
AB-093 Implementation of Green Building Regulations

NO. AB-093:

DATE: Effective January 1, 2023

SUBJECT: Administration and General Design

TITLE: **Implementation of Green Building Regulations**

PURPOSE: The purpose of this Administrative Bulletin is to detail standards and procedures for the implementation of the Green Building requirements of the San Francisco Green Building Code, effective January 1, 2023.

REFERENCES: 2022 San Francisco Green Building Code
San Francisco Administrative Bulletin 005: Procedures for Approval of Local Equivalencies
2022 California Green Building Standards Code
San Francisco Environment Code, Chapter 7
2022 San Francisco Building Code

DISCUSSION: Approved construction documents and completed projects must conform to the Green Building requirements established in the San Francisco Green Building Code, which combines all mandatory elements of the 2022 California Green Building Standards Code (“CALGreen”) and stricter local requirements.

Herein, “locally required measures” refers to the combination of prescriptive measures required by the California Green Building Standards Code, local amendments, and other relevant local requirements.

At various project milestones, particularly at the conclusion of construction, the Department of Building Inspection must verify that Green Building requirements have been met. Under these implementation procedures, the majority of verification is required to be provided to the Department of Building Inspection via a formal third-party certification under the green building rating systems referenced in the San Francisco Green Building Code, or by a third-party licensed design professional.

Note: Future local, state or other regulations may change the scope and implementation of Green Building requirements. Projects that submit a complete application for a building permit must meet the requirements in effect at that time. Project sponsors should verify that they are meeting all applicable code requirements, which may modify the standards and procedures addressed in this Administrative Bulletin.

IMPLEMENTATION:

Green Building Requirements to be Applied

The San Francisco Green Building Code applies to all new construction in San Francisco, as well as most alterations and additions. To identify the green building requirements that apply to a project:

- Use Attachment A, Table 1 of this bulletin to find the overall green building standard [Leadership in Energy and Environmental Design (LEED), GreenPoint Rated, or ‘Locally Required Measures Only’] that applies, based on occupancy, project size, and whether the project is new construction or alteration. Attachment A, Table 1 also identifies the submittal required in order to confirm compliance with local requirements.
- Attachment B consists of four tables that summarize specific required measures:¹
 - Table 1: Requirements for projects meeting a LEED standard
 - Table 2: Requirements for projects meeting a GreenPoint Rated standard
 - Table 3: Requirements for all non-residential projects that are not required to meet a LEED standard (includes certain new construction as well as certain additions and alterations)
 - Table 4: Requirements for residential additions and alterations

Mixed Occupancy Buildings

For mixed occupancy buildings where local standards reference a green building rating system (Attachment A, Table 1), the project sponsor may apply a single green building rating system to the entire building. Each portion of the building must meet the Local Requirements applicable to that occupancy.

Applicability of Green Building Regulations Based on Date of Building Permit Application

Application of Green Building requirements is based on the date of submittal of a building permit application. The applicable date of the San Francisco Green Building Code 2022 is January 1, 2023. In the case of Site Permits, the effective date shall be the date that the Site Permit application (not an addendum) is filed with the Department of Building Inspection.

Table 1 summarizes the green building requirements that apply based on the date a complete application is submitted. Addenda to site permits and revisions to permit applications received before January 1, 2023 are required to meet the green building requirements that applied on the date a complete application for site permit was submitted. If a site permit addendum or revision changes the scope of the project such that current codes are generally applicable, then current green building requirements are also applicable.

For details, see the appropriate version of Administrative Bulletin 93: “Implementation of Green Building Regulations,” as summarized in the following table:

Table 1: Applicability of green building requirements based on date of application for building permit in San Francisco

Green Building Requirements	Effective Dates	Administrative Bulletin 93 Version
San Francisco Green Building Code (2022)	January 1, 2023 through December 31, 2025	This bulletin
San Francisco Green Building Code (2019)	January 1, 2020 through December 31, 2022	April 2021 Revision
San Francisco Green Building Code (2016)	January 1, 2017 through December 31, 2019	January 2018 Revision
San Francisco Green Building Code (2013)	January 1, 2014 through December 31, 2016	January 1, 2014
San Francisco Building Code 13C (2010)	July 18, 2012 through December 31, 2013	July 18, 2012
San Francisco Building Code 13C (2010)	January 1, 2011 through July 17, 2012	January 1, 2011
San Francisco Building Code 13C (2007)	November 3, 2008 through December 31, 2010	September 24, 2008

PROJECT SUBMITTAL REQUIREMENTS

Applicability

Attachment A, Table 1 should be used to determine which green building requirements may apply to the project. Department of Building Inspection staff will screen all building permit applications to confirm which Green Building regulations apply, as summarized in Attachment A, Table 1. Every application for a Site Permit subject to these regulations must include a completed Green Building Site Permit Submittal (GS-1). Permit applications for new construction projects will not be accepted for processing without Green Building Site Permit Submittal GS-1, and permit applications for an addition or alteration will not be accepted without submittal GS-2, GS-3, GS-4, GS-5, or GS-6 as applicable.

At the time of the first architectural or superstructure addendum, whichever comes first, the submittal package for all applicable projects must include a checklist incorporated into the project plans indicating the required green building measures.² This checklist must reference, as appropriate, location of green building features in the submittal documents. The Green Building Submittal (GS-1, GS-2, GS-3, GS-4, GS-5, or GS-6) shall include this checklist, shall detail the green building requirements to be met, and shall indicate which addendum or other document will provide compliance details for each required performance measure or credit.

The Green Building Submittal may be reformatted as needed to conform to plan submittal size if all the required information is provided.

Compliance with the Green Building Requirements may be documented in any of the following methods:

- 1) Registration and submittal for certification under LEED. For buildings that propose this option, the permit applicant must provide submittal documentation showing that the project will meet the

appropriate LEED certification requirements. See the “Energy Compliance Guidelines for LEED projects” section below for details.

- 2) Registration and achievement of GreenPoint Rated status. For buildings that propose this option, the permit applicant must submit documentation showing that the project meets all requirements necessary to GreenPoint Rated certification.
- 3) Documentation of compliance with either LEED or GreenPoint Rated standards without registration and certification from those systems. The Green Building Compliance Professional of Record must provide submittal documentation showing that the project will meet the appropriate standards.
- 4) Registration and submittal for another rating system or documentation of equivalency as approved by the Director. For buildings that propose to meet such alternate standards, the Green Building Compliance Professional of Record must provide submittal documentation detailing compliance with the proposed standards.
- 5) Where neither LEED nor GreenPoint Rated is required, submit documentation of compliance with Locally Required Measures in effect at the time of permit submittal, as indicated.

Municipal projects³ of 10,000 square feet or larger are required to obtain LEED Gold certification by San Francisco Environment Code, Chapter 7. For such projects, only method 1) above may be used.

Green Building Compliance Professional of Record

For methods 3), 4), and 5) above, the owner or owner’s agent must employ a Green Building Compliance Professional of Record who personally reviews and verifies compliance with San Francisco Green Building Code requirements, or who directly supervises persons providing on-site review or verification thereof.

For methods 3), 4), and 5) above, the qualifications for Green Building Compliance Professional of Record include a license or registration as an Architect or Engineer, and specialized understanding of Green Building standards and technologies:

- For LEED projects, such specialized understanding shall include LEED accreditation and successful completion of at least one LEED certified project
- For GreenPoint Rated projects, such specialized understanding shall include the GreenPoint Rater designation, or the project team shall include a person who is a GreenPoint Rater.
- For projects solely required to meet Locally Required Measures, such specialized understanding shall include either: International Code Council (ICC) Certified CalGreen Inspector certification, the GreenPoint Rater designation, LEED accreditation, or equivalent training and certification as approved by the Director.

For residential alteration and addition projects where the area of the project is less than 25,000 square feet and which increase total conditioned floor area of the building by no more than 1,000 square feet, a Green Building Compliance Professional of Record is not required.⁴ In such cases, the applicant may complete the green building submittal. In all cases, applicable green building requirements apply to the entire project, and are not limited to the area of addition.

The Department of Building Inspection may request verification of such training or experience and may make an administrative determination as to the qualification of a person to act as such a Green Building Compliance Professional of Record.

A Green Building Compliance Professional of Record is responsible for providing verification to the Department of Building Inspection that all Green Building design and construction requirements are met. Where a Green Building Compliance Professional of Record is responsible for verifying compliance with the requirements of the San Francisco Green Building Code, and no third party green building certification

is to be achieved, project documents may be reviewed in detail in plan review and inspection, at standard hourly rates for staff time.

Compliance Guidelines: Energy

The 2022 San Francisco Green Building Code requires building permit submittals to show that they meet the compliance margin required by the applicable rating system or local code, and comply with the California Building Energy Efficiency Standards in effect at the time of permit submittal. In each case below, standard California Energy Standards documentation must be prepared using software approved by the California Energy Commission for demonstrating compliance with the applicable provisions and version of the California Energy Code. The following guidelines explain when additional calculations and documentation are required.

- Buildings meeting a LEED for Building Design and Construction (BD+C), or LEED Core and Shell standard for compliance with the San Francisco Green Building Code must prepare and submit all standard documentation required by the California Energy Commission to demonstrate compliance with the California Energy Standards (Title 24, Part 6) in effect on the date of permit application.⁶
- Where calculations based on Title 24 Part 6 California Energy Standards are used to document that ‘points’ are earned for energy efficient design and construction, the compliance margin cited in the applicable certificate of compliance (CF1R-PRF-01E for single family and NRCC-PRF-01 for commercial and multifamily) submitted for compliance may be utilized without modification. Residential all-electric buildings which demonstrate prescriptive compliance and apply GreenPoint Rated J5.1 Option Two: All-Electric Compliance may submit the applicable CF1R or NRCC report.
- Where the ASRHAE 90.1 option in LEED v4 (or subsequent) rules is used to document ‘points’ being voluntarily earned for energy-efficient design and construction, the supporting analysis must be submitted, and must include a detailed accounting of all on-site building energy use, including all: exterior and security lighting; elevators; process loads; and receptacle loads. Documentation to be retained in the records of the project must include all information required for LEED certification by the Green Building Certification Institute.

Buildings meeting a LEED for Homes or GreenPoint Rated standard must use California Energy Commission-approved compliance software and submit documentation to demonstrate that the proposed building both:

- Complies with the California Energy Efficiency Standards in effect on the date of application for building permit, AND
- Meets the minimum energy performance requirements of the applicable green building rating system.

Where California Energy Commission-approved compliance software is used to document the minimum energy efficiency requirements of the green building rating, all submittals related to compliance and the green rating system must be generated in a manner consistent with the guidance of the applicable green building rating system, and must faithfully represent the design as proposed. The most straightforward way to demonstrate compliance calculations are consistent with the calculations of the green building rating system is to use a single simulation run, so that the compliance run number is consistent throughout the compliance documentation.

Compliance Guidelines: All-Electric New Construction

San Francisco Building Code 106A.1.17.1 requires all-electric design and construction for all projects that submit an initial application for permit to construct new buildings on or after June 1, 2021. All space-conditioning, water heating, cooking, and clothes drying systems must be all-electric, and installation of infrastructure, piping systems, or piping for distribution of natural gas or propane to such uses indoors or

outdoors is prohibited. The ordinance allows limited installation of gas piping systems for commercial food preparation, and if, after exhausting all options, all-electric construction is determined to be physically or technically infeasible. See Administrative Bulletin 112 for details.

Compliance Guidelines: Construction Site Runoff Pollution Prevention

Construction site runoff pollution prevention requirements depend upon project size, occupancy, and location in areas served by combined or separate sewer systems. Projects required to meet a LEED standard (see Attachment A, Table 1) must, at a minimum, prepare an erosion and sedimentation control plan per LEED Sustainable Sites prerequisite 1. However, more stringent local requirements may apply to any project, whether or not LEED is to be applied, such as a stormwater soil loss prevention plan or a Stormwater Pollution Prevention Plan (SWPPP). To confirm the construction site runoff pollution prevention requirements applicable to your project, please contact the SFPUC: sfpuc.org/programs/pretreatment-program/construction-site-runoff.

Compliance Guidelines: Design for Post-Construction Stormwater Management

Projects that disturb 5,000 square feet or more of ground surface in the separate and combined sewer areas, or that create or replace 2,500 square feet or more of impervious surface in separate sewer areas, must meet Stormwater Management Requirements as determined by the San Francisco Public Utilities Commission (SFPUC), and must submit a Stormwater Control Plan to the SFPUC for approval. The SFPUC has developed San Francisco Stormwater Management Requirements and Design Guidelines to aid project teams in meeting local requirements for stormwater controls, which are available online at: sfpuc.org/construction-contracts/design-guidelines-standards/water-efficient-landscape.

Compliance Guidelines: Water Efficient Irrigation

Projects that include at least 500 square feet of new or modified landscape are subject to the San Francisco Water Efficient Irrigation Ordinance.⁷ Details are available online at: sfpuc.org/smr.

New Large Commercial Interiors and Major Alterations to Existing Buildings

The application of San Francisco Green Building Code Sections 5.103.3 or 4.103.3 to Major Alterations to Existing Buildings is based on a determination as to whether a “significant upgrade” is proposed to both the structural system and to one or more of the mechanical, electrical and/or plumbing systems in an area of more than 25,000 gross square feet in a Group B, M or R occupancy. For the purpose of enforcement of the San Francisco Green Building Code, a significant structural upgrade shall be determined to take place when a structural alteration takes place in thirty percent or more of the area of proposed construction. Areas to be counted toward such a determination include areas tributary to the vertical load carrying components (joists, beams, columns, walls and other structural components) that have been or will be removed, added or altered.

The application of Section 5.103.4 to New Large Commercial Interiors requires that the first time tenant improvement work in an area of at least 25,000 square feet must meet the green building standards detailed in the ordinance. This requirement applies regardless of the date of construction of the building, including the first time a space undergoes a tenant improvement after or concurrent with a major alteration as defined in San Francisco Green Building Code Section 202. Note that all first-time commercial tenant interior improvement work of less than 25,000 square feet must comply with all applicable CALGreen requirements; see Attachment B Table 3 or Green Submittal Form GS-3 for details.

Accessory Dwelling Units

The construction of an accessory dwelling unit within an existing structure or attached to an existing structure is an alteration or addition. For the purpose of compliance with local amendments to California Green Building Standards, construction of a single freestanding dwelling unit accessory to an existing structure is considered an addition. See Green Submittal Form GS-5 for details.

Historic Building Requirements for “Historic Resources” Based on Planning Department Determination

For purposes of applying the specific provisions of San Francisco Green Building Code related to historic buildings, the Planning Department shall determine whether a building is an historical resource. This Planning Department review applies a standard based on the California Environmental Quality Act (CEQA) as to whether a structure is or might be considered an “historic resource”. Based on such information, the Green Building Compliance Professional of Record shall confirm that submittal documents properly reflect the requirements of the Code.

Projects which retain, rehabilitate or repair significant historical architectural features may receive credit toward Green Building requirements, per Attachment A, Table 3.

Alternate Building Code Applicability Under the California Historical Building Code Based on Department of Building Inspection Qualification

For buildings that are qualified to use the California Historical Building Code, project sponsors may apply the alternate provisions of that code. Buildings are determined to be qualified to use the California Historical Building Code upon specific request to the Department of Building Inspection. Buildings that qualify to use the California Historical Building Code include buildings that are on federal, state or local adopted lists or surveys, or buildings that are determined by the City to be eligible for such a list or survey, or buildings that have otherwise been determined by the City to be potential historic resources. The applicant must confirm with the Department of Building Inspection whether code provisions for historic buildings will be applied to the entire building, specific items, or specific areas.

Eligibility to use the California Historical Building Code is a separate process from the determination by the Planning Department that a building is an “historic resource,” but the Department of Building Inspection coordinates with the Planning Department on the review of requests for qualification to use the California Historical Building Code.

Demolition

For a replacement building which is to be constructed on a site on which one or more buildings were demolished after the effective date of this ordinance, the Planning Department, during the course of permit review, shall confirm applicable Green Building requirements, as found in Attachment A, Table 2.

Requests for Approval of Equivalencies

Project sponsors wishing to propose alternates or equivalencies for the specific requirements referenced in the San Francisco Green Building Code or its referenced standards may do so as described in Administrative Bulletin 5, “Procedures for Approval of Local Equivalencies.” Note that related state and local requirements continue to apply, including but not limited to: California Green Building Standards Code (Title 24 Part 11); SFPUC Stormwater Management Ordinance; and SFPUC Water Efficient Irrigation Ordinance.

A proposal for an alternate or equivalent method of compliance may be submitted with initial permit application or at a later date. Proposals for alternate or equivalency to San Francisco Green Building Code must include:

1. Proposed approach. If more than one equivalency is proposed, each alternate must be presented separately.
2. Requests must be accompanied by a complete analysis of Green Building Code and other code-related issues, and must be recommended by and signed by the Green Building Compliance Professional of Record for the project. The analysis must include calculations or other documentation for each specific element, confirming that the proposal meets or exceeds the applicable requirements.

3. The Department of Building Inspection staff will review the proposal and may, at its discretion, request review by other City staff or outside professionals expert in the matter under review. The project sponsor will be responsible for all additional costs incurred for such review, including review time by City staff, charged at the hourly rate as set forth in the San Francisco Building Code, or direct costs for other consultant review.
4. The Department of Building Inspection staff may request additional information as part of the review.
5. The Department of Building Inspection will issue a decision to approve, deny or require modifications to any submitted alternate or equivalency.
6. Project sponsors may appeal any decision to the Deputy Director, Director, and appeal bodies as detailed in the San Francisco Building Code.

Note that the 2022 San Francisco Green Building Code recognized GreenPoint Rated v.9 and all LEED v4 rating systems (see SFGBC 101.10) and allows the application of more recent versions of these rating systems. New residential projects of any size may therefore utilize LEED for Homes Midrise, LEED BD+C, or GreenPoint Rated without triggering the above process for confirming equivalency. Similarly, major alterations to residential buildings may use LEED for Building Design and Construction, GreenPoint Rated Multifamily New Home, or GreenPoint Rated Multifamily Existing Home to comply, provided applicable local requirements are met.

Project Completion: Verification that Green Building Requirements are Met in New Construction and Major Alterations

Verification that green building requirements for new construction and major alterations have been met requires ~~either~~ submittal of Attachment E, Green Building: Final Compliance Verification prior to final inspection. ~~, or submittal of final certification as meeting LEED or GreenPoint Rated requirements, or both. Final Compliance Verification documentation is required prior to final inspection.~~ Attachment E may be completed using any of the following methods:

- 1) If the project has been submitted for certification under LEED, once certification is awarded project shall provide documentation that to the Department of Building Inspection Green Building Certification Institute has certified the project.
- 2) If the project has been submitted to be GreenPoint Rated, project shall provide to the Department of Building Inspection documentation that Build It Green has provided a GreenPoint Rated certificate to the project.
- 3) If the project is built to meet LEED or GreenPoint Rated standards but will not be certified, then Attachment E must be signed by the Green Building Compliance Professional of Record.
- ~~4) If the project is built to meet locally required measures, then Attachment E must be signed by the Green Building Compliance Professional of Record. For residential alteration and addition projects which increase total conditioned floor area of the building by no more than 1,000 square feet, the applicant may sign the green building submittal, and a Green Building Compliance Professional of Record is not required.~~
- 45) If the Director has approved an equivalency per Administrative Bulletin B-005 (Procedures for Approval of Local Equivalencies) to satisfy green building requirements for new construction or a major alteration, provide documentation the approved approach has been applied. For such buildings, Attachment E must be signed by the Green Building Compliance Professional of Record.

Temporary Certificate of Occupancy

A Temporary Certificate of Occupancy may be issued pending final compliance certification. However, no final Certificate of Completion may be issued until Green Building Final Compliance Verification

Attachments:

Attachment A, Table 1: Summary of Requirements

Attachment A, Table 2: Additional Requirements in Case of Demolition

Attachment A, Table 3: Reduced Requirements for Retention of Significant Historical Architectural Features

Attachment B, Table 1: Requirements for Projects Meeting a LEED Standard

Attachment B, Table 2: Requirements for Projects Meeting the GreenPoint Rated Standard

Attachment B, Table 3: Requirements for All Non-residential Projects Not Required to Meet a LEED Standard

Attachment B, Table 4: Requirements for Residential Additions and Alterations

Attachment C: Instructions for Green Building Submittals

Forms for Submittal:

GS-1: Green Building Site Permit Submittal Form

GS-2: Green Building Submittal Form for LEED or GreenPoint Rated Projects

GS-3: Green Building Submittal Form for Other Non-Residential Alterations, Additions & New Construction

GS-4: Green Building Submittal Form for Non-residential Interior-only Alteration Projects

GS-5: Green Building Submittal Form for Residential Alteration + Addition Projects

GS-6: Green Building Submittal Form for Municipal Projects

Attachment D: Supplementary Energy Compliance Documentation

Attachment E: Final Compliance Verification

Attachment F: Recommended Project Implementation Procedures

Attachment G: Selected Green Building Resources

Attachment H: Review of Energy Performance Requirements



San Francisco Green Building Code

Attachment A, Table 1: Summary of Requirements

Attachment A Table 1

Instructions: Use the row below labelled, "Applicability" to find the column that best matches the occupancy and size of the project, and whether the project is new construction or alteration. The unshaded rows identify the green building standard that must be met, base number of points required, submittal form, and where to find additional detail in Attachment B.

	New Construction			Additions and Alterations					Municipal Projects
Building Type	New Large Commercial	All Other New Non-Residential	New Residential	Major Alterations to Residential ²	Large First-Time Commercial Interiors	Major Alterations to Commercial	All Other Additions & Alterations to Commercial ¹	All Other Additions & Alterations to Residential ¹	New Construction, Addition or Alteration
Applicability (Occupancy, size, valuation, or scope)	A, B, I, M, E ≥25,000 sq. ft.	F, H, L, S, U any size, or A,B, I, M, E <25,000 sq. ft.	R All sizes	R ≥25,000 sq. feet; AND significant structural upgrade; ³ AND mechanical, electrical or plumbing	B, M ≥ 25,000 sq. ft.	B, M ≥25,000 sq. feet; AND significant structural upgrade; ³ AND mechanical, electrical or plumbing	A,B,I,M,E,F,H,L,S,U ≥1,000 sq ft addition or alteration of ≥\$200,000 value	R Addition of ≥1 square foot of conditioned area, volume, or size, including single freestanding ADU	All municipal projects ≥10,000 square feet, including leasehold improvements
Code Reference	5.103.1	5.103.2	4.103.2	4.103.3	5.103.4	5.103.3	CA Title 24 Part 11	CA Title 24 Part 11	SF Green Building Code and Environment Code Chapter 7
Standard To Be Met	LEED v4 Gold	None	GreenPoint Rated OR: LEED v4 Silver	GreenPoint Rated ² OR: LEED v4 Silver	LEED v4 Gold	LEED v4 Gold	NA (CA Code)	NA (CA Code)	LEED v4 Gold
Base Number of Points Required Retention of historic features or demolition may adjust points required. See Attachment A, Tables 2 & 3	60 points	-	50 LEED points ⁴ OR: 75 GreenPoint Rated points	50 LEED points ⁴ OR: 75 GPR points (If project area is <80% of gross floor area: 49 GPR points) ²	60 points	60 points	-	-	60 points
Submittal Form Required to summarize compliance	GS-2a: LEED	GS-3: Non-residential	GS-2a: LEED OR GS-2b: GreenPoint Rated	GS-2a: LEED OR GS-2b: GreenPoint Rated	GS-2a: LEED	GS-2a: LEED	GS-3: Non-residential OR GS-4: Interior-only tenant improvements	GS-5: Residential additions and alterations	GS-6: Municipal projects
For details, see:	Attachment B Table 1	Attachment B Table 3	Attachment B Table 1 for LEED OR Attachment B Table 2 for GPR	Attachment B Table 1 for LEED OR Attachment B Table 2 for GPR	Attachment B Table 1	Attachment B Table 1	Attachment B Table 3	Attachment B Table 4	Submittal GS-6

- When triggered, CalGreen requirements apply to the entire area of the project, and only to the area of the project, except water fixture and fitting efficiency requirements set by California Civil Code 1101.1. **For the purpose of compliance with local green building standards, construction of a single freestanding dwelling unit accessory to an existing structure is considered an addition.**
- Major alterations to residential occupancy that alter less than 80% of the building's gross floor area may apply the GreenPoint Rated Existing Multifamily Elements Rating System. In such cases, 49 points from the GreenPoint Rated Multifamily checklist must be achieved. When projects altering less than 80% of a residential building's gross floor area voluntarily seek GreenPoint Rated Existing Multifamily certification, then any number of points above the minimum of 49 will be accepted. In other words, voluntarily seeking GreenPoint Rated certification of the entire building does not raise the minimum requirement to 75 GPR points.
- See p.6 of this bulletin for additional information about "significant structural upgrades".
- In order to meet the LEED Silver requirement, projects that choose to use LEED for Homes or LEED for Homes Mid-Rise may adjust the Base Number of Points Required as needed.

See Attachment B for tables itemizing local requirements, including the California Green Building Standards Code and stricter local requirements.



San Francisco Green Building Code

Table 2: Additional Requirements in Case of Demolition

Attachment A
Table 2

For new projects required to attain LEED certification or GreenPoint Rated	Demolished Building IS NOT a Historical Resource		Demolished Building IS a Historical Resource	
	LEED	GreenPoint Rated	LEED	GreenPoint Rated
If new density will be less than 3x current density:	Obtain 6 additional LEED points	Obtain 20 additional GreenPoints	Obtain 10 additional LEED points	Obtain 25 additional GreenPoints
OR: If new density is $\geq 3x$ current density:	Obtain 5 additional LEED points	Obtain 17 additional GreenPoints		



San Francisco Green Building Code

Table 3: Reduced Requirements for Retention of Significant Historical Architectural Features

**Attachment A
Table 3**

Significant Historical Architectural Feature	Percent Retained ¹	Reduction in total required LEED points ²	Reduction in total required GreenPoints ²
Windows on Principal Façade(s)	100%	4	15
Other windows	At least 50%	1	3
	100%	2	6
Exterior doors on principal façade(s)	100%	1	3
Siding or wall finish on principal façade(s)	100%	1	4
Trim & Casing on 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, quins, etc.) visible from right-of-way	80%	1	3

Where the historical resource is a portion of the total project, the LEED or GreenPoint Rated requirement is to be adjusted to equal the percentage of gross floor area of the historical resource compared to the total project gross floor area. (SFGBC 4.104.2 and 5.104.1)

¹ 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.

² As summarized above, these measures are afforded greater weight by the City and County of San Francisco than in the reference green building rating systems. The table is presented as a reduction in local requirements for consistency in cases where projects are both meeting local requirements and seeking LEED certification or to be GreenPoint Rated.



San Francisco Green Building Code

Table 1: Requirements for Projects Meeting a LEED Standard

Attachment B Table 1

Where code references are provided below: "CALGreen" refers to California Green Building Standards Code (Title 24 Part 11), and "SFGBC" refers to San Francisco Green Building Code amendments. This summary is provided for convenience. See the San Francisco Green Building Code for details.

		New Large Commercial	New Residential ¹	New High Rise Residential ² (R occupancy ≤3 occupied floors)	Large First Time Commercial Interior	Commercial Major Alteration	Residential Major Alteration
Required LEED Measures	LEEDv4 Credit ³	Code Reference					
Construction Discards Management - 100% of mixed debris must be taken by a Permitted Transporter to a Registered Facility for recycling and recovery. Complete a Material Reduction and Recovery Plan (MRRP) demonstrating minimum recovery noted at right. For more information, see DBI Information Sheet GB-02 or contact: debrisrecovery@sfgov.org / 415-355-3799.	BD+C/ID+C: MRc5/MRc6 (2 points)	SFGBC 5.103.1.3 = Min 75% recovery; CalGreen 5.405.1.1, 5.408.1.4	CalGreen 4.408.2, 4.408.5 (Min 65% recovery)	SFGBC 4.103.2.3 = Min 75% recovery; CalGreen 4.408.2, 4.408.5	CalGreen 5.405.1.1, 5.408.1.4 (Min 65% recovery)		CalGreen 4.408.2, 4.408.5 (Min 65% recovery)
All-Electric: New buildings must be all-electric, with no gas piping systems or gas infrastructure. See Administrative Bulletin 112.	EAp2, EAc2	SFBC 106A.1.17	SFBC 106A.1.17		-	-	GPR J5 LEED: NA
Energy Design: Comply with Title 24 Part 6 (2022) and meet GreenPoint Rated or LEED energy prerequisites	EAp2	LEEDv4 EAp2	GPR or LEED prerequisite		LEEDv4 EAp2		GPR or LEED prerequisite
Enhanced Commissioning of Building Energy Systems	EAc1	SFGBC 5.103.1.4	-	LEEDv4 Homes MR EAp1.2	LEEDv4 EAp1		
Better Roofs – Photovoltaics and battery storage are mandatory for most nonresidential occupancies and prescriptively required for multifamily. If SFPUC Stormwater Requirements apply, each square foot of living roof contributing to Stormwater Management Ordinance compliance may reduce the Solar Access Roof Area by 1 square foot.	EAc5, SS4	SFGBC 5.201.1.2	SFGBC 4.201.2		SFGBC 5.201.1.2 if applicable	-	-
Indoor Water Efficiency – Reduce overall use of potable water within the building by specified percentage for showerheads, lavatories, kitchen faucets, wash fountains, water closets, and urinals. Repair all leaks.	BD+C/ID+C: WEc2/WEc1 2 points	SFGBC 5.103.1.2 (30% reduction)	CalGreen 4.303.1		LEEDv4 WEp2 / CalGreen 5.303.2		LEED WEp2 / CalGreen 4.303.1
Water Efficient Irrigation – Projects with ≥ 1,000 square feet of new or modified landscape must comply with the San Francisco Water Efficient Irrigation Ordinance.	WEc1	SF Admin Code 63 (See "Complying with San Francisco's Water Efficient Irrigation Requirements" at www.sfpuc.org.)					
Wiring for Electric Vehicle Chargers: New 1-2 Unit Dwellings: For projects constructing off-street parking, install at least one full circuit with a minimum 40A 208/240V capacity dedicated to EV charging with termination in close proximity to proposed EV charging location. New 3-19 Unit Multifamily and Hotels with less than 20 guest rooms: Provide low-power EV charging receptacles (min 20A 208/240VAC) at 25% of parking spaces (EV Ready), and install raceway capable of supporting future Level 2 EVSE (min 40A 208/240VAC) at 10% of parking spaces. (Total: 35%) New 20+ Unit Multifamily and Hotels: Provide low-power EV charging receptacles (min 20A 208/240VAC) at 25% of parking spaces (EV Ready); install raceway capable of supporting future Level 2 EVSE (min 40A 208/240VAC) at 5% of parking spaces; and install Level 2 EVSE at 5% of parking spaces. (Total: 35%) Residential Alterations: Install raceway for future Level 2 EVSE (min 40A 208/240VAC) terminating at 10% of parking spaces in areas where parking is added, or electrical systems (including lighting) are altered in existing parking facilities. Non-residential: Install raceway capable of supporting future Level 2 EVSE (min 40A 208/240VAC) and install Level 2 EVSE. See SFGBC Table 5.106.5.3.1 for minimum quantities.	Relates to Ltc8	SFGBC 5.106.5.3, CalGreen 5.106.5.3.1, 5.106.5.3.2	SFGBC 4.106.4.2.3, CalGreen 4.106.4 (all sections)		-	SFGBC 5.103.3.3, Table 5.106.5.3.1	CalGreen 4.106.4.3 (Applies to alterations as noted at left.)
Infrastructure for Electric Vehicle Chargers - Install service capacity and panelboards with sufficient space, and electrical load calculations must demonstrate the electric system, including any on-site distribution transformers, have sufficient capacity to simultaneously charge all required circuits at the full specified amperage. If the number of receptacles or EVSE installed is greater than the minimum required, Automated Load Management Systems may be used if the ALMS has capacity to deliver 3.3kW simultaneously to each EVCS, and if the total capacity dedicated to EV charging is no less than the minimum required to support the minimum EV Capable, EV Ready, and EVSE spaces. Construct all off-street light-duty vehicle parking spaces with dimensions capable of installing EVSE.	Relates to Ltc8	CalGreen 5.103.3.3, 5.106.5.3	SFGBC 4.106.4.2.3, CalGreen 4.106.4 (all sections)		Calgreen 5.103.3.3, 5.106.5.3		CalGreen 4.106.4.3 (Applies to alterations as noted at left.)
Construction Site Runoff Pollution Prevention – Provide a construction site Stormwater Pollution Prevention Plan and implement SFPUC Best Management Practices.	SSp1 ¹	SFGBC 5.103.1.6	CalGreen 4.103.1.2	SFGBC 4.103.2.4.1	-	NPDES Phase II General Permit and other regulations.	
Enhanced Refrigerant Management – Do not install equipment that contains CFCs or Halons	EAc6	CalGreen 5.508.1.2	-	-	CalGreen 5.508.1.2	CalGreen 5.508.1.2	-

¹ For the purpose of compliance with local green building standards, construction of a single freestanding dwelling unit accessory to an existing structure is considered an addition. See Table B4.

² New residential projects may use LEED for Homes Mid Rise certification or LEED BD+C as appropriate. New residential projects of any size have the option of using GreenPoint Rated (see table B2).

³ LEED v4 does not assign numbers to credits. For convenience, in this bulletin and submittals, LEED credits are numbered corresponding to the order they appear in LEEDv4 checklists and documents.

Attachment B Table 1 Continued: Requirements for projects meeting a LEED Standard

(Sheet 2 of 3)

Required LEED Measures	LEEDv4 Credit ²	New Large Commercial	New Residential	New High Rise Residential ¹ (R occupancy S3)	Large First Time Commercial Interior	Commercial Major Alteration	Residential Major Alteration
Indoor Air Quality Management During Construction – Meet SMACNA Guidelines for Occupied Buildings Under Construction, protect materials from moisture damage, protect return air grills	IEQc3	SFGBC 5.103.1.8	CalGreen 4.504.1		CalGreen 5.504.3	CalGreen 4.504.1	
Low-Emitting Adhesives, Sealants, and Caulks – Adhesives and Sealants meet VOC materials meeting SCAQMD Rule 1168, aerosol adhesives meet Green Seal standard GS-36	IEQc2, 3 points	SFGBC 5.103.1.9	CalGreen 4.504.2.1		SFGBC 5.103.3.2	SFGBC 4.103.3.2	
Low-Emitting Paints and Coatings – Paints and coatings meet Green Seal GS-11 standard, anti-corrosive paints meet GC-03, and other coatings meet SCAQMD Rule 1113		SFGBC 5.103.1.9	CalGreen 4.504.2.2		SFGBC 5.103.3.2	SFGBC 4.103.3.2	
Low-Emitting Flooring, including Carpet – Hard flooring must be Resilient Floor Covering Institute FloorScore certified; Carpet must meet Carpet and Rug Institute (CRI) Green Label Plus; Carpet Cushion must meet CRI Green Label.		SFGBC 5.103.1.9	CalGreen 4.504.3 and 4.504.4		SFGBC 5.103.3.2	SFGBC 4.103.3.2	
Low-Emitting Composite Wood - Composite wood and agrifiber must contain no added urea-formaldehyde resins, and meet applicable CARB Air Toxics Control Measure.		SFGBC 5.103.1.9	CalGreen 4.504.5		SFGBC 5.103.3.2	CalGreen 4.504.4	
Recycling by Occupants – Provide adequate space and equal access for storage, collection and loading of compostable, recyclable and landfill materials.	MRp1	SFBC 106A.3.3 and CalGreen 5.410.1; See DBI Administrative Bulletin 088 for details. To help estimate adequate space for collection by hauler, see supporting materials including a design guide and calculator at:					
Other Specific Local Requirements In some cases below, there is no corresponding LEED credit. In others, a requirement may correspond to a LEED credit which is stricter than the code provision, and the LEED credit is optional. Where a LEED credit is less strict, the stricter code-requirement must be met whether or not the LEED credit is achieved.	LEEDv4 Credit ²	New Large Commercial	New Residential (R occupancy S3 occupied floors)	New High Rise Residential	Large First Time Commercial Interior	Commercial Major Alteration	Residential Major Alteration
Bicycle Parking – Provide short-term and long-term bicycle parking for 5% of total motorized parking capacity each, or meet San Francisco Planning Code Sec 155, whichever is greater.	LTc6	CalGreen 5.106.4 & SF Planning Code 155	SF Planning Code Section 155		CalGreen 5.106.4 and SF Planning Code Section 155	SF Planning Code Sec 155	
Clean Air Vehicle Parking – Mark 8% of total parking stalls for low-emitting, fuel efficient, and carpool/van pool vehicles.	LTc6 and LTc8 are less strict.	CalGreen 5.106.5	-	-	CalGreen 5.106.5	-	
Wiring for Electric Vehicle Chargers - Warehouses, grocery stores, and retail stores with planned off-street loading spaces - Indicate location(s) reserved for medium- and heavy-duty ZEV charging cabinets and charging dispensers. Transformer(s), main service, panels, and busway(s)/raceway(s) must meet minimum power requirement to accommodate dedicated branch circuits for future EVSE specified in Table 5.106.5.4. Install raceway from termination to location(s) for charging dispensers and cabinets.	-	CalGreen 5.106.5.4					
Electric-Ready Construction - In the event mixed-fuel construction is permitted, wire for future conversion to all-electric. See AB-112 <i>Electric-Ready Design Guidelines</i> .	N/A	SF Building Code 106A.1.17, DBI Administrative Bulletin 112			-	-	-
Light pollution reduction – Meet California Energy Code minimum for Lighting Zones 1-4 with Backlight/Uplight/Glare ratings meeting CalGreen Table 5.106.8.	SSc6 is more strict.	CalGreen 5.106.8	-	-	CalGreen 5.106.8	-	
Shade Trees - Plant trees to sufficient to provide shade within 15 years for 20% of landscape and hardscape area. Exclude shade structures covered by photovoltaics or cool roof materials from total area calculation, including surface parking covered by PV.	SSc5	CalGreen 5.106.12	-	-	-	-	
Stormwater Control Plan – Projects disturbing ≥5,000 sq ft in combined or separate sewer areas, or replacing ≥2,500 impervious sq ft in separate sewer area, must implement a Stormwater Control Plan meeting SFPUC Stormwater Management Requirements.	SSc4 is more strict.	SFGBC 5.103.1.6	SFGBC 4.103.2.4		-	SF Public Works Code 4.2 (SFPUC stormwater ordinance)	
NonPotable Water – New buildings ≥40,000 square feet must calculate a water budget. New development projects ≥100,000 square feet must install and operate an onsite water reuse system using available rainwater, graywater, and foundation drainage for toilet and urinal flushing and irrigation	May contribute to WEc1, WEc2, and SSc4	SF Health Code 12C	SF Health Code 12C		-	-	
Water Meters – Provide submeters or utility meters for: - Nonresidential spaces projected to consume more than 1,000 gal/day, or more than 100 gal/day if in buildings ≥ 50,000 sq. ft. AND - Each individual residential dwelling unit.	N/A	CalGreen 5.303.1	Plumbing Code 601.2.1		CalGreen 5.303.1 (first time)	CalGreen 5.303.1 (addition only)	
Air Filtration – Provide at least MERV-13 filters in regularly occupied spaces of mechanically ventilated non-residential occupancy, and in residential buildings located in air-quality hot-spots (or LEED credit IEQ 5).	EQc5 is more strict.	CalGreen 5.504.5.3	SF Health Code Article 38 and SF Building Code 1203.5		CalGreen 5.504.5.3	SF Health Code Article 38 and SF Building Code 1203.5	
Acoustical Control – Wall and roof-ceilings STC 50, exterior windows STC 30, party walls and floor-ceilings STC 40.	N/A	CalGreen 5.507.4	CBC 1207 applies ³		CalGreen 5.507.4	-	
Sprinklers – Design and maintain landscape irrigation systems to prevent spray on structures.	N/A	CalGreen 5.407.2.1	LEED prerequisites	-	-	-	
Entries and openings – Design exterior entries and/or openings subject to foot traffic or wind-driven rain to prevent water intrusion into buildings.	N/A	CalGreen 5.407.2.2	LEED-H prerequisite (IDp2.1 and IDp2.2)		CalGreen 5.407.2.2	-	

Attachment B Table 1 Continued: Requirements for projects meeting a LEED Standard

(Sheet 3 of 3)

Other CALGreen Requirements The following elements of the California Green Building Standards are superseded by stricter local requirements, or duplicate other state code as noted. To avoid duplication, no special documentation is required.		New Large Commercial	New Low Rise Residential	New High Rise Residential	Large First Time Commercial Interior	Commercial Major Alteration	Residential Major Alteration
Multiple showerheads serving one shower (CalGreen 5.303.2.1)	N/A	SF Housing Code Ch 12 and SF Building Code Ch 13A prohibit more than one showerhead per valve.					
Outdoor potable water use – Submeter landscaping separately where landscaping covers 1,000-5,000 sq. ft. (over 5,000 sq. ft. already required.)	N/A	Met by compliance with Water Efficient Irrigation Ordinance (SFAC 63)					
Irrigation controllers – Provide weather or soil moisture based controllers that automatically adjust in response to plants' needs as weather conditions change.	N/A	Met by compliance with Water Efficient Irrigation Ordinance (SFAC 63)					
Fireplaces and woodstoves – Install only direct-vent or sealed-combustion appliances; comply with US EPA Phase II limits. (CalGreen 5.503.1)	N/A	If permission to install new woodburning fireplaces can be obtained, BAAQMD Regulation 6, Rule 3 applies and is equivalent.					
Environmental tobacco smoke (ETS) control – Prohibits smoking in buildings and outdoor areas for smoking within 25 feet of building entries, air intakes & operable windows.	IEQp2	Required by San Francisco Health Code 19F and 19I.					
Moisture control – Comply with California Building Code, CCR, Title 24, Part 2, Sections 1203 (Ventilation) and Chapter 14 (Exterior Walls). (CalGreen 5.505.1)	N/A	Comply with cited code	-	-	-	-	-
Carbon dioxide monitoring – Buildings with demand control ventilation, install CO ₂ sensors and ventilation controls in accord with Energy Code. CalGreen 5.506.2	N/A	Comply with cited code	-	-	-	-	-

San Francisco Green Building Code

Table 2: Requirements for Projects Meeting a GreenPoint Rated Standard¹

(Sheet 1 of 2)

Attachment B
Table 2

This table is a summary provided for convenience. See the San Francisco Green Building Code for details. Where code references are provided below:

"CalGreen" refers to California Green Building Standards Code (Title 24 Part 11)

"SFGBC" refers to San Francisco Green Building Code amendments

Specific Locally Required Measures	Code Reference
Measures that are mandatory in San Francisco but may be different or not required elsewhere	
Construction Discards Management - 100% of mixed debris must be taken by a Permitted Transporter to a Registered Facility and processed for recycling and recovery. Complete a Material Reduction and Recovery Plan (MRRP) and demonstrate minimum recovery rate was achieved. Projects of 4 or more occupied floors must recover at least 75% of total debris. Projects of 3 or fewer occupied floors must recover at least 65% of total debris. For more information contact: debrisrecovery@sfgov.org / 415-355-3799.	SF Construction and Demolition Debris Recovery Ordinance (Environment Code Ch 14), SFGBC 4.103.2.3, CalGreen 4.408.2, and CalGreen 4.408.5 See Information Sheet GB-02 for details
Recycling by Occupants – Provide adequate space and equal access for storage, collection and loading of compostable, recyclable and landfill materials. To help estimate adequate space for collection by hauler, see supporting materials including a design guide and calculator at: www.sfenvironment.org/refusecalculator .	SFBC 106A.3.3 (See DBI Administrative Bulletin 088 for details)
All-Electric: New buildings must be all-electric, with no gas piping systems or gas infrastructure. See Administrative Bulletin 112 for details.	SFBC 106A.1.17 (See DBI Administrative Bulletin 112 for details)
Energy Design – GreenPoint Rated v9 energy prerequisite (J5): All-electric and comply with Title 24 2022.	
Mixed Fuel (natural gas): In isolated situations where natural gas may be permitted per Admin Bulletin 112: comply with Electric Ready Design Guidelines which require wiring for future conversion of all mixed-fuel loads to all-electric.	GreenPoint Rated J5 and SFBC 106A.1.17
Better Roofs – Photovoltaics and battery storage are prescriptively required by Title 24 Part 6 (2022). If SFPUC Stormwater Requirements apply, each square foot of living roof contributing to Stormwater Management Ordinance compliance may reduce the Solar Access Roof Area by 1 square foot.	Title 24 Part 6 Section 150.1(c) and 170.2(f)-(g) SFGBC 4.201.2
Wiring for Electric Vehicle Chargers: New 1-2 Unit Dwellings: For projects constructing off-street parking, install at least one full circuit with a minimum 40A 208/240V capacity dedicated to EV charging with termination in close proximity to proposed EV charging location. New 3-19 Unit Multifamily and Hotels with less than 20 guest rooms: Provide low-power EV charging receptacles (min 20A 208/240VAC) at 25% of parking spaces (EV Ready), and install raceway capable of supporting future Level 2 EVSE (min 40A 208/240VAC) at 10% of parking spaces. (Total: 35%) New 20+ Unit Multifamily and Hotels: Provide low-power EV charging receptacles (min 20A 208/240VAC) at 25% of parking spaces (EV Ready); install raceway capable of supporting future Level 2 EVSE (min 40A 208/240VAC) at 5% of parking spaces; and install Level 2 EVSE at 5% of parking spaces. (Total: 35%) Residential Alterations: Install raceway for future Level 2 EVSE (min 40A 208/240VAC) terminating at 10% of parking spaces in areas where parking is added, or electrical systems (including lighting) are altered in existing parking facilities.	SFGBC 4.106.4.2.3, CalGreen 4.106.4 (all sections)
Infrastructure for Electric Vehicle Chargers - Install service capacity and panelboards with sufficient space, and electrical load calculations must demonstrate the electric system, including any on-site distribution transformers, have sufficient capacity to simultaneously charge all required circuits at the full specified amperage. If the number of receptacles or EVSE installed is greater than the minimum required, Automated Load Management Systems may be used if the ALMS has capacity to deliver 3.3kW simultaneously to each EVCS, and if the total capacity dedicated to EV charging is no less than the minimum required to support the minimum EV Capable, EV Ready, and EVSE spaces. Construct all off-street light-duty vehicle parking spaces with dimensions capable of installing EVSE.	CalGreen 4.106.4 (all sections)
Construction Site Runoff Pollution Prevention – Provide a construction site Stormwater Pollution Prevention Plan and implement SFPUC Best Management Practices.	SFGBC 4.103.1.2 and 4.103.2.4, NPDES Phase II General Permit, and other local regulations.
Stormwater Control Plan – Projects disturbing ≥5,000 sq ft in combined or separate sewer areas, or replacing ≥2,500 impervious sq ft in separate sewer area, must implement a Stormwater Control Plan meeting SFPUC Stormwater Management Requirements.	SFGBC 4.103.1.2 and 4.103.2.4
NonPotable Water – New buildings ≥40,000 square feet must calculate a water budget. New development projects ≥100,000 square feet must install and operate an onsite water reuse system using available rainwater, graywater, and foundation drainage for toilet and urinal flushing and irrigation	SF Health Code Chapter 12C (See <i>Nonpotable Water Program</i> at www.sfwater.org)
Water Efficient Irrigation – Projects that include 1,000 square feet or more of new or modified landscape must comply with the San Francisco Water Efficient Irrigation Ordinance.	SF Admin Code 63 (See <i>Complying with San Francisco's Water Efficient Irrigation Requirements</i> at www.sfwater.org .)
Additional Required Measures All CALGreen requirements for new residential construction (listed below) are required, and must be verified by the Rater whether or not GreenPoint Rated certification will be obtained.	
Water Meters – Provide submeters or utility meters for each individual residential dwelling unit, AND nonresidential spaces projected to consume more than 1,000 gal/day, or more than 100 gal/day if in buildings ≥ 50,000 sq. ft.	Plumbing Code 601.2.1
Indoor Air Quality Management During Construction – Duct openings and other air distribution component openings must be covered during construction.	CalGreen 4.504.1
Smart Irrigation Controller	CalGreen 4.304.1
All roofing has 3-year subcontractor warranty and 20-year Manufacturer Warranty	GreenPoint Rated requirement for multifamily
Indoor Water Efficiency – Reduce indoor water use via efficient showerheads, lavatories, kitchen faucets, wash fountains, water closets, and urinals.	CalGreen 4.301 through 4.302
Mechanical Ventilation - Comply with ASHRAE 62.2 (as adopted in Title 24 Part 6)	GreenPoint Rated / Title 24 Part 6 requirement for multifamily
Bathroom fans - ENERGY STAR and on timer or humidistat	CalGreen 4.506.1
Low-VOC Interior Wall/Ceiling Paints (<50 grams per liter VOCs regardless of sheen)	CalGreen 4.504.2.2 through 4.504.2.4
Low-VOC coatings - Meet SCAQMD Rule 1113	CalGreen 4.504.2.2 through 4.504.2.4
Low VOC Caulks, Construction adhesives, and Sealants - Meet SCAQMD Rule 1168	CalGreen 4.504.2.1
Low-emitting Composite Wood - Meet California Air Resources Board Airborne Toxic Control Measure formaldehyde limits for composite wood	CalGreen 4.504.5
Low-emitting flooring: All carpet systems, carpet cushion, carpet adhesive, and at least 50% of resilient flooring must be low-emitting	CalGreen 4.504.3 and CalGreen 4.504.4
Incorporate GreenPoint Rated Checklist in Blueprints	GreenPoint Rated requirement
Operations and Maintenance Manuals and Training - Provide O&M Manual to Building Maintenance Staff	CalGreen 4.410.1

¹ GreenPoint Rated is the default standard to be met by new residential projects of 3 occupied floors or less. However, any new residential building may choose to instead apply LEED, provided that all CalGreen requirements are met. For information about using LEED for compliance with the San Francisco Green Building Code, see Attachment B Table 1.

Attachment B Table 2 Continued: Requirements for projects meeting a GreenPoint Rated standard

(Sheet 2 of 2)

<p>Additional Required Measures All CALGreen requirements for new residential construction (listed below) are required, and must be verified by the Rater whether or not GreenPoint Rated certification will be obtained.</p>	
<p>Design and Install HVAC System to ACCA Manual J, D, and S</p>	<p>CalGreen 4.507.2</p>
<p>Surface Drainage: Construction plans shall indicate how the site grading or drainage system will manage surface water flows.</p>	<p>CalGreen 4.106.3</p>
<p>Pest Protection - Annular spaces around pipes, electric cables, conduits, or other openings in plates at exterior walls shall be protected against rodents.</p>	<p>CalGreen 4.406.1</p>
<p>Fireplaces and woodstoves - Install only direct-vent or sealed-combustion appliances; comply with US EPA Phase II limits.</p>	<p>CalGreen 4.503.1. If permission to install new woodburning fireplaces can be obtained, BAAQMD Regulation 6, Rule 3 applies and is equivalent.</p>
<p>Capillary break for concrete slab on grade - Concrete slab on grade foundations required to have a vapor retarder must also have a capillary break.</p>	<p>CalGreen 4.505.2.1</p>
<p>Moisture content of building materials - Verify wall and floor framing does not exceed 19% moisture content prior to enclosure. Materials with visible signs of moisture damage shall not be installed.</p>	<p>CalGreen 4.505.3</p>
<p>HVAC Installer Qualifications - HVAC system installers must be trained and certified, or under the direct supervision of a person with such training or a contractor licensed to install HVAC systems.</p>	<p>CalGreen 4.702.1</p>



San Francisco Green Building Code

Table 3: Requirements for All Non-residential Projects Not Required to Meet a LEED Standard

(Sheet 1 of 2)

Attachment B Table 3

The following itemizes requirements for new non-residential buildings that are not otherwise required to meet a green building standard (E, F, H, L, S, U occupancy of any size, or A, B, I, or M occupancy <25,000 sq. ft.), and for non-residential additions of ≥1,000 sq ft or alterations of ≥\$200,000 value. In additions and alterations, requirements apply to areas and systems within the scope of the project. This summary is provided for convenience; see the San Francisco Green Building Code for details.

Local Requirements Measures that are mandatory in San Francisco but may be different or not required elsewhere	All "Other" New Non-Residential	All "Other" Non-Residential Additions & Alterations
Construction Discards Management - 100% of mixed debris must be taken by a Permitted Transporter to a Registered Facility for recycling and recovery. Complete Material Reduction and Recovery Plan and demonstrate minimum 65% recovery rate. For more information, see Information Sheet GB-02, or contact 415-355-3799 / debrisrecovery@sfgov.org.	SF Construction and Demolition Debris Recovery Ordinance (Environment Code Ch 14) CalGreen 5.405.1.1, 5.408.1.4 (See Information Sheet GB-02 for details)	
Recycling by occupants – Provide adequate space and equal access for storage, collection and loading of compostable, recyclable and landfill materials. To help estimate adequate space for collection by hauler, see supporting materials including a design guide and calculator at: www.sfenvironment.org/refusecalculator .	SFBC 106A.3.3 and other local regulations (See DBI Administrative Bulletin 088 for details)	
All-Electric - New buildings must be all-electric, with no gas piping systems or infrastructure. See Administrative Bulletin 112 for details.	SFBC 106A.1.17	n/r
Energy Design: All buildings: meet Title 24 2022. Mixed fuel (with natural gas): In isolated situations where natural gas may be permitted per Admin Bulletin 112: comply with Electric Ready Design Guidelines which require wiring for future conversion of all mixed-fuel loads to all-electric.	SFGBC 5.201, SFBC 106A.1.17	Title 24 Part 6
Better Roofs – Photovoltaics and battery storage are prescriptively required by Title 24 Part 6 (2022). If SFPUC Stormwater Requirements apply, each square foot of living roof contributing to Stormwater Management Ordinance compliance may reduce the Solar Access Roof Area by 1 square foot.	SFGBC 5.201.1.2 Energy Code 140.10(a-b)	n/r
Wiring for Electric Vehicle Chargers: Non-residential - Install raceway capable of supporting future Level 2 EVSE (min 40A 208/240VAC) and install Level 2 EVSE. See SFGBC Table 5.106.5.3.1 for minimum quantities.	SFGBC 5.106.5.3, CalGreen 5.106.5.3.1, 5.106.5.3.2	n/r
Infrastructure for Electric Vehicle Charging - Install service capacity and panelboards with sufficient space, and electrical load calculations must demonstrate the electric system, including any on-site distribution transformers, has sufficient capacity to simultaneously charge all required circuits at the full specified amperage. If the number of receptacles or EVSE installed is greater than the minimum required, Automated Load Management Systems may be used. ALMS must have capacity to deliver 3.3kW simultaneously to each EVCS, and the total capacity dedicated to EV charging must be at a minimum equal to the minimum required number of EV Capable, EV Ready, and EVSE spaces at full specified amperage. Construct all off-street light-duty vehicle parking spaces with dimensions capable of installing EVSE.	CalGreen 5.103.3.3, 5.106.5.3	n/r
Construction site runoff pollution prevention – Provide a construction site Stormwater Pollution Prevention Plan and implement SFPUC Best Management Practices.	CalGreen 5.106.1, as well as NPDES Phase II General Permit and other local regulations.	
Stormwater Control Plan – Projects disturbing ≥5,000 sq ft in combined or separate sewer areas, or replacing ≥2,500 impervious sq ft in separate sewer area, must implement a Stormwater Control Plan meeting SFPUC Stormwater Management Requirements.	SF Public Works Code Article 4.2, Sec. 147 (See <i>Stormwater Management Requirements and Design Guidelines</i> , www.sfwater.org)	
NonPotable Water – New buildings ≥40,000 square feet must calculate a water budget. New development projects ≥100,000 square feet must install and operate an onsite water reuse system using available rainwater, graywater, and foundation drainage for toilet and urinal flushing and irrigation	SF Health Code Chapter 12C	n/r
Water efficient irrigation – Projects that include 1,000 square feet or more of new or modified landscape must comply with the San Francisco Water Efficient Irrigation Ordinance.	SF Admin Code 63 (See <i>Complying with San Francisco's Water Efficient Irrigation Requirements</i> , www.sfwater.org)	
CalGreen Requirements California Green Building Standards Code (Title 24 Part 11) requires:	All "Other" New Non-Residential	All "Other" Non-Residential Additions & Alterations
Bicycle parking - Provide short-term and long-term bicycle parking for 5% of total motorized parking capacity each, or meet San Francisco Planning Code Sec 155, whichever is greater.	CalGreen 5.106.4	CalGreen 5.106.4 - Applicable if 10 more more parking stalls are added.
Light pollution reduction - Meet California Energy Code minimum requirements for Lighting Zones 1-4, with Backlight/Uplight/Glare ratings meeting CalGreen Table 5.106.8. Provisions of California Energy Code Section 147 apply. Emergency lighting exempt.	CalGreen 5.106.8	n/r
Water meters - In new buildings and additions, provide submeters for each tenant projected to consume more than 1,000 gal/day. In new buildings >50,000 sq ft and additions over 50,000 sq ft, provide submeter for each individual tenant space projected to consume more than 100 gal/day.	CalGreen 5.303.1	CalGreen 5.303.1 (additions only)
Water Conserving Fixtures and Fittings - Reduce overall use of potable water within the building by 20% for showerheads, lavatories, kitchen faucets, wash fountains, water closets, and urinals.	CalGreen 5.303.2 through 5.303.6	CalGreen 5.303.2 through 5.303.6 See also SFBC 13A.
Commissioning - For new buildings greater than 10,000 square feet, commissioning shall be included in the design and construction of the project to verify that the building systems and components meet the owner's project requirements. OR for buildings less than 10,000 square feet, as well as newly installed equipment in additions or alterations, testing and adjusting is required.	CalGreen 5.410.2 for new buildings >10,000 square feet Calgreen 5.410.4 for buildings ≤ 10,000 square feet	Calgreen 5.410.4 for buildings ≤ 10,000 square feet, and for systems that serve additions and alterations.
Ventilation system protection during construction - Protect openings and mechanical equipment from dust and pollutants during construction. Do not use permanent HVAC equipment except to maintain required temperature range for material and equipment installation.	CalGreen 5.504.1.3 and 5.504.3	CalGreen 5.504.1.3 and 5.504.3
Adhesives, sealants, and caulks - Comply with VOC limits in SCAQMD Rule 1168 VOC limits and California Code of Regulations Title 17 for aerosol adhesives.	CalGreen 5.504.4.1	CalGreen 5.504.4.1
Paints and coatings - Comply with VOC limits in the Air Resources Board Architectural Coatings Suggested Control Measure and California Code of Regulations Title 17 for aerosol paints.	CalGreen 5.504.4.3.1	CalGreen 5.504.4.3.1
Carpet - All carpet must meet one of the following: 1. Carpet and Rug Institute Green Label Plus Program, 2. California Department of Public Health Standard Practice for the testing of VOCs (Specification 01350), 3. NSF/ANSI 140 at the Gold level, 4. Scientific Certifications Systems Sustainable Choice, OR 5. California Collaborative for High Performance Schools EQ 7.0 and 7.1 AND carpet cushion must meet Carpet and Rug Institute Green Label, AND indoor carpet adhesive & carpet pad adhesive must not exceed 50 g/L VOC content.	CalGreen 5.504.4.4 through 5.504.4.4.2	CalGreen 5.504.4.4 through 5.504.4.4.2

Attachment B Table 3 Continued: Requirements All Other New Non-Residential Occupancies

(Sheet 2 of 2)

CalGreen Required Measures The California Green Building Standards Code (Title 24 Part 11) requires:	All "Other" New Non-Residential	All "Other" Non-Residential Additions & Alterations
Composite wood - Meet CARB Air Toxics Control Measure for Composite Wood, including meeting the emission limits in CalGreen Table 5.504.4.5.	CalGreen 5.504.4.5	CalGreen 5.504.4.5
Resilient flooring systems - For 80% of floor area receiving resilient flooring, install resilient flooring complying with: <ol style="list-style-type: none"> 1. Certified under the Resilient Floor Covering Institute (RFCI) FloorScore program, 2. Compliant with the VOC-emission limits and testing requirements of California Department of Public Health 2010 Standard Method for the Testing and Evaluation Chambers v.1.1, 3. Compliant with the Collaborative for High Performance Schools (CHPS) EQ2.2 and listed in the CHPS High Performance Product Database, OR 4. Certified under the Greenguard Children & Schools Program to comply with California Department of Public Health criteria. 	CalGreen 5.404.4.4. and 5.504.4.6	CalGreen 5.404.4.4. and 5.504.4.6
Air Filtration - Provide at least MERV-13 filters in regularly occupied spaces of mechanically ventilated buildings. Installed filters must be clearly labeled by the manufacturer indicating the MERV rating, and filter specification shall be included in the operation and maintenance manual.	CalGreen 5.504.5.3 through 5.504.5.3.1	CalGreen 5.504.5.3 through 5.504.5.3.1 Existing equipment is exempt
Acoustical control - Wall and roof-ceilings STC 50, exterior windows STC 30, party walls and floor-ceilings STC 40.	CalGreen 5.507.4	CalGreen 5.504.5.3 (Applies to addition, or alteration to envelope)
CFCs and halons - Do not install equipment that contains CFCs or Halons.	CalGreen 5.508.1	CalGreen 5.508.1
Sprinklers - Design and maintain landscape irrigation systems to prevent spray on structures.	CalGreen 5.407.2.1	CalGreen 5.407.2.1
Grading and Paving - Construction plans must indicate how site grading or drainage will manage all surface water flows to keep water from entering buildings.	CalGreen 5.106.10	-
Entries and openings - Design exterior entries and/or openings subject to foot traffic or wind-driven rain to prevent water intrusion into buildings.	CalGreen 5.407.2.2	CalGreen 5.407.2.2
Supermarket refrigerant leak reduction - Applies to new commercial refrigeration systems containing refrigerants with Global Warming Potential (GWP) of 150 or greater, when installed in food stores with 8,000 square feet or more conditioned area utilizing either refrigerated display cases, walk-in coolers or freezers connected to remote compressor units or condensing units. Piping shall meet all requirements of 5.508.2 (all sections), and shall undergo pressure testing during installation prior to evacuation and charging. System shall stand unaltered for 24 hours with no more than a one pound pressure change from 300 psig. See 5.508.2 for details.	CalGreen 5.508.2	CalGreen 5.508.2
Other CALGreen Requirements The following elements of the California Green Building Standards Code (Title 24 Part 11) are superceded by stricter local requirements, or duplicate other state code as noted. To avoid duplication, no special green building documentation is required.	All "Other" New Non-Residential	All "Other" Non-Residential Additions & Alterations
Multiple showerheads serving one shower (CalGreen 5.303.3.3.2)	SF Housing Code Ch 12 SF Building Code Ch 13A prohibit more than one showerhead per valve. CalGreen 5.303.3.3.1 limits flow rate to 1.8 gpm.	
Wastewater reduction - Reduce generation of wastewater by 20% through installation of water-conserving fixtures	Comply with water efficiency requirements of CalGreen 5.303.4. or CBC Part 11 Section 5.712.3.2	
Outdoor potable water use - Submeter landscaping separately where landscaping covers 1,000-5,000 sq. ft. (over 5,000 sq. ft. already required.)	Comply with Water Efficient Irrigation Ordinance (SFAC 63)	
Irrigation controllers - Provide weather or soil moisture based controllers that automatically adjust in response to plants' needs as weather conditions change.	Comply with Water Efficient Irrigation Ordinance (SFAC 63)	
Fireplaces and woodstoves - Install only direct-vent or sealed-combustion appliances; comply with US EPA Phase II limits.	If permission to install new woodburning fireplaces can be obtained, BAAQMD Regulation 6, Rule 3 applies and is equivalent.	
Environmental tobacco smoke (ETS) control - Smoking in buildings is prohibited, and outdoor areas provided for smoking must be >25 feet from building entries, outdoor air intakes and operable windows.	Required by San Francisco Health Code 19F and 19I.	
Moisture control - Comply with California Building Code, CCR, Title 24, Part 2, Sections 1203 (Ventilation) and Chapter 14 (Exterior Walls). (CalGreen 5.505.1)	Comply with cited code	
Carbon dioxide monitoring - For new buildings and additions with demand control ventilation, install carbon dioxide sensors and ventilation controls in accord with California Energy Code. (CalGreen 5.506.2)	Comply with cited code	
Shade Trees - Plant trees sufficient to provide shade within 15 years for 20% of landscape and hardscape area. Exclude shade structures covered by photovoltaics or cool roof materials from total area calculation.	CalGreen 5.106.12	n/r



San Francisco Green Building Code

Table 4: Requirements for Residential Additions, and Alterations

(Sheet 1 of 2)

**Attachment B
Table 4**

The following itemizes requirements for additions to residential buildings, as well as alterations which increase the building's floor area, volume, or size. **For the purpose of compliance with local green building standards, construction of a single freestanding dwelling unit accessory to an existing structure is considered an addition.** Except where noted, requirements apply only to areas and systems within the scope of the project. This summary is provided for convenience; see the San Francisco Green Building Code for details.

Specific Locally Required Measures	All "Other" Residential Additions & Alterations
Measures that are mandatory in San Francisco but may be different or not required elsewhere	
Construction Discards Management - 100% of mixed debris must be taken by a Permitted Transporter to a Registered facility for recycling and recovery. Submit a Material Reduction and Recovery Plan (MRRP) demonstrating ≥65% recovery. For more information, see DBI Information Sheet GB-02 or contact: debrisrecovery@sfgov.org / 415-355-3799.	SF Construction and Demolition Debris Recovery Ordinance (Environment Code Ch 14) CalGreen 4.408.2, and CalGreen 4.408.5
Recycling by occupants – Provide adequate space and equal access for storage, collection and loading of compostable, recyclable and landfill materials. To help estimate adequate space for collection by hauler, see supporting materials including a design guide and calculator at: www.sfenvironment.org/refusecalculator .	SFBC 106A.3.3 and other local regulations (See DBI Administrative Bulletin 088)
Energy design – Comply with California Energy Standards	Title 24 Part 6 (2022)
Construction site runoff pollution prevention - Provide a construction site Stormwater Pollution Prevention Plan and implement SFPUC Best Management Practices.	CalGreen 4.106.2, NPDES Phase II General Permit and other local regulations.
Stormwater Control Plan – Projects disturbing ≥5,000 square feet of ground surface must implement a Stormwater Control Plan meeting SFPUC stormwater design guidelines.	SF Public Works Code Article 4.2, Section. 147
NonPotable Water – New buildings ≥40,000 square feet must calculate a water budget. New development projects ≥100,000 square feet must install and operate an onsite water reuse system using available rainwater, graywater, and foundation drainage for toilet and urinal flushing and irrigation	N/A
Water efficient irrigation – Projects that include 1,000 square feet or more of new or modified landscape must comply with the San Francisco Water Efficient Irrigation Ordinance.	SF Admin Code 63 (See <i>Complying with San Francisco's Water Efficient Irrigation Requirements</i> at www.sfwater.org)
CalGreen Required Measures	All "Other" Residential Additions & Alterations
The California Green Building Standards Code (Title 24 Part 11) requires:	
Indoor Air Quality Management During Construction -Duct openings and other air distribution component openings must covered during all phases of construction. Tape, plastic, sheetmetal, or other acceptable methods may be used to reduce the amount of water, dust, and debris entering the system.	CalGreen 4.504.1
Smart Irrigation Controller - Automatically adjust irrigation based on weather and soil moisture. Controllers must have either an integral or separate rain sensors that connects or communicates with the controller.	CalGreen 4.304.1
Indoor Water Efficiency - Plumbing fixtures and fittings shall comply with the following: Water closets ≤1.28 gal/flush; urinals ≤0.5 gal/flush, showerheads ≤1.8 gpm @ 80 psi; residential lavatory faucet ≤1.5 gpm; lavatory faucets in common and public use areas ≤0.5 gpm @ 60 psi; metering faucets ≤0.25 gal/cycle; and kitchen faucets ≤1.8 gpm @60 psi (temporary increase to 2.2 gpm allowed, but must default to ≤1.8 gpm).	CalGreen 4.303 (all sections)
Wiring for Electric Vehicle Charging – Install electrical systems to provide power to EV chargers. Installation of chargers is not required.	N/A
Bathroom exhaust fans - Must be ENERGY STAR compliant, ducted to terminate outside the building, and controlled by humidistat capable of adjustment between relative humidity of less than 50% to maximum of 80%. Humidity control may be a separate component from the exhaust fan.	Calgreen 4.506.1
Low-VOC Interior Wall/Ceiling Paints - CARB VOC limits (CalGreen Table 4.504.3)	CalGreen 4.504.2.2
Low-VOC aerosol paints and coatings - Meet BAAQMD VOC limits (Regulation 8, Rule 49) and Product-Weighted MIR Limits for ROC. (CCR Title 17, Section 94520)	CalGreen 4.504.2.3
Low VOC Caulks, Construction adhesives, and Sealants - Meet SCAQMD Rule 1168. See CalGreen Tables 4.504.1 and 4.504.2.	CalGreen 4.504.2.1
Low-emitting Composite Wood - Meet California Air Resources Board Airborne Toxic Control Measure formaldehyde limits for composite wood. See CalGreen Table 4.504.5	CalGreen 4.504.5
Low-emitting flooring: All carpet systems, carpet cushion, carpet adhesive, and at least 80% of resilient flooring must be low-emitting	CalGreen 4.504.3 through 4.504.4
Operations and Maintenance Manuals and Training - Provide O&M Manual to Building Maintenance Staff. Due at the time of final inspection.	CalGreen 4.410.1
Design and Install HVAC System to ACCA Manual J, D, and S	CalGreen 4.507.2

Attachment B Table 4 Continued: Requirements for residential additions, and alterations
 (Sheet 2 of 2)

CalGreen Required Measures The California Green Building Standards Code (Title 24 Part 11) requires:	Residential Additions & Alterations
Surface Drainage: Construction plans shall indicate how the site grading or drainage system will manage surface water flows.	CalGreen 4.106.3
Pest Protection - Annular spaces around pipes, electric cables, conduits, or other openings in sole/bottom plates at exterior walls shall be closed with cement mortar, concrete masonry, or a similar method acceptable to DBI for protection against rodents.	CalGreen 4.406.1
Fireplaces and woodstoves - Install only direct-vent or sealed-combustion appliances; comply with US EPA Phase II limits.	CalGreen 4.503.1
Capillary break for concrete slab on grade - Concrete slab on grade foundations required to have a vapor retarder must also have a capillary break, including at least one of the following: 1) A 4-inch (101.6 mm) thick base of 1/2-inch (12.7 mm) or larger clean aggregate shall be provided with a vapor retarder in direct contact with concrete and a concrete mix design which will address bleeding, shrinkage and curling shall be used. For additional information, see American Concrete Institute, ACI 302.2R-06. 2) A slab design specified by a licensed design professional.	CalGreen 4.505.2.
Moisture content of building materials - Verify wall and floor framing does not exceed 19% moisture content prior to enclosure. Materials with visible signs of moisture damage shall not be installed. Moisture content shall be verified in compliance with the following: 1) Moisture content shall be determined with either a probe-type or a contact-type moisture meter. Equivalent moisture verification methods may be approved by the enforcing agency and shall satisfy requirements in Section 101.8. 2) Moisture readings shall be taken at a point 2 feet (610 mm) to 4 feet (1219 mm) from the grade-stamped end of each piece to be verified. 3) At least three random moisture readings shall be performed on wall and floor framing with documentation acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing. Insulation products which are visibly wet or have a high moisture content shall be replaced or allowed to dry prior to enclosure in wall or floor cavities. Manufacturers' drying recommendations shall be followed for wet-applied insulation products prior to enclosure	CalGreen 4.505.3
HVAC Installer Qualifications - HVAC system installers must be trained and certified in the proper installation of HVAC systems, such as via a state certified apprenticeship program, public utility training program (with certification as installer qualification), or other program acceptable to the Department of Building Inspection	CalGreen 702.1



Instructions for Green Building Submittals

Green Building Submittal Templates are provided in electronic format for your convenience via the Department of Building Inspection website.

Locating Documents

From the Department of Building Inspection website, navigate to Administrative Bulletins. In the entry for AB-093 "Implementation of Green Building Regulations," click "More Info." The "More Info" page contains:

- This bulletin
- Single page pre-formatted submittal templates
- Electronic version of each element of the submittal template, for optional custom layouts when necessary. (Typically used for smaller-format submittals split into multiple pages for legibility.)
- Spreadsheet with LEED checklists that may optionally be used to prepare LEED submittals. (You may use your own LEED checklist file.)
- DBI does not provide a checklist for GreenPoint projects. A qualified GreenPoint Rater (as specified in the narrative of this bulletin) has the tools necessary to prepare a project-specific GreenPoint checklist for submittals. For more information – including guidelines and a list of all GreenPoint measures - please see: <https://www.builditgreen.org/greenpoint-rated>.

Green Building: Site Permit Submittal

When applying for a Site Permit, use Attachment C-2: Green Building Site Permit Submittal. A LEED or GreenPoint checklist is not required at Site Permit, but will be required with the superstructure addendum.

Single Page Submittal Templates (Recommended)

Pre-formatted templates are provided for single-sheet submittals. Acquire the appropriate submittal template from the AB-093 "More Info" page, cut & paste a checklist for the appropriate green building standard, and complete the summary of "Requirements" and "Verification" forms.

Optional Custom Layouts

When necessary, such as cases where submittals must be split into multiple pages to maintain legibility, acquire the separate electronic files containing each element of the submittal template:

- Checklist for the appropriate green building standard,
- Summary of "Requirements" form, and
- "Verification" form

Prepare the submittal as appropriate. To be complete, a multi-page submittal must include completed versions of each of these three elements.

GS1: San Francisco Green Building Site Permit Submittal Form

INSTRUCTIONS:
 1. Select one (1) column to identify requirements for the project. For addition and alteration projects, applicability of specific requirements may depend upon project scope.
 2. Provide the Project Information in the box at the right.
 To ensure legibility of DBI archives, submittal must be a minimum of 24" x 36". A LEED or GreenPoint Rated Scorecard is not required with site permit application, but using such tools as early as possible is recommended.

CHECK THE ONE COLUMN THAT BEST DESCRIBES YOUR PROJECT →

Attachment GS2, GS3, GS4, GS5 or GS6 will be due with the applicable addendum. A separate "FINAL COMPLIANCE VERIFICATION" form will be required prior to Certificate of Completion. For details, see Administrative Bulletin 93. For Municipal projects, additional Environment Code Chapter 7 requirements may apply; see GS6.

			NEW CONSTRUCTION				ALTERATIONS + ADDITIONS					PROJECT INFO	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PROJECT NAME	
			LOW-RISE RESIDENTIAL	HIGH-RISE RESIDENTIAL	LARGE NON-RESIDENTIAL	OTHER NON-RESIDENTIAL	RESIDENTIAL MAJOR ALTERATIONS + ADDITIONS	OTHER RESIDENTIAL ALTERATIONS + ADDITIONS	NON-RESIDENTIAL MAJOR ALTERATIONS + ADDITIONS	FIRST-TIME NON-RESIDENTIAL INTERIORS	OTHER NON-RESIDENTIAL INTERIORS, ALTERATIONS + ADDITIONS	BLOCK/LOT	
			R 1-3 Floors	R 4+ Floors	A, B, E, I, M 25,000 sq. ft. or greater	F, H, L, S, U or A, B, E, I, M less than 25,000 sq. ft.	R 25,000 sq. ft. or greater	R adds any amount of conditioned area	B, M 25,000 sq. ft. or greater	A, B, I, M 25,000 sq. ft. or greater	A, B, E, F, H, L, I, M, S, U more than 1,000 sq. ft. or \$200,000	ADDRESS	
LEED/GPR	TITLE	SOURCE OF REQUIREMENT	DESCRIPTION OF REQUIREMENT										PROJECT NAME
	Required LEED or GPR Certification Level	SFBC 4.103.1.1, 4.103.2.1, 4.103.3.1, 5.103.1.1, 5.103.3.1 & 5.103.4.1	Project is required to achieve sustainability certification listed at right.										
	Adjustment for Retention/Demolition of Historic Features/Buildings	SFBC 4.104, 4.105, 5.104 & 5.105	Enter any applicable adjustments to LEED or GPR point requirements in box at right.										
MATERIAL EMISSIONS	LOW-EMITTING MATERIALS	CALGreen 4.504.2.1-5 & 5.504.4.1-6, SFBC 4.103.3.2, 5.103.1.9, 5.103.3.2 & 5.103.4.2	Use products that comply with the emission limit requirements of 4.504.2.1-5, 5.504.4.1-6 for adhesives, sealants, paints, coatings, carpet systems including cushions and adhesives, resilient flooring (80% of area), and composite wood products. Major alterations to existing residential buildings must use low-emitting coatings, adhesives and sealants, and carpet systems meeting GPR measures K2, K3 and L2 or LEED EQc2. New large non-residential interiors and major alterations to existing residential and non-residential buildings: interior paints, coatings, sealants, adhesives when applied on-site, flooring and composite wood must meet the requirements of LEED credit Low-Emitting Materials (EQc2).										
	INDOOR WATER USE REDUCTION	CALGreen 4.303.1 & 5.303.3, SFBC 5.103.1.2, SF Housing Code sec.12A10, SF Building Code ch.13A	Meet flush/flow requirements for: toilets (1.28gpf); urinals (0.125gpf wall, 0.5gpf floor); showerheads (1.8gpm); lavatories (1.2gpm private, 0.5gpm public/common); kitchen faucets (1.8gpm); wash fountains (1.8gpm); metering faucets (0.2gpc); food waste disposers (1gpm/8gpm). Residential projects must upgrade all non-compliant fixtures per SF Housing Code sec.12A10. Large non-residential interiors, alterations & additions must upgrade all non-compliant fixtures per SF Building Code ch.13A. New large non-residential buildings must also achieve minimum 30% indoor potable water use reduction as calculated to meet LEED credit Indoor Water Use Reduction (WEC2).										
WATER	NON-POTABLE WATER REUSE	Health Code art.12C	New buildings ≥40,000 sq.ft. must calculate a water budget. New development projects ≥100,000 sq.ft. must install and operate an onsite water reuse system using available rainwater, graywater, and foundation drainage for toilet and urinal flushing and irrigation. See www.SFPUC.org for details.										
	WATER-EFFICIENT IRRIGATION	Administrative Code ch.63	New construction projects with aggregated landscape area ≥500 sq.ft., or existing projects with modified landscape area ≥1,000 sq.ft. shall use low water use plants or climate appropriate plants, restrict turf areas and comply with Model Water Efficient Landscape Ordinance restrictions by calculated ETAF (.55 for residential, .45 for non-residential or less) or by prescriptive compliance for projects with ≤2,500 sq.ft. of landscape area. See www.sfwater.org for details.										
	WATER METERING	CALGreen 5.303.1, Plumbing Code 601.2.1	Provide submeters or utility meters for: Nonresidential spaces projected to consume more than 1,000 gal/day, or more than 100 gal/day if in buildings ≥ 50,000 sq. ft. AND each individual residential dwelling unit.										
	ALL-ELECTRIC CONSTRUCTION	SFBC 106A.1.17	Newly constructed buildings must be all-electric, with no gas piping systems or infrastructure. See Administrative Bulletin 112 for details.										
ENERGY	ENERGY DESIGN	CA Title 24 Part 6, SFBC 4.201.3, 5.201.1.1	Comply with Title 24 Part 6 (2022) and meet GreenPoint Rated or LEED energy prerequisites. See Attachment H for details.										
	BETTER ROOFS	SFBC 4.201.2 & 5.201.1.2, CA Energy Code 140.10(a-b), 150.1(s), 170.2(f-g)	Photovoltaics and battery energy storage systems are prescriptively required for common nonresidential occupancies per CA Energy Code 140.10(a-b) and multifamily per 170.2(f-g). PV is prescriptively required for single family per 150.1(c)14, along with wiring for future installation of energy storage systems per 150.0(s). If SFPUC Stormwater Requirements apply, each square foot of living roof contributing to Stormwater Management Ordinance compliance may reduce the Solar Access Roof Area by 1 square foot.										
	COMMISSIONING (Cx)	CALGreen 5.410.2 - 5.410.4.5.1	For projects ≥10,000 sq.ft. include Owners Project Requirements, Basis of Design, and commissioning plan in design & construction. Perform commissioning. Alterations & additions with new HVAC equipment must test and adjust all equipment.										
	BICYCLE PARKING	CALGreen 5.106.4, Planning Code 155.1-2	Provide short- and long-term bike parking equal to 5% of motorized vehicle parking, or meet SF Planning Code sec.155.1-2, whichever is greater.										
PARKING	WIRING FOR EV CHARGERS	SFBC and CALGreen 4.106.4 (all sections), SFBC and CALGreen 5.103.3 and 5.106.5 (all sections), SFBC Table 5.106.5.3.1	<p>New 1 - 2 Unit Dwellings: For projects constructing off-street parking, install at least one full circuit with a minimum 40A 208/240V capacity dedicated to EV charging with termination in close proximity to proposed EV charging location.</p> <p>New 3 - 19 Unit Multifamily and Hotels with less than 20 guest rooms: Provide low-power EV charging receptacles (min 20A 208/240VAC) at 25% of parking spaces (EV Ready), and install raceway capable of supporting future Level 2 EVSE (min 40A 208/240VAC) at 10% of parking spaces. (Total: 35%)</p> <p>New 20+ Unit Multifamily and Hotels: Provide low-power EV charging receptacles (min 20A 208/240VAC) at 25% of parking spaces (EV Ready); install raceway capable of supporting future Level 2 EVSE (min 40A 208/240VAC) at 5% of parking spaces; and install Level 2 EVSE at 5% of parking spaces. (Total: 35%)</p> <p>Multifamily Alterations: Install raceway for future Level 2 EVSE (min 40A 208/240VAC) terminating at 10% of parking spaces in areas where parking is added, or electrical systems (including lighting) are altered in existing parking facilities.</p> <p>Non-residential new construction and major alterations: Install raceway capable of supporting future Level 2 EVSE (min 40A 208/240VAC) and install Level 2 EVSE. See SFBC Table 5.106.5.3.1 for minimum quantities.</p> <p>All of the above: Install service capacity and panelboards with sufficient space. Electrical load calculations must demonstrate the electric system, including any on-site distribution transformers, have sufficient capacity to simultaneously charge all required circuits at the full specified amperage. If the number of receptacles or EVSE installed is greater than the minimum required, Automated Load Management Systems may be used if the ALMS has capacity to deliver 3.3kW simultaneously to each EVCS, and the total capacity dedicated to EV charging is no less than the minimum required to serve the minimum number of EV Capable, EV Ready, and EVSE spaces combined. Construct all off-street light-duty vehicle parking spaces with dimensions capable of installing EVSE.</p>										
	RECYCLING BY OCCUPANTS	SF Building Code 106A.3.3, CALGreen 5.410.1, AB-088	Provide adequate space and equal access for storage, collection and loading of compostable, recyclable and landfill materials. For help estimating adequate space for collection by hauler, see supporting materials including a design guide and calculator at: www.sfenvironment.org/refusecalculator.										
RESOURCE RECOVERY	CONSTRUCTION & DEMOLITION (C&D) DISCARDS MANAGEMENT	SFBC 4.103.2.3, 5.103.1.3.1, CALGreen, Environment Code ch.14, SF Building Code ch.13B	100% of mixed debris must be taken by a Permitted Transporter to a Registered Facility for recycling and recovery. Complete Material Reduction and Recovery Plan and demonstrate minimum 65% or 75% recovery rate as noted at right. For more information, see DBI Information Sheet GB-02 or contact: debrisrecovery@sfgov.org / 415-355-3799.										
	HVAC INSTALLER QUALS	CALGreen 4.702.1	Installers must be trained and certified in best practices.										
	HVAC DESIGN	CALGreen 4.507.2	HVAC shall be designed to ACCA Manual J, D, and S.										
GOOD NEIGHBOR	REFRIGERANT MANAGEMENT	CALGreen 5.508.1	Use no halons or CFCs in HVAC.										
	LIGHT POLLUTION REDUCTION	CA Energy Code, CALGreen 5.106.8	Comply with CA Energy Code for Lighting Zones 1-4. Comply with 5.106.8 for Backlight/Uplight/Glare.										
	BIRD-SAFE BUILDINGS	Planning Code sec.139	Glass facades and bird hazards facing and/or near Urban Bird Refuges may need to treat their glass for opacity.										
	TOBACCO SMOKE CONTROL	CALGreen 5.504.7, Health Code art.19F	For non-residential projects, prohibit smoking within 25 feet of building entries, air intakes, and operable windows. For residential projects, prohibit smoking within 10 feet of building entries, air intakes, and operable windows and enclosed common areas.										
POLLUTION PREVENTION	SHADE TREES	CALGreen 5.106.12	Plant trees to sufficient to provide shade within 15 years for 20% of landscape and hardscape area. Exclude shade structures covered by photovoltaics or cool roof materials from total area calculation, including surface parking covered by PV.										
	STORMWATER CONTROL PLAN	Public Works Code art.4.2 sec.147	Projects disturbing ≥5,000 sq.ft. in combined or separate sewer areas, or replacing ≥2,500 impervious sq.ft. in separate sewer area, must implement a Stormwater Control Plan meeting SFPUC Stormwater Management Requirements. See www.sfwater.org for details.										
INDOOR ENVIRONMENTAL QUALITY	CONSTRUCTION SITE RUNOFF CONTROLS	Public Works Code art.4.2 sec.146	Provide a construction site Stormwater Pollution Prevention Plan and implement SFPUC Best Management Practices. See www.sfwater.org for details.										
	ACOUSTICAL CONTROL	CALGreen 5.507.4.1-3, SF Building Code sec.1207	Non-residential projects must comply with sound transmission limits (STC-50 exteriors near freeways/airports; STC-45 exteriors if 65db Leq at any time; STC-40 interior walls/floor-ceilings between tenants). New residential projects' interior noise due to exterior sources shall not exceed 45dB.										
	AIR FILTRATION (CONSTRUCTION)	CALGreen 4.504.1-3 & 5.504.1-3	Seal permanent HVAC ducts/equipment stored onsite before installation.										
	AIR FILTRATION (OPERATIONS)	CALGreen 5.504.5.3, SF Health Code art.38	Non-residential projects must provide MERV-13 filters on HVAC for regularly occupied, actively ventilated spaces. Residential new construction and major alteration & addition projects in Air Pollutant Exposure Zones per SF Health Code art.38 must provide MERV-13 filters on HVAC.										
RESIDENTIAL	CONSTRUCTION IAQ MANAGEMENT PLAN	SFBC 5.103.1.8	During construction, meet SMACNA IAQ guidelines; provide MERV-13 filters on all HVAC.										
	ELECTRIC READY	SF Building Code 106A.1.17/ Admin Bulletin 112, Energy Code 150.0(t)-(v)	In isolated situations where natural gas may be permitted per Admin Bulletin 112, San Francisco Electric Ready Design Guidelines require wiring and electrical infrastructure for future conversion of all mixed-fuel loads to all-electric.										
	GRADING & PAVING	CALGreen 4.106.3	Show how surface drainage (grading, swales, drains, retention areas) will keep surface water from entering the building.										
	RODENT PROOFING	CALGreen 4.406.1	Seal around pipe, cable, conduit, and other openings in exterior walls with cement mortar or DBI-approved similar method.										
	FIREPLACES & WOODSTOVES	CALGreen 4.503.1	Install only direct-vent or sealed-combustion, EPA Phase II-compliant appliances.										
	CAPILLARY BREAK	CALGreen 4.505.2	Slab on grade foundation with vapor retarder requires capillary break, such as 4 inches 1/2-in aggregate & slab design by licensed professional.										
	MOISTURE CONTENT	CALGreen 4.505.3	Wall and floor wood framing must have <19% moisture content before enclosure.										
BATHROOM EXHAUST	CALGreen 4.506.1	Must be ENERGY STAR compliant, ducted to building exterior, and its humidistat shall be capable of adjusting between <50% to >80%. (Humidistat may be separate component).											

GS2: San Francisco Green Building Submittal Form for LEED or GreenPoint Rated Projects

INSTRUCTIONS:

- Select one (1) column to the right. For each applicable requirement in the column, indicate evidence of fulfillment in the References column. For items that are not applicable, indicate "N/A".
- Provide project information in the Verification box at the right.
- Attach LEED or GreenPoint Rated Scorecard on separate sheet.

Submittal must be a minimum of 24" x 36". First-time tenant improvements consisting of multiple permits totalling 25,000 square feet or greater must fulfill New Large Commercial Interior requirements.

**CHECK THE ONE COLUMN
THAT BEST DESCRIBES YOUR PROJECT** →

				NEW CONSTRUCTION			ALTERATIONS + ADDITIONS			REFERENCES	VERIFICATION	
				LOW-RISE RESIDENTIAL	HIGH-RISE RESIDENTIAL	LARGE NON-RESIDENTIAL	RESIDENTIAL MAJOR ALTERATIONS + ADDITIONS	NON-RESIDENTIAL MAJOR ALTERATIONS + ADDITIONS	NEW LARGE COMMERCIAL INTERIORS		PROJECT NAME	BLOCK/LOT
				R 1-3 Floors	R 4+ Floors	A,B,E,I,M 25,000 sq.ft. or greater	R 25,000 sq.ft. or greater	B,M 25,000 sq.ft. or greater	B,M 25,000 sq.ft. or greater	DRAWING OR SPECIFICATION # (If not applicable, indicate "N/A".)	ADDRESS	PRIMARY OCCUPANCY
LEED/GPR	TITLE	SOURCE OF REQUIREMENT	FOR REFERENCE LEED v4 GPR v9	DESCRIPTION OF REQUIREMENT							GROSS BUILDING AREA	
LEED/GPR	Required LEED or GPR Certification Level	SFGBC 4.103.1.1, 4.103.2.1, 4.103.3.1, 5.103.1.1, 5.103.3.1 & 5.103.4.1		Project is required to achieve sustainability certification listed at right.	LEED SILVER (50+) or GPR (75+) CERTIFIED	LEED SILVER (50+) or GPR (75+) CERTIFIED	LEED GOLD (60+) CERTIFIED	LEED SILVER (50+) or GPR (75+) CERTIFIED	LEED GOLD (60+) CERTIFIED	LEED GOLD (60+) CERTIFIED		
	Adjustment for Retention/Demolition of Historic Features/Building	SFGBC 4.104, 4.105, 5.104 & 5.105		Enter any applicable adjustments to LEED or GPR point requirements in box at right.								
	Points on Current Scorecard			Enter current expected score in box at right as appropriate.								
MATERIAL EMISSIONS	LOW-EMITTING MATERIALS	CALGreen 4.504.2.1-5 & 5.504.4.1-6, SFGBC 4.103.3.2, 5.103.1.9, 5.103.3.2 & 5.103.4.2	EQc2, K2, K3, L2	Use products that comply with the emission limit requirements of 4.504.2.1-5, 5.504.4.1-6 for adhesives, sealants, paints, coatings, carpet systems including cushions and adhesives, resilient flooring (80% of area), and composite wood products. Major alterations to existing residential buildings must use low-emitting coatings, adhesives and sealants, and carpet systems that meet the requirements for GPR measures K2, K3 and L2 or LEED EQc2, as applicable. New large non-residential interiors and major alterations to existing residential and non-residential buildings must also use interior paints, coatings, sealants, and adhesives when applied on-site, flooring and composite wood that meet the requirements of LEED credit Low-Emitting Materials (EQc2).	4.504.2.1-5	4.504.2.1-5	LEED EQc2	LEED EQc2 or GPR K2, K3 & L2	LEED EQc2	LEED EQc2		
WATER	INDOOR WATER USE REDUCTION	CALGreen 4.303.1 & 5.303.3, SFGBC 5.103.1.2, SF Housing Code sec.12A10, SF Building Code ch.13A	WEp2, WEC2	Meet flush/flow requirements for: toilets (1.28 gpf); urinals (0.125 gpf wall, 0.5gpf floor); showerheads (1.8 gpm); lavatories (1.2 gpm private, 0.5 gpm public/common); kitchen faucets (1.8gpm); wash fountains (1.8 gpm); metering faucets (0.2 gpc); food waste disposers (1 gpm/8 gpm). Residential projects must upgrade all non-compliant fixtures per SF Housing Code sec.12A10. Large non-residential interiors, alterations & additions must upgrade all non-compliant fixtures per SF Building Code ch.13A. New large non-residential buildings must also achieve minimum 30% indoor potable water use reduction as calculated to meet LEED credit Indoor Water Use Reduction (WEC2).	4.303.1	4.303.1	LEED WEC2 (2 pts)	SF Housing Code sec.12A10	SF Building Code ch.13A if applicable	SF Building Code ch.13A if applicable		
	NON-POTABLE WATER REUSE	Health Code art.12C	WEC2	New buildings ≥400,000 sq.ft. must calculate a water budget. New development projects ≥100,000 sq.ft. must install and operate an onsite water reuse system using available rainwater, graywater, and foundation drainage for toilet and urinal flushing and irrigation. See www.SFPUC.org for details.	n/r	•	•	n/r	n/r	n/r		
	WATER-EFFICIENT IRRIGATION	Administrative Code ch.63	WEp1, WEC1	New construction projects with aggregated landscape area ≥500 sq.ft., or existing projects with modified landscape area ≥1,000 sq.ft., shall use low water use plants or climate appropriate plants, restrict turf areas and comply with Model Water Efficient Landscape Ordinance restrictions by calculated ETAF (.55 for residential, .45 for non-residential or less) or by prescriptive compliance for projects with ≤2,500 sq.ft. of landscape area.	•	•	•	•	•	•		
	WATER METERING	CALGreen 5.303.1, Plumbing Code 601.2.1	WEC4	Provide submeters or utility meters for: Nonresidential spaces projected to consume more than 1,000 gal/day, or more than 100 gal/day if in buildings ≥ 50,000 sq. ft. AND each individual residential dwelling unit.	•	•	•	n/r	•	•		
ENERGY	ALL-ELECTRIC CONSTRUCTION	SFBC 106A.1.17	J5	Newly constructed buildings must be all-electric, with no gas piping systems or infrastructure. See Administrative Bulletin 112 for details.	•	•	•	n/r	n/r	n/r		
	ENERGY DESIGN	CA Energy Code - In Entirety, and 150.0(t)-(v) SFBC 106A.1.17	EAp2, c2	Comply with Title 24 Part 6 (2022) and meet GreenPoint Rated or LEED energy prerequisites. See Attachment H for details. In isolated situations where natural gas may be permitted per Admin Bulletin 112, San Francisco Electric Ready Design Guidelines require wiring and electrical infrastructure for future conversion of all mixed-fuel loads to all-electric.	•	•	•	•	•	•		
	BETTER ROOFS	SFGBC 4.201.2 & 5.201.1.2 CA Energy Code 140.10(a-b), 150.1(s), 170.2(f-g)	EAc5, EAc2	Photovoltaics and battery energy storage systems are prescriptively required for common nonresidential occupancies per CA Energy Code 140.10(a-b) and multifamily per 170.2(f-g). PV is prescriptively required for single family per 150.1(c)14, along with wiring for future installation of energy storage systems per 150.0(s). If SFPUC Stormwater Requirements apply, each 1 square foot of living roof contributing to Stormwater Management Ordinance compliance may reduce the Solar Access Roof Area by 1 square foot.	•	•	•	n/r	n/r	n/r		
	COMMISSIONING (Cx)	CALGreen 5.410.2 - 5.410.4.5.1	EAp1, EAc1	For projects ≥10,000 sq.ft, include Owners Project Requirements, Basis of Design, and commissioning plan in design & construction. Perform commissioning. Alterations & additions with new HVAC equipment must test and adjust all equipment.	n/r	n/r	LEED EAc1 opt. 1	n/r	•	•		
PARKING	BICYCLE PARKING	CALGreen 5.106.4, Planning Code sec.155.1-2	LTc6	N3.5, N3.6 Provide short- and long-term bike parking equal to 5% of motorized vehicle parking, or meet SF Planning Code sec.155.1-2, whichever is greater.	Planning Code 155.1-2	Planning Code 155.1-2	•	Planning Code 155.1-2	•	•		
	WIRING FOR EV CHARGERS	SFGBC and CALGreen 4.106.4 (all sections) SFGBC and CALGreen 5.103.3 and 5.106.5 (all sections) SFGBC Table 5.106.5.3.1	LTc8	New 1 - 2 Unit Dwellings: For projects constructing off-street parking, install at least one full circuit with a minimum 40A 208/240V capacity dedicated to EV charging with termination in close proximity to proposed EV charging location. New 3 - 19 Unit Multifamily and Hotels with less than 20 guest rooms: Provide low-power EV charging receptacles (min 20A 208/240VAC) at 25% of parking spaces (EV Ready), and install raceway capable of supporting future Level 2 EVSE (min 40A 208/240VAC) at 10% of parking spaces. (Total: 35%) New 20+ Unit Multifamily and Hotels: Provide low-power EV charging receptacles (min 20A 208/240VAC) at 25% of parking spaces (EV Ready); install raceway capable of supporting future Level 2 EVSE (min 40A 208/240VAC) at 5% of parking spaces; and install Level 2 EVSE at 5% of parking spaces. (Total: 35%) Multifamily Residential Alterations: Install raceway for future Level 2 EVSE (min 40A 208/240VAC) terminating at 10% of parking spaces in areas where parking is added, or electrical systems (including lighting) are altered in existing parking facilities. Non-residential new construction and major alterations: Install raceway capable of supporting future Level 2 EVSE (min 40A 208/240VAC) and install Level 2 EVSE. See SFGBC Table 5.106.5.3.1 for minimum quantities. All of the above: Install service capacity and panelboards with sufficient space. Provide electrical load calculations demonstrating the electric system, including any on-site distribution transformers, has sufficient capacity to simultaneously charge all required circuits (including all raceways for circuits to be completed in the future) at the full specified amperage. If the number of receptacles or EVSE installed is greater than the minimum required, Automated Load Management Systems may be used if the ALMS has capacity to deliver 3.3kW simultaneously to each EVCS, and the total capacity dedicated to EV charging is no less than the minimum required to support the minimum EV Capable, EV Ready, and EVSE spaces. Construct all off-street light-duty vehicle parking spaces with dimensions capable of installing EVSE.	•	•	•	Applies to any multifamily alteration where: Off-street parking is added, OR Electrical systems are altered in existing parking facilities	•	n/r		
RESOURCE RECOVERY	RECYCLING AND COMPOSTING BY OCCUPANTS	SF Building Code 106A.3.3, CALGreen 5.410.1, AB-088	MRp1	M4 Provide adequate space and equal access for storage, collection, and loading of compostable, recyclable and landfill materials. To help estimate adequate space for collection by hauler, see supporting materials including a design guide and calculator at: www.sfenvironment.org/refusecalculator.	•	•	•	•	•	•		
	CONSTRUCTION & DEMOLITION (C&D) DISCARDS MANAGEMENT	SFGBC 4.103.2.3 & 5.103.1.3, CALGreen 4.408.2, 5.405.1.1 Environment Code ch.14, SF Building Code ch.13B	MRp2, MRC5	A2.1 100% of mixed debris must be taken by a Permitted Transporter to a Registered Facility for recycling and recovery. Complete Material Reduction and Recovery Plan and demonstrate minimum 65% or 75% recovery rate as noted at right. For more information, see DBI Information Sheet GB-02 or contact: debrisrecovery@sfgov.org / 415-355-3799.	≥65% diversion	≥75% diversion	≥75% diversion	≥65% diversion	≥65% diversion	≥75% diversion		
HVAC	HVAC INSTALLER QUALS	CALGreen 702.1		Installers must be trained and certified in best practices.	•	•	n/r	•	n/r	n/r		
	HVAC DESIGN	CALGreen 4.507.2		HVAC shall be designed to ACCA Manual J, D, and S.	•	•	n/r	•	n/r	n/r		
	REFRIGERANT MANAGEMENT	CALGreen 5.508.1	EAc6	Use no halons or CFCs in HVAC.	n/r	n/r	•	n/r	•	•		
GOOD NEIGHBOR	LIGHT POLLUTION	CA Energy Code	SSc6	Comply with CA Energy Code for Lighting Zones 1-4.	n/r	n/r	•	n/r	•	•		
	BIRD-SAFE BUILDINGS	Planning Code sec.139		Glass facades and bird hazards facing and/or near Urban Bird Refuges may need to treat their glass for opacity.	•	•	•	•	•	•		
	TOBACCO SMOKE CONTROL	CALGreen 5.504.7, Health Code art.19F	EQp2	For non-residential projects, prohibit smoking within 25 feet of building entries, air intakes, and operable windows. For residential projects, prohibit smoking within 10 feet of building entries, air intakes, and operable windows and enclosed common areas.	•	•	•	•	•	•		
	SHADE TREES	CALGreen 5.106.12	SSc5	Plant trees to sufficient to provide shade within 15 years for 20% of landscape and hardscape area. Exclude shade structures covered by photovoltaics or cool roof materials from total area calculation, including surface parking covered by PV.	•	•	•	•	•	•		
POLLUTION PREVENTION	STORMWATER CONTROL PLAN	Public Works Code art.4.2 sec.147	SSc4	A6 Projects disturbing ≥5,000 sq. ft. in combined or separate sewer areas, or replacing ≥2,500 impervious sq. ft. in separate sewer area, must implement a Stormwater Control Plan meeting SFPUC Stormwater Management Requirements.	•	•	•	if project extends outside envelope	if project extends outside envelope	if project extends outside envelope		
	CONSTRUCTION SITE RUNOFF CONTROLS	Public Works Code art.4.2 sec.146	SSp1	Provide a construction site Stormwater Pollution Prevention Plan and implement SFPUC Best Management Practices. A Stormwater Pollution Prevention Plan is optional for GPR projects that disturb <5,000 sq.ft.	if disturbing ≥5,000 sq.ft.	•	if disturbing ≥5,000 sq.ft.	if project extends outside envelope	if project extends outside envelope	if project extends outside envelope		
INDOOR ENVIRONMENTAL QUALITY	ACOUSTICAL CONTROL	CALGreen 5.507.4.1-3, SF Building Code sec.1207	EQc9	Non-residential projects must comply with sound transmission limits (STC-50 exteriors near freeways/airports; STC-45 exteriors if 65db Leq at any time; STC-40 interior walls/floor-ceilings between tenants). New residential projects' interior noise due to exterior sources shall not exceed 45dB.	•	•	•	n/r	•	•		
	AIR FILTRATION - CONSTRUCTION	CALGreen 4.504.1 & 5.504.1-3	EQc3	Seal permanent HVAC ducts/equipment stored onsite before installation.	•	•	•	•	•	•		
	AIR FILTRATION - OPERATIONS	CALGreen 5.504.5.3, Health Code art.38	EQc1	Non-residential projects must provide MERV-13 filters on HVAC for regularly occupied, actively ventilated spaces. Residential new construction and major alteration & addition projects in Air Pollutant Exposure Zones per SF Health Code art.38 must provide MERV-13 filters on HVAC.	if applicable	if applicable	•	if applicable	•	•		
	CONSTRUCTION IAQ MANAGEMENT PLAN	SFGBC 5.103.1.8	EQc3	During construction, meet SMACNA IAQ guidelines; provide MERV-8 filters on all HVAC.	n/r	n/r	LEED EQc3	n/r	n/r	n/r		
RESIDENTIAL ONLY	GRADING & PAVING	CALGreen 4.106.3		Show how surface drainage (grading, swales, drains, retention areas) will keep surface water from entering the building.	•	•	n/r	if applicable	n/r	n/r		
	RODENT PROOFING	CALGreen 4.406.1		Seal around pipe, cable, conduit, and other openings in exterior walls with cement mortar or DBI-approved similar method.	•	•	n/r	•	n/r	n/r		
	FIREPLACES & WOODSTOVES	CALGreen 4.503.1		Install only direct-vent or sealed-combustion, EPA Phase II-compliant appliances.	•	•	n/r	•	n/r	n/r		
	CAPILLARY BREAK	CALGreen 4.505.2		Slab on grade foundation with vapor retarder requires capillary break, such as 4 inches 1/2-in aggregate & slab design by licensed professional.	•	•	n/r	•	n/r	n/r		
	MOISTURE CONTENT	CALGreen 4.505.3		Wall and floor wood framing must have <19% moisture content before enclosure.	•	•	n/r	•	n/r	n/r		
	BATHROOM EXHAUST	CALGreen 4.506.1		Must be ENERGY STAR compliant, ducted to exterior, and humidistat shall be capable of adjusting between <50% to >80% (Humidistat may be separate.)	•	•	n/r	•	n/r	n/r		

Option 1:
Verification of compliance for this project will be provided via USGBC/GBCI certification under the LEED rating system, or Build It Green under the GreenPoint Rated system. Green Building Compliance Professional of Record is not required.
PERMIT APPLICANT (sign & date)

Option 2: LEED GBCPR
Green Building Compliance Professional of Record will verify compliance.
NAME _____ FIRM _____
ARCHITECTURAL OR ENGINEERING LICENSE _____
 I am a LEED Accredited Professional
 I have completed one or more LEED projects

I have been retained by the project sponsor to review all submittal documents and verify that all approved construction documents and construction fulfill the requirements of the San Francisco Green Building Code. It is my professional opinion that the requirements of the San Francisco Green Building Code will be met for the above referenced project. I will notify the Department of Building Inspection if the project will, for any reason, not substantially comply with these requirements, or if I am no longer the Green Building Compliance Professional of Record for the project.

LICENSED PROFESSIONAL _____ AFFIX STAMP BELOW:
(sign & date)

Option 3: GreenPoint Rated GBPCR
Green Building Compliance Professional of Record will verify compliance.
NAME _____ FIRM _____
ARCHITECTURAL OR ENGINEERING LICENSE _____
 I am a GreenPoint Rater I am not a GreenPoint Rater
 I have completed one or more GreenPoint Rated projects

If the above licensed professional is not a Certified GreenPoint Rater, additional signature by a Certified GreenPoint Rater is required:
GreenPoint Rater (print name) _____ (contact phone #) _____
(sign & date)

I have been retained by the project sponsor to review all submittal documents and verify that all approved construction documents and construction fulfill the requirements of the San Francisco Green Building Code. It is my professional opinion that the requirements of the San Francisco Green Building Code will be met for the above referenced project. I will notify the Department of Building Inspection if the project will, for any reason, not substantially comply with these requirements, or if I am no longer the Green Building Compliance Professional of Record for the project.

LICENSED PROFESSIONAL _____ AFFIX STAMP BELOW:
(sign & date)

GS3: San Francisco Green Building Submittal Form for Other Non-Residential Alterations, Additions & New Construction

INSTRUCTIONS:				NEW CONSTRUCTION	ALTERATIONS + ADDITIONS	REFERENCES	VERIFICATION
1. Select one (1) column to the right. For each applicable requirement in the column, indicate evidence of fulfillment in the References column. For items that are not applicable, indicate "N/A". 2. Provide project information in the Verification box at the right.				<input type="checkbox"/> OTHER NON-RESIDENTIAL F,H,L,S,U or A,B,E,I,M less than 25,000 sq.ft.	<input type="checkbox"/> OTHER NON-RESIDENTIAL ALTERATIONS + ADDITIONS A,B,E,F,H,L,I,M,S,U more than 1,000 sq.ft. or \$200,000	DRAWING OR SPECIFICATION # (If not applicable, indicate "N/A".)	PROJECT NAME <hr/> BLOCK/LOT <hr/> ADDRESS <hr/> PRIMARY OCCUPANCY <hr/> GROSS BUILDING AREA <hr/> Green Building Compliance Professional of Record will verify compliance.
Submittal must be a minimum of 24" x 36". CHECK THE ONE COLUMN THAT BEST DESCRIBES YOUR PROJECT →							NAME <hr/> FIRM <hr/> ARCHITECTURAL OR ENGINEERING LICENSE <input type="checkbox"/> I am a LEED Accredited Professional <input type="checkbox"/> I am a GreenPoint Rater <input type="checkbox"/> I am an ICC Certified CALGreen Inspector
TITLE	SOURCE OF REQUIREMENT	DESCRIPTION OF REQUIREMENT					
MATERIAL EMISSIONS	LOW-EMITTING MATERIALS	CALGreen 5.504.4.1-6	Use products that comply with the emission limit requirements of 4.504.2.1-5, 5.504.4.1-6 for adhesives, sealants, paints, coatings, carpet systems including cushions and adhesives, resilient flooring (80% of area), and composite wood products.	•	•		
WATER	INDOOR WATER USE REDUCTION	CALGreen 5.303.3, SF Building Code ch.13A	Meet flush/flow requirements for: toilets (1.28gpf); urinals (0.125gpf wall, 0.5gpf floor); showerheads (2.0gpm); lavatories (1.2gpm private, 0.5gpm public/common); kitchen faucets (1.8gpm); wash fountains (1.8gpm); metering faucets (0.2gpc); food waste disposers (1gpm/8gpm). Large non-residential alteration & addition projects must upgrade all non-compliant fixtures per SF Building Code ch.13A.	•	•		
	WATER-EFFICIENT IRRIGATION	Administrative Code ch.63	New construction projects with aggregated landscape area ≥500 sq.ft. or existing projects with modified landscape area ≥1,000 sq.ft., shall use low water use plants or climate appropriate plants, restrict turf areas and comply with Model Water Efficient Landscape Ordinance restrictions by calculated ETAF ≤.45 or by prescriptive compliance for projects with ≤2,500 sq.ft. of landscape area.	•	if applicable		
	WATER METERING	CALGreen 5.303.1	Provide submeters for spaces projected to consume >1,000gal/day (or >100gal/day in buildings >50,000 sq.ft).	•	•		
ENERGY	ALL-ELECTRIC CONSTRUCTION	SFBC 106A.1.17	Newly constructed buildings must be all-electric, with no gas piping systems or infrastructure. See Administrative Bulletin 112 for details.	•	n/r		
	ENERGY DESIGN	Title 24 Part 6, SFGBC 5.201	Energy Design – All projects must comply with California 2022 Energy Standards. Mixed-fuel (with natural gas): In isolated situations where natural gas may be permitted per Admin Bulletin 112, comply with Electric Ready Design Guidelines, installing wiring and electrical infrastructure for future conversion of all mixed-fuel loads to all-electric	•	•		
	BETTER ROOFS	Energy Code 140.10(a-b), SFGBC 5.201.1.2	Photovoltaics and battery storage are prescriptively required by CA Energy Code. If SFPUC Stormwater Requirements apply, each square foot of living roof contributing to Stormwater Management Ordinance compliance may reduce the Solar Access Roof Area by 1 square foot.	•	n/r		
	COMMISSIONING (Cx)	CALGreen 5.410.2-5.410.4.5.1	For projects ≥10,000 sq.ft, include OPR, BOD, and commissioning plan in design & construction. Commission to comply. Alterations & additions with new HVAC equipment must test and adjust all equipment.	•	•		
PARKING	BICYCLE PARKING	CALGreen 5.106.4, Planning Code sec.155.1-2	Provide short- and long-term bike parking equal to 5% of motorized vehicle parking, or meet SF Planning Code sec.155.1-2, whichever is greater.	•	if >10 stalls added		
	WIRING FOR ELECTRIC VEHICLE CHARGING	SFGBC 5.106.5.3, CALGreen 5.106.5.3.1, 5.106.5.3.2	Install raceway capable of supporting future Level 2 EVSE (min 40A 208/240VAC) and install Level 2 EVSE. See SFGBC Table 5.106.5.3.1 for minimum quantities. (Requires EVSE in approx. 5% of total spaces, and raceway to additional 5% of spaces)	•	if >10 stalls added		
	INFRASTRUCTURE FOR ELECTRIC VEHICLE CHARGING	CalGreen 5.103.3.3, 5.106.5.3	Install service capacity and panelboards with sufficient space. Electrical load calculations must demonstrate the entire electric system, including any on-site distribution transformers, has sufficient capacity to simultaneously charge all required circuits at the full specified amperage. If the number of receptacles or EVSE installed is greater than the minimum required, Automated Load Management Systems may be used. ALMS must have capacity to deliver 3.3kW simultaneously to each EVCS, and the total capacity dedicated to EV charging must be at a minimum equal to the minimum required number of EV Capable, EV Ready, and EVSE spaces at full specified amperage. Construct all off-street light-duty vehicle parking spaces with dimensions capable of installing EVSE.	•	n/r		
RESOURCE RECOVERY	RECYCLING BY OCCUPANTS	SF Building Code 106A.3.3, CALGreen 5.410.1, AB-088	Provide adequate space and equal access for storage, collection, and loading of compostable, recyclable and landfill materials. For help estimating adequate space for collection by hauler, see supporting materials including a design guide and calculator at: www.sfenvironment.org/refusecalculator.	•	•		
	CONSTRUCTION & DEMOLITION (C&D) DISCARDS MANAGEMENT	SFGBC 4.103.2.3 & 5.103.1.3.1, CALGreen 5.405.1.1, Environment Code ch.14, SF Building Code ch.13B	100% of mixed debris must be taken by a Permitted Transporter to a Registered Facility for recycling and recovery. Complete Material Reduction and Recovery Plan and demonstrate minimum 65% recovery rate. For more information, see Information Sheet GB-02, or contact 415-355-3799 or debrisrecovery@sfgov.org.	•	•		
HVAC	REFRIGERANT MANAGEMENT	CALGreen 5.508.1	Use no halons or CFCs in HVAC.	•	•		
GOOD NEIGHBOR	LIGHT POLLUTION REDUCTION	CA Energy Code, CALGreen 5.106.8	Comply with CA Energy Code for Lighting Zones 1-4. Comply with 5.106.8 for Backlight/Uplight/Glare.	•	•		
	BIRD-SAFE BUILDINGS	Planning Code sec.139	Glass facades and bird hazards facing and/or near Urban Bird Refuges may need to treat their glass for opacity.	•	•		
	TOBACCO SMOKE CONTROL	CALGreen 5.504.7	Prohibit smoking within 25 feet of building entries, air intakes, and operable windows.	•	•		
	SHADE TREES	CalGreen 5.106.12	Plant trees to sufficient to provide shade within 15 years for 20% of landscape and hardscape area. Exclude shade structures covered by photovoltaics or cool roof materials from total area calculation.	•	n/r		
POLLUTION PREVENTION	STORMWATER CONTROL PLAN	Public Works Code art.4.2 sec.147	Projects disturbing ≥5,000 sq.ft. in combined or separate sewer areas, or replacing ≥2,500 impervious sq.ft. in separate sewer area, must implement a Stormwater Control Plan meeting SFPUC Stormwater Management Requirements.	•	if project extends outside envelope		
	CONSTRUCTION SITE RUNOFF	Public Works Code art.4.2 sec.146	Provide a construction site Stormwater Pollution Prevention Plan and implement SFPUC Best Management Practices.	if disturbing ≥5,000 sq.ft.	if project extends outside envelope		
INDOOR ENVIRONMENTAL QUALITY	ACOUSTICAL CONTROL	CALGreen 5.507.4.1-3	Comply with sound transmission limits (STC-50 exteriors near freeways/airports; STC-45 exteriors if 65db Leq at any time; STC-40 interior walls/floor-ceilings between tenants).	•	•		
	AIR FILTRATION (CONSTRUCTION)	CALGreen 5.504.1-3	Seal permanent HVAC ducts/equipment stored onsite before installation.	•	•		
	AIR FILTRATION (OPERATIONS)	CALGreen 5.504.5.3	Provide MERV-13 filters on HVAC for regularly occupied, actively ventilated spaces.	•	•		

To the best of my knowledge, it is my professional opinion the green building requirements of the City of San Francisco will be met for the above referenced project. I have been retained by the project sponsor to review all submittal documents and verify that approved construction documents and construction properly reflect the requirements of the San Francisco Green Building Code. I will notify the Department of Building Inspection if I believe to the best of my knowledge that the project will, for any reason, not substantially comply with these green building requirements, or if I am no longer the Green Building Compliance Professional of Record for this project.

LICENSED PROFESSIONAL (sign & date)
AFFIX STAMP BELOW:

GS4: San Francisco Green Building Submittal Form for Non-Residential Interior-Only Alteration Projects

INSTRUCTIONS: 1. Select one (1) column to the right. For each applicable requirement in the column, indicate evidence of fulfillment in the References column. For items that are not applicable, indicate "N/A". 2. Provide project information in the Verification box at the right. 3. Submittal must be a minimum of 24" x 36".				NON-RESIDENTIAL INTERIOR-ONLY ALTERATION <small>A, B, E, F, H, L, I, M, S, U greater than \$200,000</small>			REFERENCES	VERIFICATION																																												
MARK WHICH SCOPES ARE INCLUDED IN THIS SUBMITTAL →				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PROJECT NAME																																													
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;"></th> <th style="width: 15%;">TITLE</th> <th style="width: 15%;">SOURCE OF REQUIREMENT</th> <th style="width: 60%;">DESCRIPTION OF REQUIREMENT</th> </tr> </thead> <tbody> <tr> <td style="text-align: center; vertical-align: middle;">MATERIAL EMISSIONS</td> <td>LOW-EMITTING MATERIALS</td> <td>CALGreen 5.504.4.1-6</td> <td>Use products that comply with the emission limit requirements of 5.504.4.1-6 for adhesives, sealants, paints, coatings, carpet systems including cushions and adhesives, resilient flooring (80% of area), and composite wood products.</td> </tr> <tr> <td style="text-align: center; vertical-align: middle;">WATER</td> <td>INDOOR WATER USE REDUCTION</td> <td>CALGreen 5.303.3, SF Building Code ch.13A</td> <td>Meet flush/flow requirements for: toilets (1.28gpf); urinals (0.125gpf wall, 0.5gpf floor); showerheads (2.0gpm); lavatories (1.2gpm private, 0.5gpm public/common); kitchen faucets (1.8gpm); wash fountains (1.8gpm); metering faucets (0.2gpc); food waste disposers (1gpm/8gpm). Large non-residential interiors projects must upgrade all non-compliant fixtures per SF Building Code ch.13A.</td> </tr> <tr> <td></td> <td>WATER METERING</td> <td>CALGreen 5.303.1</td> <td>Provide submeters for spaces projected to consume >1,000gal/day (or >100gal/day in buildings >50,000 sq.ft).</td> </tr> <tr> <td style="text-align: center; vertical-align: middle;">ENERGY</td> <td>ENERGY EFFICIENCY</td> <td>CA Energy Code</td> <td>Comply with all provisions of the CA Energy Code.</td> </tr> <tr> <td></td> <td>COMMISSIONING</td> <td>CALGreen 5.410.4</td> <td>All new HVAC equipment must be tested and adjusted.</td> </tr> <tr> <td style="text-align: center; vertical-align: middle;">RESOURCE RECOVERY</td> <td>RECYCLING BY OCCUPANTS</td> <td>SF Building Code 106A.3.3, CalGreen 5.410.1, AB-088</td> <td>Provide adequate space and equal access for storage, collection, and loading of compostable, recyclable and landfill materials. For help estimating adequate space for collection by hauler, see supporting materials including a design guide and calculator at: www.sfenvironment.org/refusecalculator.</td> </tr> <tr> <td></td> <td>CONSTRUCTION & DEMOLITION (C&D) DISCARDS MANAGEMENT</td> <td>SFGBC 4.103.2.3 & 5.103.1.3.1, CalGreen 5.405.1.1 Environment Code ch.14, SF Building Code ch.13B</td> <td>100% of mixed debris must be taken by a Permitted Transporter to a Registered Facility for recycling and recovery. Complete Material Reduction and Recovery Plan and demonstrate minimum 65% recovery rate. For more information, see Information Sheet GB-02, or contact 415-355-3799 / debrisrecovery@sfgov.org.</td> </tr> <tr> <td style="text-align: center; vertical-align: middle;">HVAC</td> <td>REFRIGERANT MANAGEMENT</td> <td>CALGreen 5.508.1</td> <td>Use no halons or CFCs in HVAC.</td> </tr> <tr> <td style="text-align: center; vertical-align: middle;">INDOOR ENVIRONMENTAL QUALITY</td> <td>AIR FILTRATION (CONSTRUCTION)</td> <td>CALGreen 5.504.1-3</td> <td>Seal permanent HVAC ducts/equipment stored onsite before installation.</td> </tr> <tr> <td></td> <td>AIR FILTRATION (OPERATIONS)</td> <td>CALGreen 5.504.5.3</td> <td>Projects must provide MERV-13 filters on HVAC for regularly occupied, actively ventilated spaces.</td> </tr> </tbody> </table>					TITLE	SOURCE OF REQUIREMENT	DESCRIPTION OF REQUIREMENT	MATERIAL EMISSIONS	LOW-EMITTING MATERIALS	CALGreen 5.504.4.1-6	Use products that comply with the emission limit requirements of 5.504.4.1-6 for adhesives, sealants, paints, coatings, carpet systems including cushions and adhesives, resilient flooring (80% of area), and composite wood products.	WATER	INDOOR WATER USE REDUCTION	CALGreen 5.303.3, SF Building Code ch.13A	Meet flush/flow requirements for: toilets (1.28gpf); urinals (0.125gpf wall, 0.5gpf floor); showerheads (2.0gpm); lavatories (1.2gpm private, 0.5gpm public/common); kitchen faucets (1.8gpm); wash fountains (1.8gpm); metering faucets (0.2gpc); food waste disposers (1gpm/8gpm). Large non-residential interiors projects must upgrade all non-compliant fixtures per SF Building Code ch.13A.		WATER METERING	CALGreen 5.303.1	Provide submeters for spaces projected to consume >1,000gal/day (or >100gal/day in buildings >50,000 sq.ft).	ENERGY	ENERGY EFFICIENCY	CA Energy Code	Comply with all provisions of the CA Energy Code.		COMMISSIONING	CALGreen 5.410.4	All new HVAC equipment must be tested and adjusted.	RESOURCE RECOVERY	RECYCLING BY OCCUPANTS	SF Building Code 106A.3.3, CalGreen 5.410.1, AB-088	Provide adequate space and equal access for storage, collection, and loading of compostable, recyclable and landfill materials. For help estimating adequate space for collection by hauler, see supporting materials including a design guide and calculator at: www.sfenvironment.org/refusecalculator.		CONSTRUCTION & DEMOLITION (C&D) DISCARDS MANAGEMENT	SFGBC 4.103.2.3 & 5.103.1.3.1, CalGreen 5.405.1.1 Environment Code ch.14, SF Building Code ch.13B	100% of mixed debris must be taken by a Permitted Transporter to a Registered Facility for recycling and recovery. Complete Material Reduction and Recovery Plan and demonstrate minimum 65% recovery rate. For more information, see Information Sheet GB-02, or contact 415-355-3799 / debrisrecovery@sfgov.org.	HVAC	REFRIGERANT MANAGEMENT	CALGreen 5.508.1	Use no halons or CFCs in HVAC.	INDOOR ENVIRONMENTAL QUALITY	AIR FILTRATION (CONSTRUCTION)	CALGreen 5.504.1-3	Seal permanent HVAC ducts/equipment stored onsite before installation.		AIR FILTRATION (OPERATIONS)	CALGreen 5.504.5.3	Projects must provide MERV-13 filters on HVAC for regularly occupied, actively ventilated spaces.	ARCHITECTURE	MECHANICAL	PLUMBING	DRAWING OR SPECIFICATION # (If not applicable, indicate "N/A".)	BLOCK/LOT ADDRESS PRIMARY OCCUPANCY GROSS BUILDING AREA
	TITLE	SOURCE OF REQUIREMENT	DESCRIPTION OF REQUIREMENT																																																	
MATERIAL EMISSIONS	LOW-EMITTING MATERIALS	CALGreen 5.504.4.1-6	Use products that comply with the emission limit requirements of 5.504.4.1-6 for adhesives, sealants, paints, coatings, carpet systems including cushions and adhesives, resilient flooring (80% of area), and composite wood products.																																																	
WATER	INDOOR WATER USE REDUCTION	CALGreen 5.303.3, SF Building Code ch.13A	Meet flush/flow requirements for: toilets (1.28gpf); urinals (0.125gpf wall, 0.5gpf floor); showerheads (2.0gpm); lavatories (1.2gpm private, 0.5gpm public/common); kitchen faucets (1.8gpm); wash fountains (1.8gpm); metering faucets (0.2gpc); food waste disposers (1gpm/8gpm). Large non-residential interiors projects must upgrade all non-compliant fixtures per SF Building Code ch.13A.																																																	
	WATER METERING	CALGreen 5.303.1	Provide submeters for spaces projected to consume >1,000gal/day (or >100gal/day in buildings >50,000 sq.ft).																																																	
ENERGY	ENERGY EFFICIENCY	CA Energy Code	Comply with all provisions of the CA Energy Code.																																																	
	COMMISSIONING	CALGreen 5.410.4	All new HVAC equipment must be tested and adjusted.																																																	
RESOURCE RECOVERY	RECYCLING BY OCCUPANTS	SF Building Code 106A.3.3, CalGreen 5.410.1, AB-088	Provide adequate space and equal access for storage, collection, and loading of compostable, recyclable and landfill materials. For help estimating adequate space for collection by hauler, see supporting materials including a design guide and calculator at: www.sfenvironment.org/refusecalculator.																																																	
	CONSTRUCTION & DEMOLITION (C&D) DISCARDS MANAGEMENT	SFGBC 4.103.2.3 & 5.103.1.3.1, CalGreen 5.405.1.1 Environment Code ch.14, SF Building Code ch.13B	100% of mixed debris must be taken by a Permitted Transporter to a Registered Facility for recycling and recovery. Complete Material Reduction and Recovery Plan and demonstrate minimum 65% recovery rate. For more information, see Information Sheet GB-02, or contact 415-355-3799 / debrisrecovery@sfgov.org.																																																	
HVAC	REFRIGERANT MANAGEMENT	CALGreen 5.508.1	Use no halons or CFCs in HVAC.																																																	
INDOOR ENVIRONMENTAL QUALITY	AIR FILTRATION (CONSTRUCTION)	CALGreen 5.504.1-3	Seal permanent HVAC ducts/equipment stored onsite before installation.																																																	
	AIR FILTRATION (OPERATIONS)	CALGreen 5.504.5.3	Projects must provide MERV-13 filters on HVAC for regularly occupied, actively ventilated spaces.																																																	
				Green Building Compliance Professional of Record for Architectural Measures <i>I have been retained by the project sponsor to verify that approved construction documents and construction fulfill the requirements of San Francisco Green Building Code. It is my professional opinion that the requirements of the San Francisco Green Building Code will be met. I will notify the Department of Building Inspection if the project will, for any reason, not substantially comply with these requirements, or if I am no longer the Green Building Compliance Professional of Record for the project.</i>			NAME FIRM																																													
				ARCHITECTURAL OR ENGINEERING LICENSE LICENSED PROFESSIONAL (sign & date) AFFIX STAMP BELOW:			ARCHITECTURAL OR ENGINEERING LICENSE LICENSED PROFESSIONAL (sign & date) AFFIX STAMP BELOW:																																													
				Green Building Compliance Professional of Record for Mechanical and/or Plumbing Measures <i>I have been retained by the project sponsor to verify that approved construction documents and construction fulfill the requirements of San Francisco Green Building Code. It is my professional opinion that the requirements of the San Francisco Green Building Code will be met. I will notify the Department of Building Inspection if the project will, for any reason, not substantially comply with these requirements, or if I am no longer the Green Building Compliance Professional of Record for the project.</i>			NAME FIRM																																													
				ARCHITECTURAL OR ENGINEERING LICENSE LICENSED PROFESSIONAL (sign & date) AFFIX STAMP BELOW:			ARCHITECTURAL OR ENGINEERING LICENSE LICENSED PROFESSIONAL (sign & date) AFFIX STAMP BELOW:																																													

FOR YOUR INFORMATION

Indoor Water Efficiency

Each fixture must not exceed CALGreen 5.303 maximum flow rates.

FIXTURE TYPE	MAXIMUM FIXTURE FLOW RATE
Showerheads ²	1.8 gpm @ 80 psi
Lavatory Faucets: non-residential	0.5 gpm @ 60 psi
Kitchen Faucets	1.8 gpm @ 60 psi default
Wash Fountains	1.8 gpm / 20 [rim space (inches) @ 60 psi]
Metering Faucets	.20 gallons per cycle
Metering Faucets: wash fountains	.20 gallons per cycle / 20 [rim space (inches) @ 60 psi]
Tank-type water closets	1.28 gallons / flush ¹ and EPA WaterSense Certified
Flushometer valve water closets	1.28 gallons / flush ¹
Urinals	Wall mount: 0.125 gallons / flush Floor mount: 0.5 gallons / flush

NOTES:

- For dual flush toilets, effective flush volume is defined as the composite, average flush volume of two reduced flushes and one full flush. The referenced standard is ASME A112.19.14 and USEPA WaterSense Tank-Type High Efficiency Toilet Specification – 1.28 gal (4.8L).
- The combined flow rate of all showerheads in one shower stall shall not exceed the maximum flow rate for one showerhead, or the shower shall be designed to allow only one showerhead to be in operation at a time (CALGreen 5.303.2.1)

Water Efficiency of Existing Non-Compliant Fixtures

All fixtures that are not compliant with the San Francisco Commercial Water Conservation Ordinance that serve or are located within the project area must be replaced with fixtures or fittings meeting the maximum flow rates and standards referenced above. For more information, see the Commercial Water Conservation Program Brochure, available at SFDBI.org.

NON-COMPLIANT PLUMBING FIXTURES INCLUDE:

- Any toilet manufactured to use more than 1.6 gallons/flush
- Any urinal manufactured to use more than 1 gallon/flush
- Any showerhead manufactured to have a flow capacity of more than 2.5 gpm
- Any interior faucet that emits more than 2.2 gpm

Exceptions to this requirement are limited to situations where replacement of fixture(s) would detract from the historic integrity of the building, as determined by the Department of Building Inspection pursuant to San Francisco Building Code Chapter 13A.

NAME

FIRM

ARCHITECTURAL OR ENGINEERING LICENSE

LICENSED PROFESSIONAL (sign & date)

AFFIX STAMP BELOW:

GS5: San Francisco Green Building Submittal Form for Residential Alteration, Addition, and Accessory Dwelling Unit Projects

INSTRUCTIONS:				OTHER RESIDENTIAL ALTERATIONS, ADDITIONS AND ACCESSORY DWELLING UNITS	VERIFICATION
Fill out the project information in the Verification box at the right. Submittal must be a minimum of 11" x 17".					
	TITLE	SOURCE OF REQUIREMENT	DESCRIPTION OF REQUIREMENT		
RESIDENTIAL	GRADING & PAVING	CALGreen 4.106.3	Show how surface drainage (grading, swales, drains, retention areas) will keep surface water from entering the building.	if applicable	Indicate below who is responsible for ensuring green building requirements are met. Projects that increase total conditioned floor area by ≥1,000 sq. ft. are required to have a Green Building Compliance Professional of Record as described in Administrative Bulletin 93. For projects that increase total conditioned floor area by <1,000 sq. ft., the applicant or design professional may sign below, and no license or special qualifications are required. FINAL COMPLIANCE VERIFICATION form will be required prior to Certificate of Completion
	RODENT PROOFING	CALGreen 4.406.1	Seal around pipe, cable, conduit, and other openings in exterior walls with cement mortar or DBI-approved similar method.	•	
	FIREPLACES & WOODSTOVES	CALGreen 4.503.1	Install only direct-vent or sealed-combustion, EPA Phase II-compliant appliances.	•	
	CAPILLARY BREAK, SLAB ON GRADE	CALGreen 4.505.2	Slab on grade foundation requiring vapor retarder also requires a capillary break such as: 4 inches of base 1/2-inch aggregate under retarder; slab design specified by licensed professional.	•	
	MOISTURE CONTENT	CALGreen 4.505.3	Wall + floor <19% moisture content before enclosure.	•	
	BATHROOM EXHAUST	CALGreen 4.506.1	Must be ENERGY STAR compliant, ducted to building exterior, and its humidistat shall be capable of adjusting between <50% to >80% (humidistat may be separate component).	•	
MATERIAL EMISSIONS	LOW-EMITTING MATERIALS	CALGreen 4.504.2.1-5, SFGBC 4.103.3.2	Use products that comply with the emission limit requirements of 4.504.2.1-5, 5.504.4.1-6 for adhesives, sealants, paints, coatings, carpet systems including cushions and adhesives, resilient flooring (80% of area), and composite wood products.	•	PROJECT NAME
WATER	INDOOR WATER USE REDUCTION	CALGreen 4.303.1, SF Housing Code sec.12A10	Meet flush/flow requirements for: toilets (1.28 gpf); urinals (0.125 gpf wall, 0.5 gpf floor); showerheads (1.8 gpm); lavatories (1.2 gpm private, 0.5 gpm public/common); kitchen faucets (1.8 gpm); wash fountains (1.8 gpm); metering faucets (0.2 gpc); food waste disposers (1 gpm/8 gpm). Residential major improvement projects must upgrade all non-compliant fixtures per SF Housing Code sec.12A10.	•	BLOCK/LOT
	WATER-EFFICIENT IRRIGATION	Administrative Code ch.63	If modified landscape area is ≥1,000 sq.ft., use low water use plants or climate appropriate plants, restrict turf areas and comply with Model Water Efficient Landscape Ordinance restrictions by calculated ETAF of ≤.55 or by prescriptive compliance for projects with ≤2,500 sq. ft. of landscape area.	•	ADDRESS
ENERGY	ENERGY EFFICIENCY	CA Energy Code	Comply with all provisions of the CA Energy Code. Freestanding ADU only: All-Electric is required by SF Building Code 106A.1.17.	•	PRIMARY OCCUPANCY
PARKING	WIRING FOR EV CHARGERS	CalGreen 4.106.4.3	For alterations to multifamily, install raceway for future Level 2 EVSE (min 40A 208/240VAC) terminating at 10% of parking spaces in areas where parking is added, or electrical systems (including lighting) are altered in existing parking facilities.	Applies to alterations where: Off-street parking is added, OR Electrical systems are altered in existing parking facilities	GROSS BUILDING AREA
	BICYCLE PARKING	Planning Code sec.155.1-2	Provide short- and long-term bike parking to meet requirements of SF Planning Code sec.155.1-2.	if applicable	INCREASE IN CONDITIONED FLOOR AREA
RESOURCE RECOVERY	RECYCLING BY OCCUPANTS	SF Building Code 106A.3.3, CalGreen 5.410.1, AB-088	Provide adequate space and equal access for storage, collection, and loading of compostable, recyclable and landfill materials. For help estimating adequate space for collection by hauler, see supporting materials including a design guide and calculator at: www.sfenvironment.org/refusecalculator.	•	I have been retained by the project sponsor to verify that approved construction documents and construction fulfill the requirements of San Francisco Green Building Code. It is my professional opinion that the requirements of the San Francisco Green Building Code will be met. I will notify the Department of Building Inspection if the project will, for any reason, not substantially comply with these requirements, if I am no longer the Green Building Compliance Professional of Record for the project, or if I am otherwise no longer responsible for assuring the compliance of the project with the San Francisco Green Building Code.
	CONSTRUCTION & DEMOLITION (C&D) DISCARDS MANAGEMENT	Environment Code ch. 14 SFGBC 4.103.2.3 CalGreen 4.408.2, 4.408.5	100% of mixed debris must be taken by a Permitted Transporter to a Registered Facility for recycling and recovery. Complete Material Reduction and Recovery Plan and demonstrate minimum 65% recovery rate. For more information, see DBI Information Sheet GB-02 or contact: debrisrecovery@sfgov.org or 415-355-3799.	•	
HVAC	HVAC INSTALLER QUALS	CALGreen 4.702.1	Installers must be trained in best practices.	•	LICENSED PROFESSIONAL (sign & date)
	HVAC DESIGN	CALGreen 4.507.2	HVAC shall be designed to ACCA Manual J, D, and S.	•	May be signed by applicant when <1,000 sq. ft. is added.
GOOD NEIGHBOR	BIRD-SAFE BUILDINGS	Planning Code sec.139	Glass facades and bird hazards facing and/or near Urban Bird Refuges may need to treat their glass for opacity.	•	AFFIX STAMP BELOW:
	TOBACCO SMOKE CONTROL	Health Code art.19F	Prohibit smoking within 10 feet of building entries, air intakes, and operable windows and enclosed common areas.	•	
POLLUTION PREVENTION	STORMWATER CONTROL PLAN	Public Works Code art.4.2 sec.147	Projects disturbing ≥5,000 sq.ft. in combined or separate sewer areas, or replacing ≥2,500 impervious sq.ft. in separate sewer area, must implement a Stormwater Control Plan meeting SFPUC Stormwater Management Requirements.	if project extends outside envelope	Projects that increase total conditioned floor area by ≥1,000 sq.ft.: Green Building Compliance Professional of Record will verify compliance.
	CONSTRUCTION SITE RUNOFF	Public Works Code art.4.2 sec.146	Provide a construction site Stormwater Pollution Prevention Plan and implement SFPUC Best Management Practices.	if project extends outside envelope	
INDOOR AIR QUALITY	AIR FILTRATION (CONSTRUCTION)	CALGreen 4.504.1	Seal permanent HVAC ducts/equipment stored onsite before installation.	•	GREEN BUILDING COMPLIANCE PROFESSIONAL (name & contact phone #)

FOR YOUR INFORMATION: INDOOR WATER EFFICIENCY	Each fixture must not exceed CALGreen 4.303 maximum flow rates:		NOTES:
	FIXTURE TYPE	MAXIMUM FIXTURE FLOW RATE	
	Showerheads ²	1.8 gpm @ 80 psi	1. For dual flush toilets, effective flush volume is defined as the composite, average flush volume of two reduced flushes and one full flush. The referenced standard is ASME A112.19.14 and USEPA WaterSense Tank-Type High Efficiency Toilet Specification – 1.28 gal (4.8L) 2. The combined flow rate of all showerheads in one shower stall shall not exceed the maximum flow rate for one showerhead, or the shower shall be designed to allow only one showerhead to be in operation at a time (CALGreen 5.303.2.1)
	Lavatory Faucets: residential	1.2 gpm @ 60 psi	
	Kitchen Faucets	1.8 gpm @ 60 psi default	
	Wash Fountains	1.8 gpm / 20 [rim space (inches) @ 60 psi]	
	Metering Faucets	.20 gallons per cycle	
	Tank-type water closets	1.28 gallons / flush ¹ and EPA WaterSense Certified	
	Flushometer valve water closets	1.28 gallons / flush ¹	
	Urinals	Wall mount: 0.125 gallons / flush Floor mount: 0.5 gallons / flush	

Water Efficiency of Existing Non-Compliant Fixtures

All fixtures that are not compliant with the San Francisco Residential Water Conservation Ordinance that serve or are located within the project area must be replaced with fixtures or fittings meeting the maximum flow rates and standards referenced above. For more information, see "Comply with water conservation requirements" available at SFGOV.

NON-COMPLIANT PLUMBING FIXTURES INCLUDE:

- Any toilet manufactured to use more than 1.6 gallons/flush
- Any urinal manufactured to use more than 1 gallon/flush
- Any showerhead manufactured to have a flow capacity of more than 2.5 gpm
- Any interior faucet that emits more than 2.2 gpm

Exceptions to this requirement are limited to situations where replacement of fixture(s) would detract from the historic integrity of the building, as determined by the Department of Building Inspection pursuant to San Francisco Building Code Chapter 13A.

GREEN BUILDING COMPLIANCE PROFESSIONAL (name & contact phone #)

FIRM

I am a LEED Accredited Professional
 I am a GreenPoint Rater
 I am an ICC Certified CALGreen Inspector

GREEN BUILDING COMPLIANCE PROFESSIONAL (sign & date)

Signature by a professional holding at least one of the above certifications is required. If the Licensed Professional does not hold a certification for green design and/or inspection, this section may be completed by another party who will verify applicable green building requirements are met.

GS6: San Francisco Green Building Submittal Form for Municipal Projects

INSTRUCTIONS:

- Select one (1) column to the right and check the appropriate box.
- For each requirement in the column, indicate evidence of fulfillment in the References column.
- Fill out the project information in the Verification box at the right.
- Attach LEED Scorecard on separate, subsequent sheet.
- Submittal shall be a minimum of 24" x 36".

For supporting resources, visit:
sfenvironment.org/chapter7 and
sf.gov/resource/2022/current-san-francisco-building-codes

CHECK THE ONE COLUMN THAT BEST DESCRIBES YOUR PROJECT →

* This form includes the requirements of San Francisco Green Building Code and Environment Code Chapter 7. Major Renovations as defined by Environment Code Chapter 7 also include Major Alterations as defined by SFGBC, where applicable.

				MUNICIPAL PROJECT			REFERENCES	VERIFICATION
				<input type="checkbox"/> NEW CONSTRUCTION & MAJOR RENOVATION*	<input type="checkbox"/> COMMERCIAL INTERIORS	<input type="checkbox"/> SMALL PROJECTS	DRAWING OR SPECIFICATION NUMBER (If not applicable, indicate "N/A".)	PROJECT NAME
				PROJECT GROSS FLOOR AREA:				BLOCK/LOT
				10,000 sq.ft. or greater	10,000 sq.ft. or greater	less than 10,000 sq.ft. or any not meeting LEED prerequisites		ADDRESS
				GOLD (60+) LEED BD+C	GOLD (60+) LEED ID+C	n/r		PRIMARY OCCUPANCY
				_____	_____	n/r		PROJECT GROSS FLOOR AREA
				_____	_____	n/r		LEED PROJECTS
				•	•	•	Projects ≥10,000 square feet	
				•	n/r	if new construction ≥2,000 sq.ft.	<i>I understand Environment Code Chapter 7 requires all applicable projects ≥10,000 square feet to attain LEED Gold certification from USGBC/GBCI. No Green Building Compliance Professional of Record is required.</i>	
				LEED EAp1, LEED EAc1 (3+ pts)	LEED EAp1, LEED EAc1 (4+ pts)	5.410.2 - 5.410.4.5.1		PROJECT MANAGER (name)
				•	any newly installed equipment	any newly installed equipment		PROJECT MANAGER (sign & date)
				•	•	•		PROJECT MANAGER AGENCY
				•	n/r	if new construction		NON-LEED PROJECTS
				new construction, or (per SFGBC) major alteration ≥25k sq ft	n/r	if new construction	Projects <10,000 square feet, receiving a waiver, or not meeting LEED MPR's	
				•	•	5.106.4	<i>This project is not required to obtain LEED certification because it is <10,000 square feet, does not meet LEED Minimum Program Requirements, and/or received a waiver from Environment Code Chapter 7 from the Director of Department of Environment. An informational LEED scorecard will be submitted to the Municipal Green Building Task Force at 100% concept design and as-built without requirement for further LEED documentation or certification.</i>	
				BD+C: MRc1, MRc5 ID+C: MRc2, MRc6	•	•		PROJECT MANAGER (name)
				MRp1	•	•		PROJECT MANAGER (sign & date)
				BD+C: MRc1, MRc2 ID+C: MRc2, MRc3	•	•		PROJECT MANAGER AGENCY
				BD+C: EAp4 ID+C: EAp3	•	•		Green Building Compliance Professional of Record
				BD+C: EQc9	•	limited to envelope additions & alterations		<i>I have been retained by the project sponsor to review all submittal documents and verify that all approved construction documents and construction fulfill the requirements of the San Francisco Green Building Code. It is my professional opinion that the requirements of the San Francisco Green Building Code will be met. I will notify the Department of Building Inspection if the project will, for any reason, not substantially comply with these requirements. If I am no longer the Green Building Compliance Professional of Record for the project, or if I am otherwise no longer responsible for assuring the compliance of the project with the San Francisco Green Building Code.</i>
				EQc3	•	•		LICENSED PROFESSIONAL (sign & date)
				EQc1	•	•		AFFIX STAMP BELOW:
				EQc1	•	n/r		
				EQc3	•	•		
				EQc4	•	•		
				BD+C: MRc4/ ID+C: MRc5	•	•		
				BD+C: EQc2 MRc4/ ID+C: EQc2 MRc5	•	•		
				EQp2	•	•		
				SSc6 pilot credit	•	if applicable		
				BD+C: SSc5	•	n/r		
				BD+C: SSp1	if project disturbs ≥5,000 sq.ft.	if project disturbs ≥5,000 sq.ft.		
				BD+C: SSc4	if applicable	if applicable		
				BD+C: WEp2, WEc2 ID+C: WEp1, WEc1	LEED WEp2, LEED WEc2 (2 pts)	LEED WEp1, LEED WEc1 (4 pts)		
				BD+C: WEp1 WEc1	•	•		
				BD+C: WEc4	•	•		
				BD+C: WEc3	•	n/r		
				BD+C: SSc5	•	n/r		
GREEN BUILDING RATING SYSTEMS	Required LEED Certification Level	Env Code 704(a)		Project is required to achieve sustainability certification listed at right.				
	LEED Point Adjustment for Retention/Demolition of Historic Features/Building LEED Points Shown on Current Scorecard	SFGBC 5.104		Enter any applicable point adjustments in box at right.				
	LEED Scorecard Submittals	Env Code 704(a)		Enter current expected LEED score in box at right.				
				For projects ≥10,000 sq.ft., submit LEED Scorecard to Municipal Green Building Task Force at 100% Conceptual Design, Schematic Design, Design Development, Construction Documents, and As-Built. For projects <10,000 sq.ft., submit LEED Scorecard to Municipal Green Building Task Force at 100% Conceptual Design and As-Built. LEED Online is an acceptable means of submittal.	•	•	•	
ENERGY OPTIMIZATION	Better Roofs	CA Energy Code 140.10(a-b) SFGBC 5.201.1.2	EAc2 (or various)	Photovoltaics and battery energy storage systems are prescriptively required for common nonresidential occupancies per CA Energy Code 140.10(a-b) and prescriptively required for multifamily per 170.2(f-g). If SFPUC Stormwater Requirements apply, each square foot of living roof contributing to Stormwater Management Ordinance compliance may reduce the Solar Access Roof Area by 1 sq ft.	•	n/r	if new construction ≥2,000 sq.ft.	
	Commissioning (Cx)	Env Code 704(b)(2) OR CALGreen 5.410.2-5.410.4.5.1	EAp1 EAc1	For projects ≥10,000 sq.ft., comply with LEED Cx requirements – OPR, BOD, systems testing, operations manual, and Enhanced and Monitoring-Based Commissioning. For projects <10,000 sq.ft. and all new equipment in alterations & additions, comply with 5.410.2-5.410.4.5.1 – test, adjust, and balance (TAB) all equipment.	LEED EAp1, LEED EAc1 (3+ pts)	LEED EAp1, LEED EAc1 (4+ pts)	5.410.2 - 5.410.4.5.1	
	All-Electric Building	Env Code 704(b)(3) and (4)		New construction and major renovation projects shall be all-electric. In alterations of any size, newly installed equipment shall be all-electric. Exceptions when necessary are available for processes separate from building systems such as vehicle fueling, existing equipment outside project scope, or fossil fuel-based emergency backup generation.	•	any newly installed equipment	any newly installed equipment	
	Electrification of Existing Building Systems	Env Code 704(b)(4)		When gas-using equipment/system is removed, it shall be replaced with electric equipment/systems. In alterations of any size, newly installed equipment shall be all-electric. Any upgraded electric service infrastructure shall be sufficient to accommodate the new equipment and future replacement and electrification of remaining gas-using equipment.	•	•	•	
	Energy Resilience	Env Code 704(b)(5) CA Energy Code, SFGBC 5.201	EAc5	New construction and major renovation of Critical Community Institutions (public safety facilities, health clinics, community centers, libraries, & emergency management facilities) shall install battery storage and photovoltaics sufficient to supply Tier 1 Emergency Loads and functions. All other new construction and major renovation projects that include both HVAC system replacement and electrical system upgrade shall install battery storage and photovoltaics sufficient to supply Tier 1 Emergency Loads and functions; OR be designed to achieve annual site zero net energy, OR achieve a design EUI 50% better than the national median site EUI; OR for a building with process loads that are at least 50% of the building's total energy use, exceed requirements of ASHRAE 90.1-2019 by 10%.	•	n/r	if new construction	
CLEAN TRANSPORT	Wiring for EV Charging	CalGreen 5.103.3 and 5.106.5 (all sections) SFGBC Table 5.106.5.3.1	LTc8	Construct all new off-street parking spaces for passenger vehicles and trucks with dimensions capable of installing EVSE (SFGBC 5.106.5.3). Install raceway capable of supporting future Level 2 EVSE (min 40A 208/240VAC) terminating close to the proposed EV charger location and install Level 2 EVSE. See SFGBC Table 5.106.5.3.1 for minimum quantities. (Note: Admin Code 4.10-1 requires 100% of purchases and leases of light duty vehicles for municipal use to be ZEV.) Install service capacity and panelboards with sufficient space. Electrical load calculations shall demonstrate the electric system, including any on-site distribution transformers, has sufficient capacity to simultaneously charge all required circuits at the full specified amperage. If the number of receptacles or EVSE installed is greater than the minimum required, Automated Load Management Systems may be used if the ALMS has capacity to deliver 3.3kW simultaneously to each EVCS, provided the total capacity dedicated to EV charging is no less than the minimum required to support the minimum EV Capable, EV Ready, and EVSE spaces combined. Construct all off-street light-duty vehicle parking spaces with dimensions capable of installing EVSE.	new construction, or (per SFGBC) major alteration ≥25k sq ft	n/r	if new construction	
	Bicycle Parking	CAL Green 5.106.4 Planning Code 155.1-3	BD+C: LTc6/ ID+C: LTc4	Provide short- and long-term bike parking equal to 5% of motorized vehicle parking, or meet SF Planning Code sec.155.1-3, whichever is greater.	•	•	5.106.4	
RESPONSIBLE PRODUCTION & CONSUMPTION	Waste Prevention	Env Code 704(c)(1) & 1402 SF Building Code.13B CalGreen 5.405.1.1	BD+C: MRc1, MRc5 ID+C: MRc2, MRc6	Minimize mixed debris by source-separating for reuse or recycling: concrete, metal, clean solid wood, clean and unpainted drywall, and carpet and carpet padding (at minimum). 100% of mixed debris shall be taken by a Permitted Transporter to a Registered Facility for recycling and recovery. Complete Material Reduction and Recovery Plan and demonstrate minimum 65% recovery rate. For information, contact debrisrecovery@sfgov.org or 415-355-3799. Tenant improvements ≥10,000 sq.ft. shall generate less than 10 lbs/sq.ft. of waste from construction, deconstruction, and demolition activities. (New construction and renovations are encouraged to target >15 lbs/sq.ft.) SFO projects: follow SFO Sustainable Planning, Design & Construction Standards.	•	•	•	
	Material Reuse	Env Code 704(c)(2)		Before buying new furniture, fixtures, or equipment, the project team shall check the Virtual Warehouse for available items that meet their needs: sfenvironment.org/virtualwarehouse .	•	•	•	
	Recycling by Occupants	Env Code 704(c)(3) CALGreen 5.410.1	MRp1	Provide adequate space and access for storage, collection and loading of compostable, recyclable and landfill materials. For more info see Adequate Refuse Space Design Guide and calculator at: sfenvironment.org/refusecalculator	•	•	•	
	Embodied Carbon Reductions	Env Code 704(c)(4)	BD+C: MRc1, MRc2 ID+C: MRc2, MRc3	For projects ≥10,000 sq.ft., submit Embodied Carbon Reduction Strategies Checklist to Municipal Green Building Task Force at Schematic Design and As-Built. Permanently install at least 20 different products sourced from at least 5 different manufacturers that have an Environmental Product Declaration. New construction and major renovation projects ≥10,000 sq.ft. shall conduct a Life Cycle Assessment (LCA) and demonstrate at least 10% GWP reduction by addressing at least 3 product categories/building assembly types. Tenant improvements ≥10,000 sq.ft. shall either conduct an LCA and demonstrate at least 10% GWP reduction; OR demonstrate furniture/interior nonstructural elements reuse equivalent to at least 10% by cost.	•	•	•	
	Refrigerant Management	CALGreen 5.508.1	BD+C: EAp4 ID+C: EAp3	Use no halons or CFCs in HVAC.	•	•	•	
HUMAN & ENVIRONMENTAL HEALTH	Acoustical Control	CALGreen 5.507.4.1-3	BD+C: EQc9	Comply with sound transmission limits (STC-50 exteriors near freeways/airports; STC-45 exteriors if 65db Leq at any time; STC-40 interior walls/floor-ceilings between tenants).	•	limited to envelope additions & alterations	•	
	Air Filtration - Construction	CALGreen 5.504.1-3	EQc3	Seal permanent HVAC ducts/equipment stored onsite before installation.	•	•	•	
	Air Filtration - Operations	CALGreen 5.504.5.3	EQc1	Provide MERV-13 or finer filters on HVAC for regularly occupied, actively ventilated spaces. For project locations outside San Francisco, comply with local requirements if stricter.	•	•	•	
	Enhanced IAQ Strategies	Env Code 704(d)(1)	EQc1	Comply with entry, cross-contamination, filtration, natural ventilation, mixed-mode requirements.	•	•	n/r	
	Construction IAQ Management Plan	Env Code 704(d)(1)	EQc3	During construction, meet SMACNA IAQ guidelines; provide MERV-13 filters on all HVAC.	•	•	n/r	
	IAQ Assessment	Env Code 704(d)(1)	EQc4	Before occupancy, test air quality for particulates, ozone, CO, and all listed VOCs.	•	•	n/r	
	Product Ingredient Disclosure	Env Code.704(d)(2)	BD+C: MRc4/ ID+C: MRc5	For projects ≥10,000 sq.ft., permanently install at least 20 different products sourced from at least 5 different manufacturers that inventory ingredients constituting ≥1,000 ppm of each homogeneous material in the product.	•	•	•	
	Banned Substances	Env Code 509, 711, & Chapter 8		Specify no materials containing PVC, lead, or tropical hardwoods and virgin redwoods.	•	•	•	
	Low-Toxicity Materials	Env Code 704(d)(2)(B) CALGreen 5.504.4.1-6 Regulations: #SFE 2018-01-PPO #SFE 20-03-PPO #SFE 20-08-PPO #SFE 20-09-PPO	BD+C: EQc2 MRc4/ ID+C: EQc2 MRc5	Resilient flooring, coatings, and adhesives shall comply with Regulation #SFE 20-09-PPO, which incorporates the requirements of CalGreen 5.504.4.6. Resilient flooring includes all interior floor products other than carpet, edgings, bases, runners, stair coverings, and static control. Product maintenance shall not require use of strippers, sealants, or floor finishes. Carpet shall be commercial hard-backed carpet tiles and shall comply with Regulation #SFE 2018-01-PPO, which incorporates the requirements of CalGreen 5.504.4.4. Furniture if part of project scope shall comply with Regulation #SFE20-03-PPO. Composite wood products shall comply with the emission limits of CalGreen 5.504.4.5. Interior latex paints and primers for walls and ceilings shall comply with Regulation #SFE-20-08-PPO. All paints, primers and coatings shall comply with the emission limits of CalGreen 5.504.4.3. All other adhesives, sealants and caulks shall comply with CalGreen 5.504.4.1. See: sfenvironment.org/chapter7 for regulations and more information.	•	•	•	
	Tobacco Smoke Control	CALGreen 5.504.7 Health Code art.19F & art.19I	EQp2	In addition, for projects ≥10,000 sq.ft., use products that comply with LEED VOC, particulate emissions, and content requirements for paints, coatings, adhesives, sealants, flooring, composite wood, ceiling/wall/thermal/acoustic insulation, and furniture (where furniture is part of scope). In healthcare and school projects, also comply with LEED emissions & content requirements for exterior-applied products. Prohibit smoking within 25 feet of building entries, air intakes, and operable windows.	•	•	•	
Biodiversity & Wildlife Habitat	Env Code.704(d)(3)	SSc6 pilot credit	Apply San Francisco Biodiversity Guidelines, which facilitate maximization of biodiversity in the built environment by referencing relevant requirements (such as the Bird-Safe Building Ordinance), and providing design references (such as SF Plant Finder, Pest Prevention by Design, and SF Pollinator Portal). See: sfenvironment.org/biodiversityguidelines	•	if applicable	•		
Shade Trees	CALGreen 5.106.12	BD+C: SSc5	Plant trees to sufficient to provide shade within 15 years for 20% of landscape and hardscape area, including surface parking. Exclude shade structures covered by photovoltaics or cool roof materials from total area calculation, including surface parking covered by PV. (SFO projects: See SFO Sustainable Planning, Design & Construction Standards for guidance; aircraft safety supersedes this requirement.)	•	n/r	n/r		
WATER CONSERVATION	Construction Site Runoff	Public Works art.4.2 sec.146 Env Code 704(e)(1)	BD+C: SSp1	Submit a construction site Erosion and Sedimentation Control Plan to SFPUC for approval. For projects located outside San Francisco: comply with local requirements, or submit to SFPUC if no local requirement applies.	if project disturbs ≥5,000 sq.ft.	if project disturbs ≥5,000 sq.ft.	if project disturbs ≥5,000 sq.ft.	
	Stormwater Management	Public Works art.4.2 sec.147 Env Code 704(e)(2)	BD+C: SSc4	Projects disturbing ≥5,000 sq.ft. in combined or separate sewer areas, or replacing ≥2,500 impervious sq.ft. in separate sewer area, shall implement a Stormwater Control Plan meeting SFPUC Stormwater Management Requirements. For projects located outside San Francisco: comply with local requirements, or submit to SFPUC if no local requirement applies.	if applicable	if applicable	if applicable	
	Indoor Water Use Reduction	SFGBC 5.103.1.2, 5.303.3 Env Code 704(e)	BD+C: WEp2, WEc2 ID+C: WEp1, WEc1	Meet flush/flow requirements for: toilets (1.28gpf); urinals (0.125gpf wall, 0.5gpf floor); showerheads (1.8gpm); lavatories (1.2gpm private, 0.5gpm public/common); kitchen faucets (1.8gpm); wash fountains (1.8gpm); metering faucets (0.2gpc); food waste disposers (1gpm/8gpm). Additionally, for projects ≥10,000 sq.ft., use minimum 30% less potable water as calculated using a baseline with toilets (1.6gpf); urinals (1.0gpf); showerheads (2.5gpm); lavatories (2.2gpm private, 0.5gpm public); kitchen faucets (2.2gpm).	LEED WEp2, LEED WEc2 (2 pts)	LEED WEp1, LEED WEc1 (4 pts)	5.303.3	
	Water Efficient Irrigation	Administrative Code ch.63	BD+C: WEp1 WEc1	New construction projects with aggregated landscape area ≥500 sq.ft., or existing projects with modified landscape area ≥1,000 sq.ft., shall use low water use plants or climate appropriate plants, restrict turf areas and comply with Model Water Efficient Landscape Ordinance restrictions by calculated ETAF ≤.45 or by prescriptive compliance for projects with ≤2,500 sq.ft. of landscape area.	•	•	•	
	Water Metering	CALGreen 5.303.1	BD+C: WEc4	For area of project, provide submeters for spaces projected to consume >1,000gal/day (or >100gal/day in buildings >50,000 sq.ft.).	•	•	•	
	Non-potable Water Reuse	Health Code art.12C	BD+C: WEc3	New buildings ≥40,000 sq.ft. shall calculate a water budget. New development projects ≥100,000 sq.ft. shall install and operate an onsite water reuse system using available rainwater, graywater, and foundation drainage for toilet and urinal flushing and irrigation.	•	n/r	n/r	



Supplementary Energy Compliance Documentation

Attachment D

Special Energy Compliance Form

PRF-1-GB0

This attachment is reserved. It is not necessary to prepare a separate form to document compliance with San Francisco Green Building Code 2022 energy requirements.

Note that credit for photovoltaic systems is addressed by Title 24 rules.

GreenPoint Rated and LEED for Homes each provide guidance on documentation of design energy performance



Green Building: Final Compliance Verification

This form is required prior to issuance of a ~~final~~ Certificate of Final Completion and Occupancy for New Construction and Major Alterations.

Address: _____

Permit Application Numbers: _____

Verification that the above referenced project has been constructed to comply with the requirements of the San Francisco Green Building Code is based upon one of the following:

Option 1: This project has submitted for certification under LEED or GreenPoint Rated ("Option 1" on the green building submittal). As the Design Professional of Record, I verify that, to the best of my knowledge, the project has been constructed to substantially comply with the green building requirements of San Francisco's building codes.

Signed: _____ Date: _____

Affix professional stamp:

Project is: Certified Not Yet Certified

Mandatory follow-up for Option 1: Submit Evidence of LEED or GreenPoint Rated certification to the Department of Building Inspection once the project is certified.

Staff Use Only: Proof of LEED or GreenPoint Rated certification received:

Sign & Date: _____

Option 2: This project will not utilize LEED or GreenPoint Rated certification to demonstrate compliance with the San Francisco Green Building Code. As the Green Building Compliance Professional of Record for this project, I verify that to the best of my knowledge the above referenced project has been constructed to substantially comply with the green building requirements of San Francisco's building codes. **[Affix stamp below.]**

Signed: _____ Date: _____

Affix professional stamp:



Recommended Project Implementation Procedures

Introduction

LEED and GreenPoint Rated were selected by the Green Building Task Force for reference in San Francisco Green Building Code primarily because of their credibility, existing program infrastructure, and verification performed by qualified review bodies. Certification under these rating systems is not required but recommended.

For more information: www.usgbc.org, www.builditgreen.org

LEED Projects

1. Incorporate green building considerations from the beginning of project development.
2. Identify a Project Administrator who is a LEED Accredited Professional (reports to Green Building Compliance Professional of Record)
3. Register Project with Green Building Certification Institute
4. Develop Responsibility Matrix and assign credits to responsible team member(s)
5. Detailed design
6. Submit Design Credits to Green Building Certification Institute for review
7. Construction
8. Submit Construction Credits to Green Building Certification Institute for review
9. Maintain detailed project records showing that green building requirements have been met.

GreenPoint Rated Projects

1. Identify Project Administrator who is a Certified GreenPoint Rater (reports to Green Building Compliance Professional)
2. Register Project with Build It Green
3. As early in design process as possible, work with GreenPoint Rater to fill out GreenPoint Rated Checklist
4. Design
5. Plan Review Assessment by GreenPoint Rater is a required by the rating system
6. Construction
7. Rough Inspection (pre-drywall) by GreenPoint Rater is a required by the rating system
8. Construction
9. Final Inspection by GreenPoint Rater
10. Maintain detailed project records showing that green building requirements have been met



ATTACHMENT G

Selected Green Building Resources

- SF Dept of Building Inspection** – sf.gov/departments/department-building-inspection
- SF Environment Dept** – sfenvironment.org
- SF Public Utilities Commission** – See sfpubuc.org for information on water-related policies such as:
 - Stormwater Management Ordinance and Stormwater Design Guidelines
 - Water Efficient Irrigation Ordinance
 - Construction site runoff requirements
 - Recycled Water
 - Commercial water conservation
 - Onsite use of alternative water sources for nonpotable applications
- US Green Building Council (LEED Rating System)** – Numerous resources, including Reference Guides to the LEED Rating System(s), and workshops. usgbc.org
- US Green Building Council Northern California Chapter** – Network with local green building professionals. usgbc.org/chapters/usgbc-northern-california
- Build It Green** – Learn the GreenPoint Rated System, identify opportunities to network, learn more about green building, obtain a GreenPoint Rated Home Rating Manual, and identify local Certified GreenPoint Raters builditgreen.org/greenpoint-rated/



San Francisco Green Building Code
Attachment H: Review of Energy Performance Requirements
 (Page 1 of 2)

Attachment H

This table reviews minimum energy efficiency requirements for projects subject to San Francisco's green building requirements, which are based on the city and state requirements in effect at the date of application for building permit. For additional information, please see "Compliance Guidelines: Energy" starting on page 5 of Administrative Bulletin 93 (this bulletin).

Date of Application for Building Permit	New Construction				Additions and Alterations			Municipal Projects	
	Building Type	New Large Commercial ≥25,000 sq. ft. A, B, I, M, E Occupancy	All Other New Non-Residential	New High-Rise Residential ≥ 4 occupied floors	New Low-Rise Residential 1 - 3 occupied floors	Major Alteration to Commercial or Residential	Large First-Time Commercial Interiors	All Other Additions & Alterations, including single freestanding unit accessory to an existing dwelling	New Construction, Addition or Alteration
From January 1, 2023 - until California Energy Commission approval of SFGBC 2022 Energy Efficiency Provisions	<p>All-Electric is required by SF Building Code 106A.1.17</p> <p>All-Electric: Comply with Title 24 2022 OR Mixed Fuel (natural gas): In limited situations where natural gas may be permitted, comply with Electric Ready Design Guidelines (wiring for future conversion to all-electric). AND: Wiring For EV Charging</p>					<p>Meet rating system prerequisite: <i>GreenPoint Rated</i>: All-Electric required, and: comply with Title 24 2022 LEED: Title 24 2022 only. AND: Wiring For EV Charging</p>	<p>Comply with Title 24 2022 AND: Wiring For EV Charging, where applicable</p>	<p>Title 24 2022 only</p>	<p>All-Electric Required, Comply with Title 24 2022 AND: Wiring For EV Charging</p>
June 1, 2021 - December 31, 2022	<p>All-Electric is required by SF Building Code 106A.1.17</p> <p>Energy Performance: All-Electric: Comply with Title 24 2019 OR Mixed Fuel (natural gas): In limited situations where natural gas may be permitted, demonstrate a 10% Reduction compared to Title 24 2019, and comply with Electric Ready Design Guidelines (wiring for future conversion to all-electric). AND: Better Roofs or Commercial Renewable Energy, and Wiring For EV Charging</p>				<p>All-Electric is required by SF Building Code 106A.1.17</p> <p>Energy Performance: All-Electric: Comply with Title 24 2019 OR Mixed Fuel (natural gas): In isolated situations where natural gas may be allowed, Total Energy Design Rating of 14 or less, and comply with Electric Ready Design Guidelines (wiring for future conversion to all-electric). AND: Better Roofs and Wiring For EV Charging</p>	<p>Meet rating system prerequisite: <i>GreenPoint Rated</i> - All-Electric: Comply with Title 24 2019 - Mixed Fuel: 10% Reduction compared to Title 24 2019 LEED: Title 24 2019 only. AND: Wiring For EV Charging</p>	<p>Comply with Title 24 2019 AND: Wiring For EV Charging, where applicable</p>	<p>Title 24 2019 only</p>	<p>All-Electric Required, Comply with Title 24 2019 AND: Better Roofs and Wiring For EV Charging</p>
February 17, 2020 - May 31, 2021	<p>All-Electric: Comply with Title 24 2019 OR Mixed Fuel (natural gas): 10% Reduction compared to Title 24 2019 AND: Better Roofs or Commercial Renewable Energy, and Wiring For EV Charging</p>				<p>All-Electric: Comply with Title 24 2019 OR Mixed Fuel (natural gas): Total Energy Design Rating of 14 or less, and Electric Ready wiring for appliances AND: Better Roofs and Wiring For EV Charging</p>	<p>Meet rating system prerequisite: <i>GreenPoint Rated</i> - All-Electric: Comply with Title 24 2019 - Mixed Fuel: 10% Reduction compared to Title 24 2019 LEED: Title 24 2019 only. AND: Wiring For EV Charging</p>	<p>Comply with Title 24 2019 AND: Wiring For EV Charging, where applicable</p>	<p>Title 24 2019 only</p>	<p>All-Electric Required, Comply with Title 24 2019 AND: Better Roofs and Wiring For EV Charging</p>
January 1, 2020 - February 16, 2020	<p>Comply with Title 24 2019 AND: Better Roofs or Commercial Renewable Energy, and Wiring For EV Charging</p>		<p>Meet rating system prerequisite: <i>GreenPoint Rated</i> - All-Electric: Comply with Title 24 2019 - Mixed Fuel (natural gas): 10% Reduction compared to Title 24 2019, and Electric Ready wiring for appliances LEED: Title 24 2019 only. AND: Better Roofs, and Wiring For EV Charging</p>	<p>Meet rating system prerequisite: <i>GreenPoint Rated</i> - All-Electric: Comply with Title 24 2019 - Mixed Fuel (natural gas): Total Energy Design Rating of 14 or less, and Electric Ready wiring for appliances LEED: Title 24 2019 only. AND: Better Roofs, and Wiring For EV Charging</p>	<p>Meet rating system prerequisite: <i>GreenPoint Rated</i> - All-Electric: Comply with Title 24 2019 - Mixed Fuel (natural gas): 10% Reduction compared to Title 24 2019, and Electric Ready Wiring LEED: Title 24 2019 only. AND: Wiring For EV Charging</p>	<p>Comply with Title 24 2019 AND: Wiring For EV Charging, where applicable</p>	<p>Title 24 2019 only</p>	<p>All-Electric Required, Comply with Title 24 2019 AND: Better Roofs and Wiring For EV Charging</p>	

Attachment H: Review of Energy Performance Requirements (Page 2 of 2)

		New Construction			Additions and Alterations			Municipal Projects
Building Type	New Large Commercial ≥25,000 sq. ft. A, B, I, M, E Occupancy	All Other New Non-Residential	New High-Rise Residential ≥ 4 occupied floors	New Low-Rise Residential 1 - 3 occupied floors	Major Alteration to Commercial or Residential	Large First-Time Commercial Interiors	All Other Additions & Alterations, including single freestanding unit accessory to an existing dwelling	New Construction, Addition or Alteration
Date of Application for Building Permit	January 1, 2017 - December 31, 2019	Comply with Title 24 2019 AND: Better Roofs or Commercial Renewable Energy, and Wiring For EV Charging		Meet rating system prerequisite: <i>GreenPoint Rated</i> - All-Electric: Comply with Title 24 2016 - Mixed Fuel (natural gas): 10% Reduction compared to Title 24 2016 OR <i>LEED</i> : See rating system AND: Better Roofs and Wiring For EV Charging	Meet rating system prerequisite: <i>GreenPoint Rated</i> - All-Electric: Comply with Title 24 2016 - Mixed Fuel (natural gas): 10% Reduction compared to Title 24 2016 <i>LEED</i> : See rating system AND: Wiring For EV Charging	Comply with Title 24 2016 AND: Wiring For EV Charging, where applicable	Title 24 2016 only	Comply with Title 24 2016 AND: Better Roofs and Wiring For EV Charging
	July 1, 2014 – December 31, 2016	Comply with Title 24 2013 AND Commercial Renewable Energy	Title 24 2013 only	Meet rating system prerequisite: <i>GreenPoint Rated</i> or <i>LEED</i> for Homes (including Mid-rise) 15% Reduction compared to Title 24 2013	Title 24 2013 only	Title 24 2013 only	Title 24 2013 only	Comply with Title 24 2013 AND: Renewable Energy provision of Environment Code Chapter 7
	January 1, 2014 – June 30, 2014	Comply with Title 24 2008 AND Commercial Renewable Energy	Title 24 2008 only	Meet rating system prerequisite: <i>GreenPoint Rated</i> or <i>LEED</i> for Homes (including Mid-rise) 15% Reduction compared to Title 24 2008	Title 24 2008 only	Title 24 2008 only	Title 24 2008 only	Comply with Title 24 2008 AND: Renewable Energy provision of Environment Code Chapter 7
	January 1, 2011 – December 31, 2013	15% Reduction compared to Title 24 2008			Meet rating system prerequisite: - <i>LEED BD+C 2009</i> : T24 (2008) only - <i>GreenPoint Rated</i> : 15% Reduction compared to Title 24 (2008)	15% Reduction compared to Title 24 2008	Title 24 2008 only	15% Reduction compared to Title 24 2008 AND: Renewable Energy provision of Environment Code Chapter 7