major Alterations, OR
- Large Commercial Interiors

A Waiver Request may be made and the Chief Harbor Engineer shall have the authority to consider and grant said Waiver.

(a) Waivers from the requirements of this Chapter are available under the following circumstances:

(1) Emergency. The Chief Harbor Engineer may grant a waiver from any requirement of the Port of San Francisco Green Building Standards Code, when it is necessary to respond to an emergency which endangers public health or safety. In such case, the Permittee shall report to the Chief Harbor Engineer on a form provided by the Chief Harbor

Engineer regarding the emergency that prevented compliance with this Chapter within five business days.

(2) Cost Prohibitive. A Permittee may request a waiver from the Chief Harbor Engineer on a form provided by the Chief Harbor Engineer if compliance with this Chapter is cost prohibitive. The Municipal Green Building Task Force (Task Force) shall provide the Chief Harbor Engineer with a recommendation with respect to the waiver request. The Chief Harbor Engineer may grant a waiver upon a finding that the requesting Permittee has:

(A) Demonstrated which specific requirements are cost prohibitive as weighed against the potential economic, environmental and health benefits posed by a particular requirement; and

(B) If applicable, developed a reasonable plan to maximize the number of LEED points attainable.

(3) Alternate Compliance. An applicant may request a waiver from LEED Gold certification if utilizing an independently verified green building rating system or standard that is at least as stringent as LEED. Such waiver requests shall provide justification and details for exceeding LEED requirements.

(4) Other. If, due to specific circumstances, compliance would defeat the intent of the Port Green Building Standards Code or create an unreasonable burden on the construction project, the Permittee may request a waiver from that requirement from the Chief Harbor Engineer on a form provided by the Chief Harbor Engineer. The Task Force shall provide the Chief Harbor Engineer with a recommendation with respect to the waiver request. The Chief Harbor Engineer may grant a waiver upon a finding that the requesting Permittee has:

(A) Documented the circumstances and burdens at issue; and

(B) If applicable, develop a reasonable plan to maximize the number of LEED points attainable.

(b) After the end of the 50% Design Development Phase, the Chief Harbor Engineer will only accept waiver requests for consideration if the project design team can demonstrate extenuating circumstances, including but not limited to the following:

(1) Unforeseen site conditions; or

(2) Specified system or products become unavailable.

(c) The Chief Harbor Engineer shall respond to a request for a waiver within 35 days.

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Chapter 2

DEFINITIONS

SECTION 202
DEFINITIONS

Add and amend the following definitions:

ELECTRIC VEHICLE CHARGING SPACE (EV Space). A space intended for installation of EV charging equipment and charging of electric vehicles. The EV Space need not be reserved exclusively for electric vehicle charging.

ELECTRIC VEHICLE CHARGING STATION (EVCS). One or more electric vehicle charging spaces served by electric vehicle charger(s) or other charging equipment allowing charging of electric vehicles. For purposes of determining compliance with accessibility requirements, when the permitted length of time a vehicle may occupy an electric vehicle charging station differs from the permitted duration of stay in publicly accessible parking spaces in the same parking area, electric vehicle charging stations are not considered parking spaces. When the permitted duration of stay in a space served by electric vehicle charger(s) is the same as other publicly accessible parking spaces in the same parking area, EVCS may be considered parking spaces. The EVCS need not be reserved exclusively for electric vehicle charging.

ELECTRIC VEHICLE (EV) FAST CHARGER. Off-board charging equipment with a minimum direct current or alternating current power output of 24 kW, for the purpose of providing an electric vehicle charge in significantly less time than a standard Electric Vehicle Charger.

ELECTRIC VEHICLE LOAD MANAGEMENT SYSTEM. An electronic system designed to allocate charging capacity among EV chargers.

GREENPOINT RATED, GREENPOINTS and **GREENPOINTS CHECKLIST**. The residential green building rating system and checklist and certification methodology of the non-profit organization Build It Green.

HIGH-RISE RESIDENTIAL BUILDING. For the purposes of this code, a building that is of Occupancy Group R and is four stories or greater.

HISTORICAL RESOURCE. A property that meets the terms of the definitions in Section 21084.1 of the CEQA Statute (The California Environmental Quality Act [Public Resources

Code Section 21084.1]) and Section 15064.5 of the CEQA Guidelines, as determined by the San Francisco Planning Department.

LARGE COMMERCIAL BUILDING. A commercial building or addition of Group B, M, A, I or E occupancy that is 25,000 gross square feet or more.

LARGE COMMERCIAL INTERIORS. Tenant improvements in Group B or M occupancy areas of existing buildings where:

1. Areas of such construction are 10,000 gross square feet or more, OR
2. The value of the improvement is equal to or greater than 15% of the replacement of the replacement of the market value of the asset.

LEED® and **LEED® Checklist**. The Leadership in Energy and Environment Design rating system, certification methodology, and checklist of the United States Green Building Council (USGBC).

LOW-RISE RESIDENTIAL BUILDING. For the purposes of this code, a building that is of Occupancy Group R and is three stories or less or that is a one or two family dwelling or townhouse.

MAJOR ALTERATIONS. Alterations and additions where interior finishes are removed and significant upgrades to structural and mechanical, electrical and/or plumbing systems are proposed where:

1. Areas of such construction are 10,000 gross square feet or more in Group B, M or R occupancies of existing buildings; OR
2. The value of the alteration is equal to or greater than 15% of the replacement of the market value of the asset.

NEWLY CONSTRUCTED (or **NEW CONSTRUCTION).** A newly constructed building (or new construction) is a building that has never before been used or occupied for any purpose and does not include additions, alterations or repairs.

NONRESIDENTIAL COMPLIANCE MANUAL. The document published by the California Energy Commission to aid in compliance and enforcement of the Title 24 California Building Energy Standards, for buildings of nonresidential occupancy and high-rise residential buildings.

PASSENGER VEHICLES. Motor vehicles designed primarily for transportation of persons, with capacity of 12 persons or less.

RESIDENTIAL COMPLIANCE MANUAL. The document published by the California Energy Commission to aid in compliance and enforcement of the Title 24 California Building Energy

Standards, for low-rise residential buildings.

TRUCKS. Trucks or truck-based vehicles with both a payload capacity of 4,000 pounds or less, and a gross vehicle weight ratio of 14,000 pounds or less. As used herein, “trucks” does not include heavy duty vehicles, which are vehicles of any type with a gross vehicle weight ratio of more than 14,000 pounds.

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Chapter 3

GREEN BUILDING

SECTION 301
GENERAL

301.1 *Revise this section as follows:*

301.1 Scope. Buildings within the Port of San Francisco jurisdiction shall be designed to include the green building measures specified as mandatory under the California Green Building Standards Code (CalGreen).

Additional green building requirements established by the Port of San Francisco are mandatory for buildings and construction within the Port of San Francisco's jurisdictional area, as follows:

(1) Newly constructed Group R occupancy buildings,
(2) Newly constructed buildings of Group B, M, A, and I occupancies that are 10,000 gross square feet or more,
(3) Build-outs of commercial interiors that are 10,000 gross square feet or more in buildings of Group B or M occupancies, and
(4) Major alterations that are 10,000 gross square feet or more in existing buildings of Group B, M or R occupancies, where interior finishes are removed and significant upgrades to structural and mechanical, electrical and/or plumbing systems are proposed.

SECTION 302
MIXED OCCUPANCY BUILDINGS

302.1 *Revise this section as follows:*

302.1 Mixed occupancy buildings. In mixed occupancy buildings, each portion of a building shall comply with the specific measures applicable to each specific occupancy as required by California Code of Regulations Title 24 Part 11 and the Port of San Francisco Green Building Code. However, to fulfill requirements of the Port of San Francisco Green Building Code Sections 4.103 through 4.105 and 5.103 through 5.105, as applicable, the project sponsor may apply a single required green building standard to the entire building.

SECTION 303
PHASED PROJECTS

Add the following section:

303.1.1.1 Maintenance of required features. Any structure subject to this chapter shall maintain the green building features required herein, or equivalent, regardless of subsequent alterations, additions, or changes of use, unless subject to subsequent or more stringent requirements.

Modify the following Section:

SECTION 304
VOLUNTARY TIERS

This section is not applicable at the Port of San Francisco

Modify the following Section:

SECTION 305
[OSHPD 1] – CALGREEN TIER 1 AND CALGREEN TIER 2

This section is not applicable at the Port of San Francisco

Modify the following Section:

SECTION 306
VOLUNTARY MEASURES

This section is not applicable at the Port of San Francisco

Chapter 4

RESIDENTIAL MANDATORY MEASURES

DIVISION 4.1
PLANNING AND DESIGN

4.101 General

Modify the following section:

4.101.1 Scope. The provisions of this division outline planning, design and development methods that include environmentally responsible site selection, building design, building siting and development to protect, restore, enhance the environmental quality of the site, ~~and~~ respect the integrity of adjacent properties, and promote the health, safety and welfare of San Francisco residents.

Replace the following section:

Section 4.103
REQUIREMENTS FOR GROUP R OCCUPANCY BUILDINGS

4.103.1 New low-rise residential buildings.

4.103.1.1 Rating requirements
New residential buildings must be GreenPoint Rated and applicants must submit documentation demonstrating that a minimum of 75 GreenPoints from the GreenPoints Single Family New Construction Checklist or the GreenPoints Multifamily New Construction Checklist will be achieved. For projects less than 10,000 gross square feet, this rating requirement may be met alternatively by obtaining LEED® Silver certification. For projects that are 10,000 gross square feet or more, this rating requirement may be met alternatively by obtaining LEED® Gold certification.

4.103.1.2 Stormwater management
Projects subject to this section shall meet the Port of San Francisco stormwater management requirements. See Section 106A.3.2.4 of the Port of San Francisco Building Code.

4.103.2 New high-rise residential buildings

4.103.2.1 Rating requirement
Permit applicants must submit documentation to achieve LEED® Gold certification. Alternatively, this rating requirement may be met by obtaining the GreenPoint Rated

designation and submitting documentation demonstrating that a minimum of 75 GreenPoints from the GreenPoint Rated Multifamily New Construction checklist will be achieved.

4.103.2.2 (Reserved)

4.103.2.3 Construction debris management. Permit applicants must submit documentation verifying the diversion of a minimum 75 percent of the projects' construction and demolition debris. The waste management plan necessary to meet this requirement shall be updated as necessary and shall be accessible during construction for examination by the Port of San Francisco. Permit applicants must also meet the requirements of San Francisco Environment Code Chapter 14 and Port of San Francisco Building Code Chapter 13B (Construction and Demolition Debris Recovery Program.)

4.103.2.4 Stormwater management. Projects subject to this section shall meet the Port of San Francisco stormwater management requirements. See Section 106A.3.2.4 of the Port of San Francisco Building Code.

4.103.2.4.1 Construction activity stormwater pollution prevention. All projects, whether greater or lesser than one acre, must develop and implement construction activity pollution prevention and site run-off controls adopted by the Port of San Francisco.

4.103.3 MAJOR ALTERATIONS TO EXISTING GROUP R OCCUPANCY BUILDINGS

4.103.3.1 Rating Requirement
Permit applicants must submit documentation to achieve a LEED® Gold rating. Alternatively, this rating requirement may be met by obtaining the GreenPoint Rated designation and submitting documentation demonstrating that a minimum of 75 GreenPoints from the GreenPoint Rated Multifamily checklist will be achieved. Major alterations applying to less than 80% of the building's gross floor area may alternately obtain the GreenPoint Rated Elements designation and submit documentation demonstrating that 49 points from the GreenPoint Rated Multifamily checklist have been achieved.

4.103.3.2 Low-emitting Materials
Alterations utilizing LEED® must submit documentation verifying that low-emitting materials are used, subject to on-site verification, meeting at least the following categories of materials covered under LEED EQ Credit Low-Emitting Materials wherever applicable: interior paints and coatings applied on-site, interior sealants and adhesives applied on site, flooring, and composite wood.

Alterations utilizing GreenPoint Rated must submit documentation to verify the use of low-emitting materials meeting the GreenPoint Rated Multifamily New Homes measures for low-emitting coatings, adhesives and sealants, and carpet systems.

4.103.4. ELECTRIC VEHICLE CHARGING

As of January 1, 2018 Sections 4.106.4 through 4.106.4.2.6 of this Chapter shall apply to all newly-constructed buildings and associated newly-constructed parking facilities for passenger vehicles and trucks, and to major alterations with 25,000 gross square feet or more to existing Group R occupancy buildings where electrical service to the building will be upgraded. In major alterations where existing electrical service will not be upgraded, the requirements of Sections 4.106.4 through 4.106.4.2.6 shall apply to the maximum extent that does not require an upgrade to existing electrical service. Until January 1, 2018 Sections 4.106.4 through 4.106.4.2.6 of the 2016 California Green Building Standards Code, Part 11 shall remain in effect.

Replace the following section:

SECTION 4.104
HISTORIC PRESERVATION

4.104.1 On-site retention of historical features. For alterations of buildings determined to be historical resources, after demonstrating compliance with all applicable codes, including the 2016 California Building Energy Efficiency Standards (Title 24, Part 6) and the 2016 California Historical Building Code (Title 24, Part 8), the minimum points or credits required under this chapter shall be reduced for retention* and in-situ reuse or restoration of certain character defining features, as described in Table 4.104A. Retention includes the rehabilitation and repair of character-defining features that conform to the Secretary of the Interior's Standards for the Treatment of Historic Properties:

TABLE 4.104.A

SIGNIFICANT HISTORICAL ARCHITECTURAL FEATURES	PERCENT RETAINED*	ADJUSTMENT TO MINIMUM LEED POINT REQUIREMENT	ADJUSTMENT TO MINIMUM GREENPOINTS REQUIREMENT
Windows @ principal façade(s)	100%	4	15
Other windows	At least 50%	1	3
Other windows	100%	2	6
Exterior doors @ principal façade(s)	100%	1	3
Siding or wall finish @ principal façade(s)	100%	1	4
Trim & casing @ wall openings on principal façade(s)	100%	1	3
Roof cornices or decorative eaves visible from right-of-way	100%	1	3
Sub-cornices, belt courses, water tables, and running trim visible from	100%	1	3

right-of-way			
Character-defining elements of significant interior spaces	100%	4	15
Other exterior ornamentation (e.g. cartouches, corbels, quoins, etc.) visible from right-of-way	80%	1	3

4.104.2. Adjustment to Green Credit for Retention of Historic Features. Where the historical resource is a portion of the total project, the LEED or GreenPoint Rated requirement shall be adjusted to equal the percentage of gross floor area of the historical resource compared to the total project gross floor area.

Replace the following Section:

SECTION 4.105
DEMOLITION OF EXISTING STRUCTURES

4.105.1 Adjustments to Rating Requirements for Building Demolition and Density. Applications subject to the Port of San Francisco Green Building Standards Code, whereby construction of a new building is proposed within five years of the demolition of a building on the site, where such demolition occurred after the effective date of the Green Building Ordinance - November 3, 2008 - the sustainability requirements for new buildings pursuant to the San Francisco Green Building Standards Code shall be increased as follows:

4.105.1.1 LEED® Projects. For projects attaining a LEED® certification:

(1) Where the building demolished was an historical resource, the required points shall be increased by 10 points.

(2) Where the building demolished was not an historical resource, the required points shall be increased by 6 additional points.

(3) Where the building demolished was not an historical resource and the number of dwellings in the residential portion of the replacement structure are tripled, the required points shall be increased by 5 additional points.

4.105.1.2 GreenPoint Rated Projects. For projects attaining GreenPoint Rated:

(1) Where the building demolished was an historical resource, the required points shall be increased by 25 additional points.

(2) Where the building demolished was not an historical resource, the required points shall be

increased by 20 additional points.

(3) Where the building demolished was not an historical resource and the number of dwellings in the residential portion of the replacement structure are tripled, the required points shall be increased by 17 additional points.

SECTION 4.106
SITE DEVELOPMENT

4.106.4. Electric Vehicle (EV) Charging For New Construction And Major Alterations. New construction and major alterations shall comply with Sections 4.106.4.1 and 4.106.4.2 to provide electrical capacity and infrastructure to facilitate installation and use of EV Chargers, such that the project will be capable of providing EV charging services at 100% of off-street parking spaces provided for passenger vehicles and trucks. Electric Vehicle Supply Equipment (EVSE) shall be installed in accordance with the Port of San Francisco Building Code and the Port of San Francisco Electrical Code, subject to the following exceptions:

Exceptions:

On a case-by-case basis, where the Chief Harbor Engineer has determined EV charging and infrastructure are not feasible based upon one or more of the following conditions:

1. Where there is no commercial power supply.
2. Where there is evidence substantiating that meeting the requirements will alter the local utility infrastructure design requirements on the utility side of the meter so as to increase the utility side cost to the homeowner or the developer by more than $400.00 per parking space. In such cases, buildings subject to Section 4.106.4 shall maximize the number of EV Charging Spaces, up to a utility side cost of a maximum of $400 per space. Cost shall be determined by dividing the increase in local utility infrastructure cost attributable to compliance with this section by the sum of parking spaces and EV Charging Spaces.
3. In major alterations, where there is evidence substantiating that meeting the requirements of this section presents an unreasonable hardship or is technically infeasible, the Chief Harbor Engineer may consider an appeal from the project sponsor to reduce the number of EV Charging Spaces required or provide for EV charging elsewhere.
4. Where a project is undertaken specifically to meet the City's Mandatory Seismic Retrofit Program as required under Chapter 4A, or 4B of the Port of San Francisco Existing Building Code.

4.106.4.1. New One- And Two-Family Dwellings And Town-Houses with Attached or Adjacent Private Garages.

For each parking space, install a 40-Amp 208 or 240-volt branch circuit, including raceway, electrical panel capacity, overprotection devices, wire, and termination point such as a receptacle. The termination point shall be in close proximity to the proposed EV charger

location. Raceways are required to be continuous at enclosed, inaccessible, or concealed areas and spaces. Raceway for each circuit shall not be less than trade size 1 (nominal 1-inch inside diameter).

4.106.4.1.1. Identification.
The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging as "EV READY" for full circuits and otherwise "EV CAPABLE". The raceway termination location shall be permanently and visibly marked as "EV READY" for full circuits and otherwise "EV CAPABLE".

4.106.4.2. New Multifamily Dwellings And Major Alterations.
Where three or more multifamily dwelling units are constructed on a building site, or undergo major alteration, 100% of the total number of off-street parking spaces for passenger vehicles and trucks shall be electric vehicle charging spaces (EV Spaces) capable of supporting future EVSE.

4.106.4.2.1. Electric Vehicle Charging Space Locations.
Construction documents shall indicate the location of proposed EV spaces. Where parking spaces are provided for public use or for common use by residents, at least one EV space shall be located in common use areas and available for use by all residents.

When EV chargers are installed, accessible EV spaces required by Section 4.106.2.2, Item 3, shall comply with at least one of the following options:

1. The EV space shall be located adjacent to an accessible parking space meeting the requirements of the California Building Code, Chapter 11A, to allow use of the EV charger from the accessible parking space.
2. The EV space shall be located on an accessible route, as defined in the California Building Code, Chapter 2, to the building.

4.106.4.2.2. Electric Vehicle Charging Space (EV Spaces) Dimensions.
Unless otherwise specified by Planning Code Section 154, EV spaces shall be designed to comply with the following:

1. The minimum length of each EV space shall be 18 feet (5486 mm).
2. The minimum width of each EV space shall be 9 feet (2743 mm).
3. One in every 25 EV spaces, but not less than one, shall also have an 8-foot (2438 mm) wide minimum aisle. A 5-foot (1524 mm) wide minimum aisle shall be permitted provided the minimum width of the EV space is 12 feet (3658 mm).

a. Surface slope for this EV space and the aisle shall not exceed 1 unit vertical in 48 units horizontal (2.083% slope) in any direction.

b. Notwithstanding any other applicable requirements, when an EV charger is installed serving an accessible parking space, the space may be considered a parking space if the duration of stay is not subject to any limitations different from those generally applied to other publicly accessible parking spaces in the same parking area. If the duration of stay in an

accessible space equipped with an EV charger is subject to limitations different from those generally applied to other publicly accessible parking spaces in the same parking area, the space is not a parking space.

4. Accessible spaces must meet the dimensions specified above, Planning Code Section 154, or other applicable accessibility requirements, whichever would result in the largest space size.

4.106.4.2.3. Single EV Space Required.

Where a single EV space is required, install a full circuit with a minimum of 40-Amp 208 or 240 Volt capacity, including listed raceway, sufficient electrical panel capacity, overcurrent protection devices, wire, and termination point such as a receptacle. The termination point shall be in close proximity to the proposed EV charger location. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter).

4.106.4.2.4. Multiple EV Spaces Required.

(a) For a minimum of 10% of EV Spaces and in no case less than two EV Spaces when the total number of EV Spaces is two or more, install a full circuit with minimum of 40-Amp 208 or 240 Volt capacity per EV Space, including listed raceway, sufficient electrical panel service capacity, overcurrent protection devices, wire, and suitable listed termination point such as a receptacle. The termination point shall be in close proximity to the proposed EV charger location. Calculations for the number of EV Spaces shall be rounded up to the nearest whole number.

(b) Branch circuit panelboard(s) shall be installed at each parking level with service capacity to deliver a minimum 40 amperes at 208 or 240 volts multiplied by 20% of the total number of EV Spaces. The panelboard(s) shall have sufficient space to install a minimum of one 40-ampere dedicated branch circuit and overcurrent protective device per EV Space up to a minimum of 20% of the total number of EV Spaces. The circuits and overcurrent protective devices shall remain reserved exclusively for EV charging.

Exception: Circuits and overcurrent protective devices in panelboards not located on the same level may contribute to the requirements of 4.106.4.2.4(b), provided the circuits are reserved exclusively for EV charging. For example, the circuit serving an EV Space dedicated to a condominium owner may connect to the electrical panelboard of the corresponding condominium.

(c) For all EV Spaces not required to install full circuits or raceway per Section 4.106.4.2.4(a):

(1) Either:

(A) Provide sufficient space for future installation of additional electrical panelboard(s) to support a 40 ampere 208 or 240 Volt capacity branch circuit and overcurrent protection device per EV Space, or equivalent consistent with Section 4.106.4.2.4.1; or

(B) Provide space in installed electrical panelboard(s) to support installation of a 40 ampere 208 or 240 Volt capacity branch circuit and overcurrent protection device per EV Space, or equivalent consistent with Section 4.106.4.2.4.1.

(2) Install raceway or sleeves where penetrations to walls, floors, or other partitions will be necessary to install panels, raceways, or related electrical components necessary per site conditions for future installation of branch circuits. All such penetrations must comply with applicable codes, including but not limited to the Port of San Francisco Electrical Code and the San Francisco Fire Code.

(d) Construction documents, including electrical engineering and design related documents, shall demonstrate that the electrical service capacity and electrical system, including any on-site distribution transformer(s), can charge EVSE at a minimum of 20% of the total number of EV Spaces simultaneously, at the full rated amperage of the EVSE or a minimum of 40 amperes per branch circuit, as modified by Section 4.106.4.2.4.1 Electric Vehicle Fast Charging Spaces. As appropriate, construction documents shall provide information on raceway method(s), wiring schematics, anticipated EV load management system design(s), and electrical load calculations.

NOTES:

1. Electric vehicle charging infrastructure and housing are critical priorities for the City and County of San Francisco. Where provisions of this Section 4.106.4.2.4 require the installation of an electrical transformer, and such transformer cannot be accommodated on the project site due to the combination of project site dimensions, Port of San Francisco Building Code, Port of San Francisco Electrical Code, and applicable utility regulations, the Port of San Francisco is encouraged to issue a Encroachment Permit, provided that the fronting property owner complies with all requirements governing street occupancy, including but not limited to the San Francisco Public Works Code and Department of Public Works Order 165,553.

2. An EV load management system may be necessary in order to provide EV charging at more than 20% of EV Spaces.

3. This section does not require EV chargers to be installed.

4.106.4.2.4.1. Electric Vehicle (EV) Fast Charging Spaces.

(a) Installation of one EV Fast Charger may reduce the number of EV Spaces required under Section 4.106.4.2.4 (a) by up to five EV Spaces, provided that the project includes at least one EV Space equipped with a full circuit able to deliver 40-Amp 208 or 240 Volt capacity to the EV Space, including listed raceway, sufficient electrical panel capacity, overcurrent protection devices, wire, and suitable listed termination point such as a receptacle.

The electrical panel board(s) provided at each parking level served by EV Fast Chargers shall

have sufficient capacity to supply each EV Fast Charger with a minimum of 30 kW AC in addition to the capacity to serve any remaining EV Spaces required under Section 4.106.4.2.4(a) with a minimum of 40 amperes per circuit at 208 or 240 volts per EV Space.
(b) After the requirements of 4.106.4.2.4(a) are met, each planned EV Fast Charger may reduce the number of planned EV Spaces required under 4.106.4.2.4(c) by up to five spaces. Electrical engineering design and construction documents shall indicate the raceway termination point and proposed location of future EV fast charger spaces and EV fast chargers. Electrical engineering design and construction documents shall also provide information on amperage of EV fast chargers, raceway method(s), wiring schematics, and electrical load calculations to verify that the electrical panel service capacity and electrical system has sufficient capacity to simultaneously operate all installed EV fast chargers at the full rated amperage of the EV fast charger(s) and simultaneously serve any remaining spaces required by 4.106.4.2.4(a). Raceways and related components that are planned to be installed underground, enclosed, inaccessible, or in concealed areas and spaces shall be installed at the time of original construction.

4.106.4.2.5-Identification.

The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as “EVSE READY” for full circuits and otherwise “EVSE CAPABLE” in accordance with the California Electrical Code. The raceway termination location or receptacle shall be permanently and visibly marked as “EVSE READY” for full circuits and otherwise “EVSE CAPABLE,” until such time as EVSE are installed.

Notes:

1. The California Department of Transportation adopts and publishes the “California Manual on Uniform Traffic Control Devices (California MUTCD)” to provide uniform standards and specifications for all official traffic control devices in California. Zero Emission Vehicle Signs and Pavement Markings can be found in the New Policies & Directives Number 13-01. Website: http://www.dot.ca.gov/hq/traffops/policy/13-01.pdf.
2. See Vehicle Code Section 22511 for EV charging space signage in off-street parking facilities and for use of EV charging spaces.
3. The Governor’s Office of Planning and Research (OPR) published a “Zero-Emission Vehicle Community Readiness Guidebook” which provides helpful information for local governments, residents and businesses. Website: http://opr.ca.gov/docs/ZEV_Guidebook.pdf.

DIVISION 4.2
ENERGY EFFICIENCY

Section 4.201 – General

Add the following section:

4.201.2. Renewable Energy and Better Roofs

(a) Newly constructed Group R occupancy buildings of 10 occupied floors or less and that apply for a building permit on or after January 1, 2017 shall install solar photovoltaic systems and/or solar thermal systems in the solar zone required by California Code of Regulations (CCR), Title 24, Part 6 Section 110.10.

(b) The minimum solar zone area for the project shall be calculated under Title 24, Part 6, Section 110.10(b) through (e), as applicable, and Residential Compliance Manual Chapter 7 or Nonresidential Compliance Manual Chapter 9, as applicable, except as provided below.

(1) For single family residences, Exceptions 3 and 5 to Title 24, Part 6, Section 110.10(b)1A may be applied in the calculation of the minimum solar zone area. Exceptions 1, 2, 4, 6, and 7 may not be applied in the calculation. For single family residences subject to Planning Code Section 149, Exception 3 may be applied in the calculation of the minimum solar zone area, and Exceptions 1, 2, 4, 5, 6, and 7 may not be applied in the calculation.

(2) For Group R Occupancy buildings other than single family residences, Exceptions 3 and 5 to Title 24, Part 6, Section 110.10(b)1B may be applied in the calculation of the minimum solar zone area. Exceptions 1, 2, and 4 may not be applied in the calculation. For Group R Occupancy buildings other than single family residences subject to Planning Code Section 149, Exception 5 may be applied in the calculation of the minimum solar zone area, and Exceptions 1, 2, 3, and 4 may not be applied in the calculation.

(3) Buildings with a calculated minimum solar zone area of less than 150 contiguous square feet due to limited solar access under Exception 5 to Title 24, Part 6, Section 110.10(b)1A or Exception 3 to Title 24, Part 6, Section 110.10(b)1B are exempt from the solar energy requirements in this Section 4.201.2.

(c) The sum of the areas occupied by solar photovoltaic collectors and/or solar thermal collectors must be equal to or greater than the solar zone area. The solar zone shall be located on the roof or overhang of the building, or on the roof or overhang of another structure located within 250 feet of the building or on covered parking installed with the building project. Solar photovoltaic systems and solar thermal systems shall be installed in accord with: all applicable State code requirements, including access, pathway, smoke ventilation, and spacing requirements specified in CCR Title 24, Part 9; all applicable local code requirements; manufacturer's specifications; and the following performance requirements:

(1) Solar photovoltaic systems: The total nameplate capacity of photovoltaic collectors shall be at least 10 $Watts_{DC}$ per square foot of roof area allocated to the photovoltaic collectors.

(2) Solar thermal systems: Single family residential solar domestic water heating systems shall be OG-300 System Certified by either the Solar Rating and Certification Corporation (SRCC) or the International Association of Plumbing and Mechanical Officials (IAPMO). Solar thermal systems installed in all Group R occupancy buildings other than single family residences shall use collectors with OG-100 Collector Certification by SRCC or IAPMO, shall be designed to generate annually at least 100 kBtu per square foot of roof area allocated to the solar thermal collectors. Systems with at least 500 square feet of collector area shall include a Btu meter installed on either the collector loop or potable water side of the solar thermal system.

(d) Approval by the Planning Department of compliance with the Better Roof requirements, including the Living Roof alternative, as provided in Planning Code Section 149, shall be accepted for compliance with Port of San Francisco Green Building Code Section 4.201.2(a) through (c). The requirements of CCR Title 24, Part 6, Section 110.10 for the solar zone shall still apply.

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Chapter 5

NON RESIDENTIAL MANDATORY MEASURES

DIVISION 5.1
PLANNING AND DESIGN

5.101 General

Modify the section as follows:

5.101 Scope. The provisions of this chapter outline planning, design and development methods that include environmentally responsible site selection, building design, building siting and development to protect, restore, and enhance the environmental quality of the site, and respect the integrity of adjacent properties, and promote the health, safety and welfare of San Francisco residents.

Replace the following section:

SECTION 5.103
REQUIREMENTS FOR GROUP A, B, I, E and M BUILDINGS

5.103.1 New large commercial buildings

5.103.1.1 Rating Requirement. Permit applicants must submit documentation to achieve LEED® "Gold" certification.

5.103.1.2 Indoor water use reduction. Permit applicants must submit documentation verifying that that project meets maximum prescriptive fixture flow rates in accordance with the California Plumbing Code. The project must also achieve the LEED WE Prerequisite Indoor Water Use Reduction (WEp2) and a minimum 30 percent reduction in the use of indoor potable water, as calculated to meet the LEED WE credit Indoor Water Use Reduction (WEc2).and a minimum 30 percent reduction in the use of indoor potable water as calculated to meet LEED® WE credit Indoor Water Use Reduction (WEc2)..

5.103.1.3.1 Construction waste management. Permit applicants must submit documentation verifying the diversion of a minimum 75 percent of the projects construction and demolition waste, as calculated to meet LEED® MR Prerequisite Construction and Demolition Waste Management Planning and LEED MR Credit Construction and Demolition Waste Management.. Permit applicants must also meet the requirements of San Francisco Environment Code Chapter 14 and Port of San Francisco Building Code Chapter 13B (Construction and Demolition Debris Recovery Program.) The waste management plan necessary to meet this

requirement shall be updated as necessary and shall be updated as necessary and shall be accessible during construction for examination by the Port of San Francisco.

5.103.1.4 Commissioning . Permit applicants must submit documentation verifying that the facility has been or will meet the criteria necessary to achieve CALGreen section 5.410.2 and Option 1 of LEED EA credit (Enhanced Commissioning), in addition to LEED EA Prerequisite (Fundamental Commissioning) and Verification.

The following section has been deleted:
5.103.1.5 Renewable energy.

5.103.1.6 Stormwater Management. Projects subject to this section shall meet the Port of San Francisco stormwater management requirements. All new building projects must develop and implement an Erosion and Sediment Control Plan or Stormwater Pollution Prevention Plan and implement site run-off controls adopted by the Port of San Francisco as applicable.

5.103.1.7 ENERGY PERFORMANCE. [Reserved]

5.103.1.8 Temporary ventilation and IAQ Management. during construction. Permit applicants must submit documentation verifying that an Indoor Air Quality Management Plan is prepared and implemented which meets LEED EQ Credit Construction Indoor Air Quality Management and Title 24 Part 11 Sections 5.504.1.3 and 5.504.3. During construction, Permit applicants must submit documentation verifying that an Indoor Air Quality Management Plan is prepared and implemented which meets LEED® credit EQ 3.1. and Title 24 Part 11 5.504.1.3.

5.103.1.9 Low Emitting Materials. Permit applicants must submit documentation verifying that low-emitting materials are used, subject to on-site verification, meeting at least the following categories of materials covered under LEED EQ Credit Low-Emitting Materials wherever applicable: interior paints and coatings applied on-site, interior sealants and adhesives applied on site, flooring, and composite wood.

5.103.1.10 CALGreen Mandatory Measures. The following measures are mandatory in California for new non-residential buildings. Optionally, relevant LEED® credits can be used as alternative compliance paths, as noted below:

Title 24 Part 11 Section(s)	Topic/Requirement	Alternate Compliance Option:
5.106.8	Light pollution reduction	Meet LEED® credit SS **Credit Light Pollution Reduction**
5.508.1.2	Halons not allowed in HVAC, refrigeration and fire suppression equipment.	Meet LEED® , **EA Credit Enhanced Refrigerant Management,** and additionally document that all HVAC&R

		systems do not contain CFCs or halons.

5.103.3 Major alterations to existing nonresidential buildings.

5.103.3.1 Rating Requirement. Permit applicants must submit documentation to achieve LEED® "Gold" certification.

5.103.3.2 Low Emitting Materials. Permit applicants must submit documentation verifying that low-emitting materials are used, subject to in-site verification, meeting at least the following categories of materials covered under LEED EQ Credit Low-Emitting Materials: interior paints and coatings applied on-site, interior sealants and adhesives applied on site, flooring, and composite wood.

5.103.4 Large Commercial Interiors.

5.103.4.1 Rating Requirement. Permit applicants must submit documentation to achieve LEED® "Gold" certification.

5.103.4.2 Low Emitting Materials. Permit applicants must submit documentation verifying that low-emitting materials are used, subject to in-site verification, meeting at least the following categories of materials covered under LEED EQ Credit Low-Emitting Materials: interior paints and coatings applied on-site, interior sealants and adhesives applied on site, flooring, and composite wood.

5.103.5. Electric Vehicle Charging.

As of January 1, 2018, Section 5.106.5.3 of this chapter shall apply to all newly constructed buildings and associated newly-constructed parking facilities for passenger vehicles and trucks, and to major alterations with 25,000 gross square feet or more to existing Group A, B, I, and M occupancy buildings where electrical service to the building will be upgraded. In major alterations where existing electrical service will not be upgraded, all requirements under Section 5.106.5 shall apply to the maximum extent that:

(1) does not require upgrade to existing service; and
(2) the Chief Harbor Engineer does not determine that compliance with Section 5.106.5.3.3 and Title 24, Part 2 Chapter 11B, if applicable, is technically infeasible, as defined in California Building Code Chapter 2, Section 202.

Until January 1, 2018 Sections 5.106.5.3 of the 2016 California Green Building Standards Code, Part 11 shall remain in effect.

Replace the following Section:

SECTION 5.104
HISTORIC PRESERVATION

5.104.1 On-site retention of historical features. For alterations of buildings determined to be historical resources, after demonstrating compliance with all applicable codes, including the 2016 California Building energy Efficiency Standards (Title 24, Part 6) and the 2016 California Historical Building Code (Title 24, Part 8), the minimum points or credits required under this chapter shall be reduced for retention and in-situ reuse or restoration of certain character defining features, as described in Table 5.104A. Retention includes the rehabilitation and repair of character-defining features that conform to the Secretary of the Interior's Standards for the Treatment of Historic Properties.

TABLE 5.104.A

SIGNIFICANT HISTORICAL ARCHITECTURAL FEATURES	PERCENT RETAINED*	ADJUSTMENT TO MINIMUM LEED POINT REQUIREMENT	ADJUSTMENT TO MINIMUM GREENPOINTS REQUIREMENT
Windows @ principal façade(s)	100%	4	15
Other windows	At least 50%	1	3
Other windows	100%	2	6
Exterior doors @ principal façade(s)	100%	1	3
Siding or wall finish @ principal façade(s)	100%	1	4
Trim & casing @ wall openings on principal façade(s)	100%	1	3
Roof cornices or decorative eaves visible from right-of-way	100%	1	3
Sub-cornices, belt courses, water tables, and running trim visible from right-of-way	100%	1	3
Character-defining elements of significant interior spaces	100%	4	15
Other exterior ornamentation (e.g. cartouches, corbels, quoins, etc.) visible from right-of-way	80%	1	3

5.104.2. Adjustment to Green Credit for Retention of Historic Features. Where the

historical resource is a portion of the total project, the LEED or GreenPoint Rated point requirement shall be adjusted to equal the percentage of gross floor area of the historical resource compared to the total project gross floor area.

Replace the following Section:

SECTION 5.105

DEMOLITION OF EXISTING STRUCTURES

5.105.1 Adjustments to Rating Requirements. Applications subject to the Port of San Francisco Green Building Code, whereby construction of a new building is proposed within five years of the demolition of a building on the site, where such demolition occurred after November 3, 2008, the sustainability requirements for new buildings pursuant to the Port of San Francisco Green Building Code shall be increased as follows:

5.105.1.1 LEED® Projects. For projects attaining a LEED® certification:

(1) Where the building demolished was an historical resource, the required points shall be increased by 10 points, which is 10% of the total available in the LEED® rating system, absent demolition.

(2) Where the building demolished was not an historical resource, the required points shall be increased by 6 additional points, which is 10% of the maximum total required points under this chapter, absent demolition.

(3) Where the building demolished was not an historical resource and the number of dwellings in the residential portion of the replacement structure are tripled, the required points shall be increased by 5 additional points, which is 8% of the maximum total required points under this chapter, absent demolition.

5.105.1.2 GreenPoint Rated Projects. For projects attaining GreenPoint Rated:

(1) Where the building demolished was an historical resource, the required points shall be increased by 25 additional points.

(2) Where the building demolished was not an historical resource, the required points shall be increased by 20 additional points.

(3) Where the building demolished was not an historical resource and the number of dwellings in the residential portion of the replacement structure are tripled, the required points shall be increased by 17 additional points.

5.106.5.3. Electric Vehicle (EV) Charging.

In new construction and major alterations, 100% of off-street parking spaces in buildings and facilities provided for passenger vehicles and trucks shall be EV Spaces capable of supporting future EVSE. Electrical engineering design and construction documents shall indicate the location of all proposed EV spaces. When EVSE is installed, it shall be in accordance with the Port of San Francisco Building Code and the Port of San Francisco Electrical Code.

5.106.5.3.1. Single Charging Space Requirements.

When a single EV Space is required per Section 5.106.5.3.3, install a full branch circuit with a minimum of 40-Amp 208 or 240 Volt capacity, including listed raceway, electrical panel capacity, overcurrent protection devices, wire, and suitable listed termination point such as a receptacle. The termination point shall be in close proximity to the proposed EV charger location. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The circuit shall be installed in accordance with the Port of San Francisco Electrical Code and the Port of San Francisco Building Code.

5.106.5.3.2. Multiple Charging Space Requirements.

(a) For a minimum of 10% of EV Spaces, and in no case less than two EV spaces when the total number of EV Spaces is two or more, install a full circuit with minimum of 40-Amp 208 or 240 Volt capacity per EV Space, including listed raceway, sufficient electrical panel service capacity, overcurrent protection devices, wire, and suitable listed termination point such as a receptacle. The termination point shall be in close proximity to the proposed EV charger location. Calculations for the number of EV Spaces shall be rounded up to the nearest whole number.

(b) Branch circuit panelboard(s) shall be installed at each parking level with service capacity to deliver a minimum 40 amperes at 208 or 240 volts multiplied by 20% of the total number of EV Spaces. The panelboard(s) shall have sufficient space to install a minimum of one 40-ampere dedicated branch circuit and overcurrent protective device per EV Space up to a minimum of 20% of the total number of EV Spaces. The circuits and overcurrent protective devices shall remain reserved for exclusive use by electric vehicle charging.

(c) For all EV Spaces not required to install full circuits or raceways per Section 5.106.5.3.2(a):

(1) Either:

(A) Provide space for future installation of additional electrical panelboards to support a 40 ampere 208 or 240 Volt capacity branch circuit and overcurrent protection device per EV Space, or equivalent consistent with Section 5.106.5.3.2.1; or

(B) Provide space in installed electrical panelboard(s) to support installation of a 40 ampere 208 or 240 volt capacity branch circuit and overcurrent protection device per EV Space, or equivalent consistent with Section 5.106.5.3.2.1.

(2) Install raceway or sleeves where penetrations to walls, floors, or other partitions will be necessary to install panels, raceways, or related electrical components necessary for future installation of branch circuits. All such penetrations must comply with applicable codes, including but not limited to the Port of San Francisco Electrical Code and the San Francisco Fire Code.

(d) Construction documents, including electrical engineering and design related documents, shall demonstrate the electrical service capacity of the electrical system, including any on-site distribution transformer(s), can charge EVSE at a minimum of 20% of the total number of EV Spaces simultaneously, at the full rated amperage of the EVSE or a minimum of 40 amperes per branch circuit, whichever is greater. As appropriate, construction documents shall provide information on raceway method(s), wiring schematics, anticipated EV load management system design(s), and electrical load.

Exceptions.

1. Where there is no commercial power supply.

2. Where there is evidence substantiating that meeting the requirements will alter the local utility infrastructure design requirements directly related to the implementation of this Section may increase the utility side cost to the developer by more than $400 per parking space. In such cases, buildings subject to Section 5.106.5.3.2 shall maximize the number of EV Spaces, up to a maximum utility side cost of $400 per space. Cost shall be determined by dividing the increase in local utility infrastructure cost attributable to compliance with this section by the sum of parking spaces and Electric Vehicle Charging Spaces.

3. In major alterations, where there is evidence substantiating that meeting the requirements of this section present an unreasonable hardship or is technically infeasible, the Chief Harbor Engineer may upon request from the project sponsor consider an appeal to reduce the number of EV Spaces required.

Note: This section does not require installation of EVSE.
The intent of sizing electrical service to provide 40 amperes at 208 or 240 Volts to at least 20% of spaces simultaneously is to provide the option to utilize listed EV Load Management Systems to provide Level 2 EV charging at 100% of parking spaces. A listed EV Load Management system manages the available capacity in a safe manner, such as allocating 36 amperes at 208 or 240 volts to vehicles in 20% of the total number of EV Charging Stations simultaneously, or allocating 8 amperes to vehicles in 100% of parking spaces, or similar. Given the capacity required by this Section, individual EV chargers may be installed in up to 20% of parking spaces before an EV load management system is necessary.

5.106.5.3.2.1. Electric Vehicle (EV) Fast Charging Spaces.
(a) Installation of one EV Fast Charger may reduce the number of EV Spaces required under Section 5.106.5.3.2(a) by up to 10 EV Spaces, provided the project includes at least one EV Space equipped with a full circuit able to deliver 40 Amps at 208 or 240 volts to the EV Space, including listed raceway, sufficient electrical panel capacity, overcurrent protection devices, wire, and suitable listed termination point such as a receptacle.

The electrical panel board(s) provided at each parking level served by EV Fast Chargers shall have sufficient capacity to supply each Electric Vehicle fast charger with a minimum of 30 kW AC in addition to the capacity to serve any remaining EV spaces with a minimum of 8-amperes at 208 or 240 volts per EV Space simultaneously, with a minimum of 40 amperes per circuit.

(b) After the requirements of 5.106.5.3.2(a) and (b) are met, each planned EV Fast Charger may reduce the number of planned EV Spaces required under 5.106.5.3.2(c) by up to 10 spaces. Electrical engineering design and construction documents shall indicate the raceway termination point and proposed location of future EV Fast Charger Spaces and EV Fast Chargers. Electrical engineering design and construction documents shall also provide information on amperage of EV Fast Chargers, raceway method(s), and wiring schematics. Electrical engineering design and construction documents shall also provide electrical load calculations to verify that the electrical panel service capacity and electrical system has sufficient capacity to simultaneously operate all installed EV Fast Chargers with the full rated amperage of the EV fast charger(s), and simultaneously serve a minimum of 40 amps per branch circuit to any remaining EV spaces required by 5.106.5.3.2(a). Raceways and related components that are planned to be installed in underground, enclosed, inaccessible, or otherwise concealed areas or spaces, shall be installed at the time of original construction.

5.106.5.3.3. EV Space Slope, Dimensions, And Location.
Design and construction documents shall indicate how many accessible EVCS would be required under Title 24, Part 2 Chapter 11B Table 11B-228.3.2.1, if applicable, in order to convert all EV Spaces required under 5.106.5.3.2 to EVCS, excluding the exceptions in 5.106.5.3.2. Design and construction documents shall also demonstrate that the facility is designed so that compliance with accessibility standards will be feasible for accessible EV Spaces at the time of EVCS installation. Surface slope for any area designated for accessible EV Spaces shall meet slope requirements in Section 11B-812.3 at the time of original building construction and vertical clearance requirements in Section 11B-812-4, if applicable.

> Exception: Accessibility requirements of Section 5.106.5.3.3 shall not apply to buildings that are not covered under Title 24 Part 2 Chapter 11B. In addition, all applicable exceptions to Chapter 11B shall apply to this Section 5.106.5.3.3.
> Note: Section 5.106.5.3.3, above, requires that the project be prepared to comply with accessibility requirements applicable at the time of EVSE installation. Section 11B-812 of the 2016 California Building Code requires that a facility providing EVCS for public and common use also provide one or more accessibility EVCS as specified in Table

11B-228.3.2.1. Chapter 11B regulates accessibility in certain buildings and facilities, including but not limited to accessibility in public buildings, public accommodations, commercial buildings, and publicly funded housing (see section 1.9 of Part 2 of the California Building Code). Section 11B-812.4 requires that "Parking spaces, access aisles and vehicular routes serving them shall provide a vertical clearance of 98 inches (2489 mm) minimum." Section 11B-812.3 requires that parking spaces and access aisles meet maximum slope requirements of 1 unit vertical in 48 units horizontal (2.083% slope) in any direction at the time of new building construction or renovation. Section 11B-812.5 contains accessible route requirements.

5.106.5.3.4. Identification.

The service panel or subpanel(s) circuit directory shall identify the reserved overcurrent protective device space(s) for future EV charging as "EVSE READY" for full circuits and otherwise "EVSE CAPABLE.". The raceway termination location or receptacle shall be permanently and visibly marked as "EVSE READY" for full circuits and otherwise "EVSE CAPABLE" until such time as EVSE are installed.

5.106.5.3.5.

Future charging spaces qualify as designated parking as described in Section 5.106.5.2, Designated parking for clean air vehicles.

Notes:

1. The California Department of Transportation adopts and publishes the California Manual on Uniform Traffic Control Devices (California MUTCD) to provide uniform standards and specifications for all official traffic control devices in California. Zero Emission Vehicle Signs and Pavement Markings can be found in the New Policies & Directives number 13-01. www.dot.ca.gov/hq/traffops/policy/13-01.pdf.
2. See Vehicle Code Section 22511 for EV charging spaces signage in off-street parking facilities and for use of EV charging spaces.
3. The Governor's Office of Planning and Research published a Zero-Emission Vehicle Community Readiness Guidebook which provides helpful information for local governments, residents and businesses. www.opr.ca.gov/docs/ZEV_Guidebook.pdf.

DIVISION 5.2
ENERGY EFFICIENCY

5.201 GENERAL

Add the following section:

5.201.1.1 Energy performance. [Reserved]

5.201.1.2. Renewable Energy And Better Roofs

(a) Newly constructed buildings of nonresidential occupancy which are 2000 square feet or greater in gross floor area, are of 10 or fewer occupied floors, and apply for a building permit on or after January 1, 2017 shall install solar photovoltaic systems and/or solar thermal systems in the solar zone required by California Title 24, Part 6 Section 110.10.

(b) The required solar zone area for the project shall be calculated under California of Regulations1 (CCR), Title 24, Part 6, Section 110.10(b) through (e), and Nonresidential Compliance Manual Chapter 9, as provided below:

(1) Buildings subject to Planning Code Section 149 may apply Exception 5 to Title 24, Part 6, Section 110.10(b)1B in the calculation of the minimum solar zone area and may not apply Exceptions 1, 2, 3, and 4 in the calculation.

(2) Buildings not subject to Planning Code Section 149 may apply Exceptions 3 and 5 in the calculation of the minimum solar zone area and may not apply Exceptions 1, 2, and 4 in the calculation. Such buildings with a calculated minimum solar zone area of less than 150 contiguous square feet due to limited solar access under Exception 3 are exempt from the solar energy requirements in this Section 5.201.1.2.

(c) The sum of the areas occupied by solar photo- voltaic collectors and/or solar thermal collectors must be equal to or greater than the solar zone area. The solar zone shall be located on the roof or overhang of the building, or on the roof or overhang of another structure located within 250 feet of the building or on covered parking installed with the building project. Solar photo- voltaic systems and solar thermal systems shall be installed in accord with all applicable state and local code requirements, manufacturer's specifications, and the following performance requirements:

(1) Solar photovoltaic systems: The total nameplate capacity of photovoltaic collectors shall be at least 10 $Watts_{DC}$ per square foot of roof area allocated to the photovoltaic collectors.

(2) Solar thermal systems: Solar thermal systems installed to serve non-residential building occupancies shall use collectors with OG-100 Collector Certification by the Solar Rating and Certification Corporation (SRCC) or the International Association of Plumbing and Mechanical

Officials (IAPMO), shall be designed to generate annually at least 100 kBtu per square foot of roof area allocated to the solar thermal collectors, and, for systems with at least 500 square feet of collector area, shall include a Btu meter installed on either the collector loop or potable water side of the solar thermal system.

(d) Approval by the Planning Department of compliance with the Better Roof requirements, including the Living Roof alternative, as provided in Planning Code Section 149, shall be accepted for compliance with San Francisco Green Building Code Section 5.201.1.2(a) through (c). The requirements of CCR Title 24, Part 6, Section 110.10 for the solar zone shall still apply.

5.201.1.3 Renewable Energy.

Permit applicants constructing new buildings of 11 floors or greater must submit documentation verifying either:

(1) Acquisition of renewable on-site energy (demonstrated via EA Credit Renewable Energy Production) or purchase of green energy credits (demonstrated via EA Credit Green Power and Carbon Offsets) OR

(2) Enhance energy efficiency (demonstrated via at least 5 LEED points under EA Credit Optimize Energy Performance) in addition to compliance with Title 24 Part 6 2016 California Energy Standards

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Chapter 6
Referenced Organizations and Standards

No Port of San Francisco modifications

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Chapter 7

INSTALLER AND SPECIAL INSPECTOR QUALIFICATIONS

SECTION 701
GENERAL

Add the following section:

701.1 These requirements apply to installers and Special inspectors with regards to the requirements of this chapter.

SECTION 702
QUALIFICATIONS

Modify the following section:

702.2 Special inspection. …

2. Certification by a statewide energy consulting or verification organization, such as HERS raters, building performance contractors, home energy auditors, and ICC Certified CALGreen Inspectors.

Add the section as follows:

702.3 Special inspection. The Chief Harbor Engineer may require special inspection to verify compliance with this code or other laws that are enforced by the agency. The special inspector shall be a qualified person who shall demonstrate competence, to the satisfaction of the Chief Harbor Engineer, for inspection of the particular type of construction or operation requiring special inspection. In addition, the special inspector shall have a certification from a recognized state, national, or international association, as determined by the Chief Harbor Engineer. The area of certification shall be closely related to the primary job function, as determined by the local agency.

703 Verifications

Modify the section as follows:

703.1 Documentation. Documentation used to show compliance with this code shall include but is not limited to, construction documents, plans, specifications, builder or installer certification, inspection reports, or other methods acceptable to the Chief Harbor Engineer which demonstrate substantial conformance. When specific documentation or special inspection is necessary to verify compliance, that method of compliance will be specified by the Chief Harbor Engineer.

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