

General Notes

**SOUTH HILLS CHURCH**  
**MOSES CAMACHO**  
**1737 ATLANTA AVE SUITE H-5**  
**RIVERSIDE CA 92507**  
**PH (59) 385-8015**

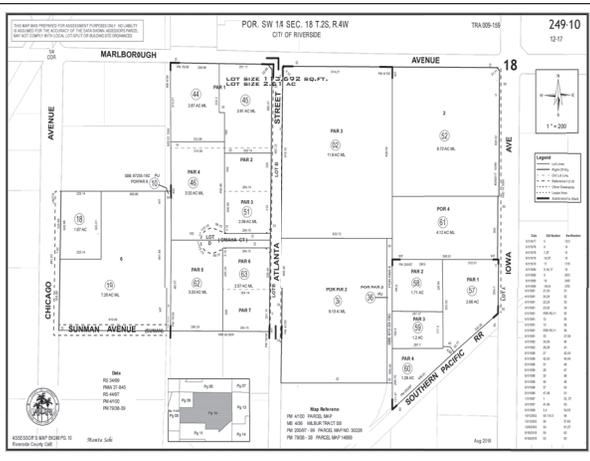
COMMERCIAL PROJECT

DRAWN BY  
**ARMANDO CARDONA**  
 1731 MITCHELL AVE  
 TUSTIN CALIFORNIA 92780  
 (626) 862-4804

DATE  
 10-20-22

SCALE  
 1/64" = 1'-0"

SHEET  
**1**



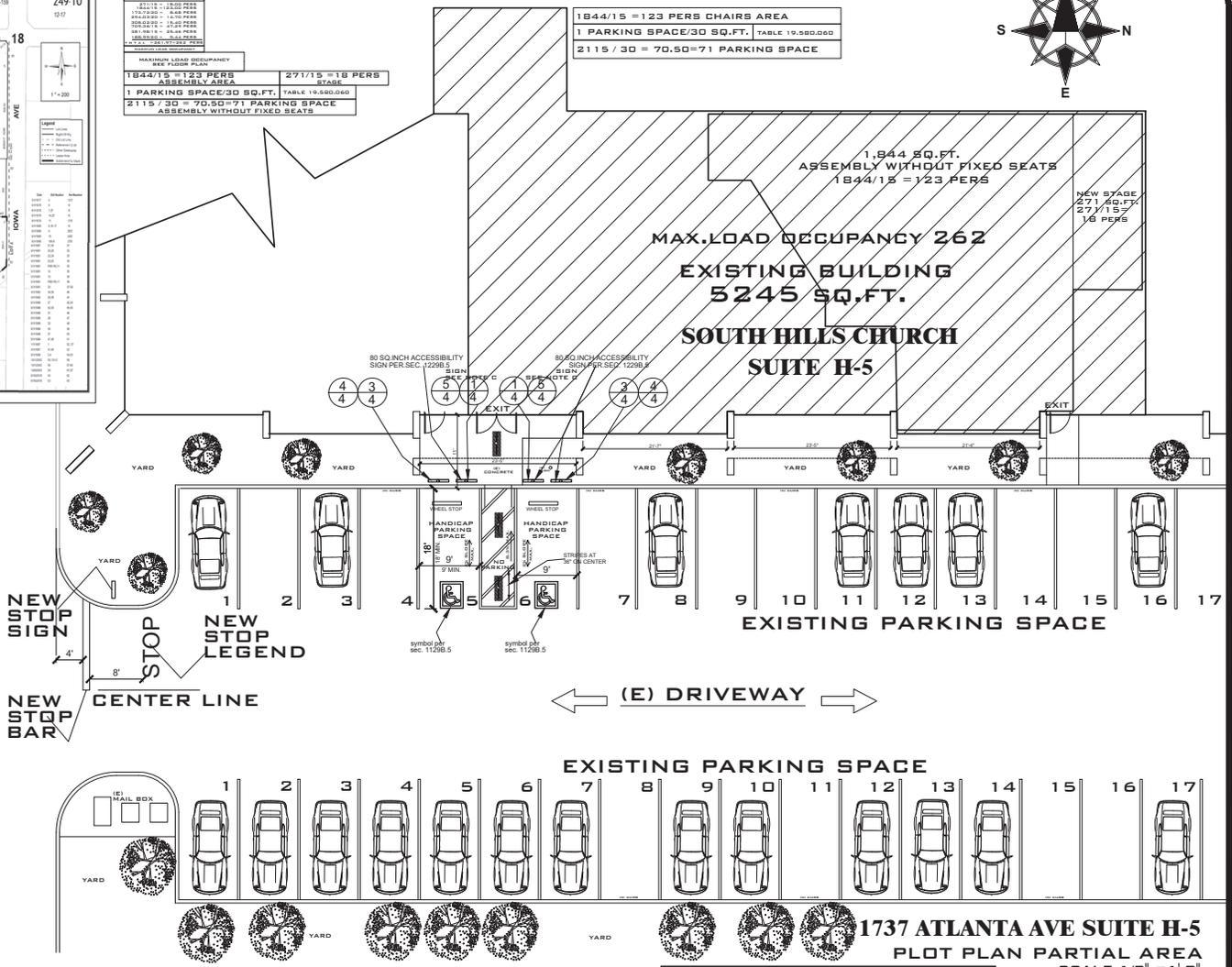
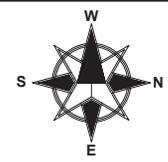
**MAP LOCATION**

**LOAD CALCULATIONS**

2211/15 = 147 PERS	271/15 = 18 PERS
1844/15 = 123 PERS	271/15 = 18 PERS
1 PARKING SPACE/30 SQ.FT.	TABLE 10.2B(2)(B)
2115 / 30 = 70.50=71 PARKING SPACE	ASSEMBLY WITHOUT FIXED SEATS

**MAXIMUM LOAD OCCUPANCY PER FLOOR PICKUP**

1844/15 = 123 PERS CHAIRS AREA
1 PARKING SPACE/30 SQ.FT. TABLE 10.2B(2)(B)
2115 / 30 = 70.50=71 PARKING SPACE



**BUILDING OWNER**  
HANSEN RITA C FAMILY TRUST  
1131 W 6TH ST #225  
ONTARIO CA 91762

**COMMERCIAL PROJECT**

**SOUTH HILLS CHURCH**  
MOSES CAMACHO  
1737 ATLANTA AVE SUITE H-5  
RIVERSIDE CA 92507  
PH (559) 385-8015

**SCALE 1/8" = 1'-0"**

**SHEET**

**1.1**

**GENERAL INFORMATION**

1337 ATLANTA AV RIVERSIDE CA 92507  
APN # 249-100-045  
LEGAL: 2.61 ACRES M/L IN PDR PARS 1 & 2 PM  
ZONING: MIP  
LOT: 1, 2  
NO OF STORIES: 1  
USE: OFFICE BUILDING .....NEW USE: CHURCH  
GROSS AREA = 40,054  
LOT ZONE = 113,492 SQ.FT.  
CENSUS TRACT = 042209  
MAP CODE: 14669  
SUBDIVISION:  
COUNTY: RIVERSIDE

OCCUPANCY GROUP: B CHANGE TO GROUP: A-3  
TYPE OF CONSTRUCTION: TYPE VB

**APPLICABLE CODE YEAR(S):**

2019 CALIFORNIA BUILDING CODE (2019 CBC) & TITLE 24  
2019 CALIFORNIA PLUMBING CODE (2019 CPC)  
2019 CALIFORNIA MECHANICAL CODE (2016 CMC)  
2019 CALIFORNIA ELECTRICAL CODE (2016 CEC)  
2019 CALIFORNIA FIRE CODE  
2019 CALIFORNIA ENERGY EFFICIENCY STANDARDS (CEES)  
2019 CALIFORNIA GREEN BUILDING STANDARDS CODE



**INDEX**

Sheet Number	Description
1	PLOT PLAN
1-1	PLOT PLAN PARTIAL AREA
1-2	BLOCK STOP SIGN PROJECT
1-3	ZONING/PARKING SPACE
2	EXISTING FLOOR PLAN
3	FLOOR PLAN
4	HANDICAP DETAILS
5	EVALUATION ROUTE
6	FRAMING PLAN & DETAILS PARTITION WALLS
7	GREEN NOTES NONRESIDENTIAL
8	GREEN NOTES NONRESIDENTIAL
9	GREEN NOTES NONRESIDENTIAL

**SCOPE OF WORK**

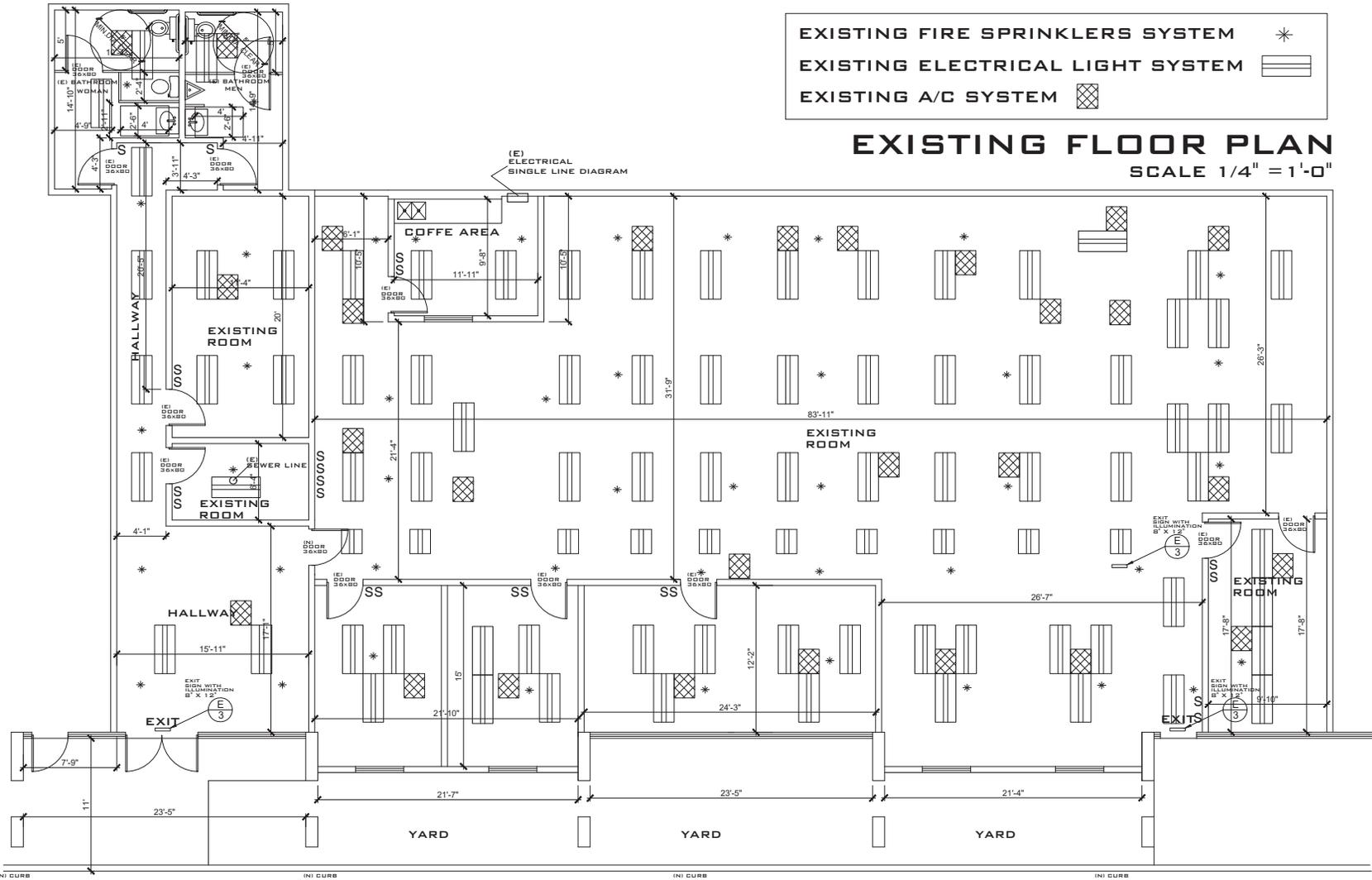
**EXISTING BUILDING**

NEW INTERIOR REMODEL FOR BATHROOMS  
MEN & WOMAN  
NEW PARTITION WALL

THE SIZE OF THE CONGREGATION: 262 PERS MAXIMUM LOAD OCCUPANCY  
THE DATES AND TIMES OF SERVICE:  
SUNDAY 10:00AM-2:00PM  
COFFEE AREA: SUNDAY 10:00AM-2:00PM  
OFFICE HOURS: 9:00AM-5:00PM TUESDAY TO SATURDAY  
DATES AND TIMES OF BIBLE STUDY: SUNDAY 10:00AM-2:00PM  
10:00AM-2:00PM  
SUNDAY SCHOOL TIMES: SUNDAY 10:00AM-2:00PM  
ANY SPECIAL EVENTS OF OTHER USES:







SOUTH HILLS CHURCH  
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DRAWN BY  
 ARMANDO CARDONA  
 1907 N DEER PARK DR 473  
 FULLERTON CA 92631  
 (626) 862-4604

DATE

10-20-22

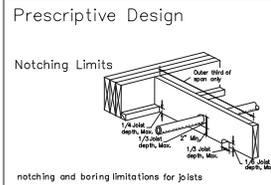
SCALE

1/4" = 1'-0"

SHEET

2

FINISH MATERIALS	
1	WASHABLE PAINT (CEILING) WHITE COLOR
2	WASHABLE PAINT (WALL) WHITE COLOR
3	TILE FLOOR (CERAMIC)
4	



FINISH SCHEDULE FOR:

AREA	FLOOR	BASE	SMOOTH FINISH WALLS	SMOOTH FINISH CEILING	NOTES
BATHROOM	NEW TILE FLOOR CERAMIC	TOP SET CERAMIC S3619T/N	DURABLE, NONABSORBENT EASILY CLEANABLE SURFACE WASHABLE PAINT WHITE COLOR	DURABLE, NONABSORBENT EASILY CLEANABLE SURFACE WASHABLE PAINT WHITE COLOR	
EXTERIOR WALLS TO BATHROOMS	EXISTING CONCRETE		DURABLE, NONABSORBENT EASILY CLEANABLE SURFACE WASHABLE PAINT WHITE COLOR		

ESTABLISHMENT NAME **SOUTH HILLS CHURCH**  
 ADDRESS **1737 ATLANTA AVE SUITE H-5**  
 CITY **RIVERSIDE CA 92507**

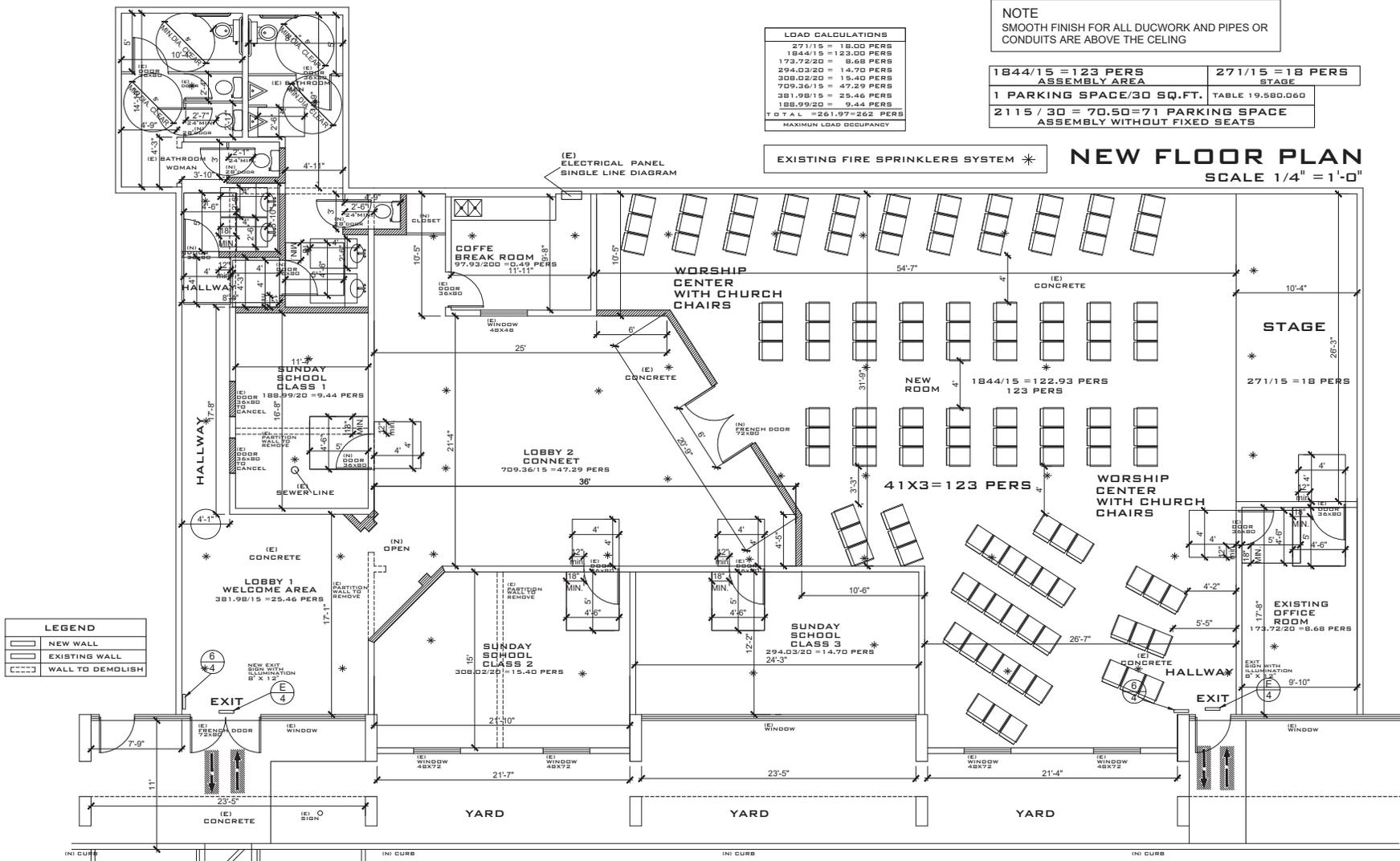
NOTE  
 SMOOTH FINISH FOR ALL DUCWORK AND PIPES OR CONDUITS ARE ABOVE THE CEILING

LOAD CALCULATIONS

271/15 = 18.00 PERS
1844/15 = 123.00 PERS
173.72/20 = 8.68 PERS
294.03/20 = 14.70 PERS
308.02/20 = 15.40 PERS
709.36/15 = 47.29 PERS
381.98/15 = 25.46 PERS
188.99/20 = 9.44 PERS
TOTAL = 261.97 = 262 PERS
MAXIMUM LOAD OCCUPANCY

1844/15 = 123 PERS ASSEMBLY AREA	271/15 = 18 PERS STAGE
1 PARKING SPACE/30 SQ.FT. TABLE 19.580.060	
2115 / 30 = 70.50 = 71 PARKING SPACE ASSEMBLY WITHOUT FIXED SEATS	

EXISTING FIRE SPRINKLERS SYSTEM \* **NEW FLOOR PLAN**  
 SCALE 1/4" = 1'-0"



LEGEND

[Solid line]	NEW WALL
[Dashed line]	EXISTING WALL
[Dotted line]	WALL TO DEMOLISH

General Notes

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SCALE  
 1/4" = 1'-0"

SHEET  
**3**



**FIRE DEPARTMENT NOTES**

Provide for fire department access to the facility. "Knox" key devices are available for use in the city. Contact the Fire Department for applications and details.

Requirements for construction shall follow the currently adopted California Building Code and California Fire Code with City of Riverside amendments.

Construction plans shall be submitted and permitted prior to construction.

Fire Department access shall be maintained during all phases of construction.

Fire sprinkler, fire alarm, fixed extinguishing system, emergency radio systems, standpipes or any other type of fire protection systems that are required by the California Fire Code, California Building Code or City Ordinance, shall be submitted by a California Licensed contractor, under separate permit to Riverside Fire Department for approval and permit issuance prior to any work on such systems.

To comply with all applicable requirements per CFC, Chapter 33 (Fire Safety During Construction and Demolition).

**DETAIL A**



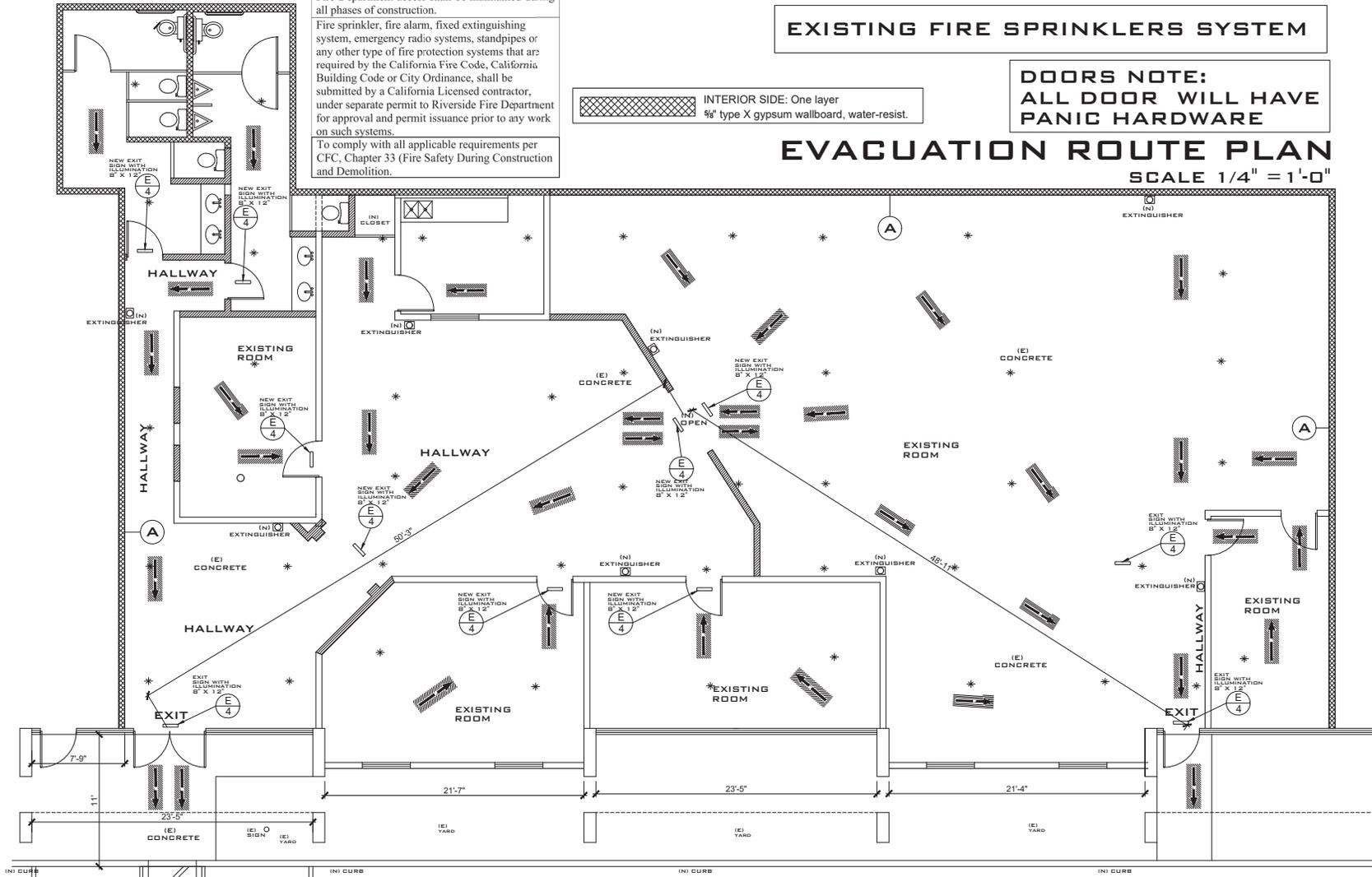
**EXISTING FIRE SPRINKLERS SYSTEM**

**DOORS NOTE:  
ALL DOOR WILL HAVE  
PANIC HARDWARE**

INTERIOR SIDE: One layer  
5/8" type X gypsum wallboard, water-resist.

**EVACUATION ROUTE PLAN**

SCALE 1/4" = 1'-0"



General Notes


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1907 N DEER PARK DR 473  
FULLERTON CA 92831  
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DATE  
10-20-22

SCALE  
1/4" = 1'-0"

SHEET  
**5**



# 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE

## NONRESIDENTIAL MANDATORY MEASURES, SHEET 1 (July 2021, Includes July 2021 Supplement)

**RESPON PARTY**

**CHAPTER 3 GREEN BUILDING SECTION 301 GENERAL**

**301.1 SCOPE.** Buildings shall be designed to include the green building measures specified as mandatory in the applicable checklists contained in this code. Voluntary green building measures are also included in the application checklists and may be included in the design and construction of structures covered by this code, but are not required unless adopted by a city, county, or city and county as specified in Section 101.2.

**301.3 NONRESIDENTIAL ADDITIONS AND ALTERATIONS [BSC-CG].** The provisions of individual sections of Chapter 3 apply to newly constructed buildings, building additions of 1,000 square feet or greater, and/or building alterations with a permit valuation of \$200,000 or above for occupancies within the authority of California Building Standards Commission. Code sections related to additions and alterations shall only apply to the portions of the building being added or altered within the scope of the permitted work.

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

**RESPON PARTY**

**5.106.2 STORMWATER POLLUTION PREVENTION FOR PROJECTS THAT DISTURB ONE OR MORE ACRES OF LAND.** Comply with all lawful erosion prevention discharge requirements for projects that (1) disturb one acre or more of land, or (2) disturb less than one acre of land but is a larger common plan of development site.

**Note:** Projects that (1) disturb one acre or more of land, or (2) disturb less than one acre of land but are part of the larger common plan of development site shall comply with the post-construction requirements detailed in the applicable National Pollution Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities Issued by the State Water Resources Control Board or the Lantorian Regional Water Quality Control Board for projects in the Lake Tahoe Hydrologic Unit.

The NPDES permits require post-construction runoff (post-project hydrology) to match the preconstruction runoff (pre-project hydrology) with the installation of post-construction stormwater management measures. The NPDES permits emphasize runoff reduction through on-site stormwater use, interception, evapotranspiration, and infiltration through nonstructural controls, such as Low Impact Development (LID) practices, and conservation design measures. Stormwater volume that cannot be addressed using nonstructural practices is required to be captured in structural practices and be approved by the enforcing agency.

Refer to the current applicable permits on the State Water Resources Control Board website at: [www.waterboards.ca.gov/swrc/projects/stormwater](http://www.waterboards.ca.gov/swrc/projects/stormwater). Consideration to the stormwater runoff management measures should be given during the initial design process for appropriate integration into site development.

**5.106.4 BICYCLE PARKING.** For buildings within the authority of California Building Standards Commission as specified in Section 103, comply with Section 5.106.4.1. For buildings within the authority of the Division of the State Architect pursuant to Section 105, comply with Section 5.106.4.2.

**RESPON PARTY**

**5.106.5.3.3**

TOTAL NUMBER OF PARKING SPACES	NUMBER OF REQUIRED SPACES
0-9	0
10-25	2
26-50	4
51-75	7
76-100	9
101-150	13
151-200	16
201 AND OVER	10% of total <sup>1</sup>

**1. Calculation for spaces shall be rounded up to the nearest whole number.**

**5.106.5.3.4 Identification.** The service panel or separate (main) circuit directory shall identify the reserved occupancy protective device space(s) for future EV charging as "EV CAPABLE". The reserved space location shall be clearly marked on the floor plan and shall be clearly marked on the floor plan.

**5.106.5.3.5 Future charging spaces.** Future charging spaces shall be designated parking as described in Section 5.106.5.2 Designated parking for clean air vehicles.

**Note:** Future electric vehicle charging spaces shall count towards the total parking spaces required by the local enforcing agencies.

**301.3.1 Nonresidential additions and alterations that cause updates to plumbing fixtures only.** Note: On and after January 1, 2014, certain commercial real property, as defined in Civil Code Section 1101.3, shall have no noncompliant plumbing fixtures replaced with appropriate water-conserving plumbing fixtures under specific circumstances. See Civil Code Section 1101.3 for definitions, types of commercial real property affected, effective dates, circumstances necessitating replacement of noncompliant plumbing fixtures, and duties and responsibilities for ensuring compliance.

**301.3.2 Waste Diversion.** The requirements of Section 5.408 shall be required for additions and alterations whenever a permit is required for work.

**301.4 PUBLIC SCHOOLS AND COMMUNITY COLLEGES.** (see GBSC)

**301.5 HEALTH FACILITIES.** (see GBSC)

**SECTION 302 MIXED OCCUPANCY BUILDINGS**

**302.1 MIXED OCCUPANCY BUILDINGS.** In mixed occupancy buildings, each portion of a building shall comply with the specific green building measures applicable to each occupancy.

**SECTION 303 PHASED PROJECTS**

**303.1 PHASED PROJECTS.** For shell buildings and others constructed for future tenant improvements, only those code measures relevant to the building components and systems considered to be new construction (or newly constructed) shall apply.

**303.1.1 Initial Tenant Improvements.** The provisions of this code shall apply only to the initial tenant improvements to a project. Subsequent tenant improvements shall comply with the scoping provisions in Section 301.3 non-residential additions and alterations.

**5.106.4.1 Bicycle parking [BSC-CG].** Comply with Sections 5.106.4.1.1 and 5.106.4.1.2 or meet the applicable local ordinance, whichever is stricter.

**5.106.4.1.1 Short-term bicycle parking.** If the new project or an addition or alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 3% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack.

**Exception:** Additions or alterations that add one or less visitor vehicular parking spaces.

**5.106.4.1.2 Long-term bicycle parking.** For new buildings with tenant spaces that have 10 or more tenant-occupancies, provide secure bicycle parking for 5 percent of the tenant-occupancy vehicular parking spaces with a minimum of one bicycle parking space.

**5.106.4.1.3** For additions or alterations that add 10 or more tenant-occupancy vehicular parking spaces, provide secure bicycle parking for 5 percent of the tenant-occupancy parking spaces being added, with a minimum of one bicycle parking space.

**5.106.4.1.4** For new shell buildings in phased projects provide secure bicycle parking for 5 percent of the anticipated tenant-occupancy vehicular parking spaces with a minimum of one bicycle parking facility.

**5.106.4.1.5** Acceptable bicycle parking facility for Sections 5.106.4.1.2, 5.106.4.1.3, and 5.106.4.1.4 shall be constructed from the areas and shall meet the following:

- Covered, lockable enclosures with permanently anchored racks for bicycles;
- Lockable bicycle locks with permanently anchored racks; or
- Lockable, permanently anchored bicycle lockers.

**Note:** Additional information on recommended bicycle accommodations may be obtained from Sacramento Area Bicycle Advocates.

**5.106.4.2 Bicycle parking [DGA-BS].** For public schools and community colleges, comply with Sections 5.106.4.2.1 and 5.106.4.2.2.

**5.106.4.2.1 Student bicycle parking.** Provide permanently anchored bicycle racks conveniently accessed with a minimum of four two-bike capacity racks per new building.

**5.106.4.2.2 Staff bicycle parking.** Provide permanently anchored bicycle parking conveniently accessed with a minimum of two two-bike capacity racks per new building. Acceptable bicycle parking facilities shall be constructed from the areas and shall meet one of the following:

- Covered, lockable enclosures with permanently anchored racks for bicycles;
- Lockable bicycle locks with permanently anchored racks; or
- Lockable, permanently anchored bicycle lockers.

**5.106.5.2 DESIGNATED PARKING FOR CLEAN AIR VEHICLES.** In new projects or additions or alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient and zero-emission vehicles.

**RESPON PARTY**

**5.106.8 LIGHT POLLUTION REDUCTION, N1.** Outdoor lighting systems shall be designed and installed to comply with the following:

- The minimum requirements in the California Energy Code for Lighting Zones 0-4 as defined in Chapter 10, Section 104.114 of the California Administrative Code; and
- Backlight (B) ratings as defined in ES TM 15-1.1 (shown in Table A.1 in Chapter 8);
- Light and Glare ratings as defined in California Energy Code (shown in Tables 130.2.4 and 130.2.6 in Chapter 8); and
- Allowable BUG ratings not exceeding those shown in Table 106.8.16 [N] or Comply with a local ordinance lawfully enacted pursuant to Section 101.7, whichever is more stringent.

**Exceptions:** [N]

- Luminaires that qualify as exceptions in Sections 130.2 (b) and 140.7 of the California Energy Code;
- Emergency lighting;
- Building facade lighting meeting the requirements in Table 140.7.8 of the California Energy Code, Part 6;
- Light and Glare ratings as allowed by the local enforcing agency, as permitted by Section 101.6 Alternate materials, designs and methods of construction;
- Luminaires with less than 6,250 initial luminaire lumens.

**ABBREVIATION DEFINITIONS:**

HCD Department of Housing and Community Development  
 BSC California Building Standards Commission  
 DSA-SS Division of the State Architect, Structural Safety  
 OSE Office of Statewide Health Planning and Development  
 LR Low Rise  
 HR High Rise  
 AA Additions and Alterations  
 N New

**CHAPTER 5 NONRESIDENTIAL MANDATORY MEASURES**

**DIVISION 5.1 PLANNING AND DESIGN**

**SECTION 5.101 GENERAL**

The provisions of this chapter outline planning, design and development methods that include environmental responsible site selection, building design, and construction to protect, restore and enhance the environmental quality of the site and respect the integrity of adjacent properties.

**SECTION 5.102 DEFINITIONS**

The following terms are defined in Chapter 2 (and are included here for reference)

**CUTOFF LUMINAIRES.** Luminaires whose light distribution is such that the candela per 1000 lamp lumens does not numerically exceed 2.2 (degrees) at an angle of 80 degrees above, and 100 (10 degrees) at a vertical angle of 80 degrees above nadir. This applies to all lateral angles around the luminaire.

**LOW-EMITTING AND FUEL EFFICIENT VEHICLES.** Light-duty vehicles are limited to the following:

- Zero emission vehicle (ZEV), including neighborhood electric vehicles (NEV), partial zero emission vehicle (PZEV), advanced technology PZEV (AT PZEV) or CNG based (original equipment manufacturer only) regulated under health and Safety Code section 43903 and CCR, Title 13, Sections 1961 and 1962.
- High-efficiency vehicles, regulated by U.S. EPA, bearing High-Occupancy Vehicle (HOV) car pool lane stickers issued by the Department of Motor Vehicles.

**NEIGHBORHOOD ELECTRIC VEHICLE (NEV).** A motor vehicle that meets the definition of "low-speed vehicle" either in Section 385.5 of the Vehicle Code or in 49CFR571.503 (as amended on July 1, 2000), and is certified to zero-emission vehicle standards.

**TENANT-OCUPANCY BUILDINGS.** Occupants who inhabit a building during its normal hours of operation as permanent occupants, such as employees, as distinguished from customers and other transient visitors.

**VANPOOL VEHICLE.** Eighteen vehicles are limited to any motor vehicle, other than a motorcoach or truck tractor, designed for carrying more than 10 but not more than 15 persons including the driver, which is maintained and used primarily for the nonprofit work-related transportation of adults for the purpose of ride-sharing.

**Note:** Source: Vehicle Code, Division 1, Article 668

**ZEV.** Any vehicle certified to zero-emission standards.

**RESPON PARTY**

**5.106.8.1 LIGHT POLLUTION REDUCTION, N1.** Outdoor lighting systems shall be designed and installed to comply with the following:

- The minimum requirements in the California Energy Code for Lighting Zones 0-4 as defined in Chapter 10, Section 104.114 of the California Administrative Code; and
- Backlight (B) ratings as defined in ES TM 15-1.1 (shown in Table A.1 in Chapter 8);
- Light and Glare ratings as defined in California Energy Code (shown in Tables 130.2.4 and 130.2.6 in Chapter 8); and
- Allowable BUG ratings not exceeding those shown in Table 106.8.16 [N] or Comply with a local ordinance lawfully enacted pursuant to Section 101.7, whichever is more stringent.

**Exceptions:** [N]

- Luminaires that qualify as exceptions in Sections 130.2 (b) and 140.7 of the California Energy Code;
- Emergency lighting;
- Building facade lighting meeting the requirements in Table 140.7.8 of the California Energy Code, Part 6;
- Light and Glare ratings as allowed by the local enforcing agency, as permitted by Section 101.6 Alternate materials, designs and methods of construction;
- Luminaires with less than 6,250 initial luminaire lumens.

**RESPON PARTY**

**TABLE 5.106.8 (B) MAXIMUM ALLOWABLE BACKLIGHT, UPLIGHT AND GLARE (BUG) RATINGS**

ALLOWABLE RATING ZONE	LIGHTING ZONE LB	LIGHTING ZONE LZ	LIGHTING ZONE LZ2	LIGHTING ZONE LZ3	LIGHTING ZONE LZ4
MAXIMUM ALLOWABLE BACKLIGHT RATING	Luminaire greater than 2 lumens per fixture from property line	NA	No Limit	No Limit	No Limit
Luminaire back hemisphere is 1-2 MH from property line	NA	B2	B3	B4	B4
Luminaire back hemisphere is 0.5-1 MH from property line	NA	B1	B2	B3	B3
Luminaire back hemisphere is less than 0.5 MH from property line	NA	B0	B0	B1	B2
MAXIMUM ALLOWABLE UPLIGHT RATING (U)	For area lighting, NA	U0	U0	U0	U0
For all other outdoor lighting including decorative luminaires	NA	U1	U2	U3	UR
MAXIMUM ALLOWABLE GLARE RATING (G)	Luminaire greater than 2 MH from property line	NA	G1	G2	G4
Luminaire front hemisphere is 1-2 MH from property line	NA	G0	G1	G1	G2
Luminaire front hemisphere is 0.5-1 MH from property line	NA	G0	G0	G1	G1
Luminaire back hemisphere is less than 0.5 MH from property line	NA	G0	G0	G0	G1

**1. IESNA Lighting Zones 0 and 5 are not applicable; refer to Lighting Zones as defined in the California Energy Code and Chapter 10 of the California Administrative Code.**

**2. For property lines that are public walkways, sidewalks, plazas and parking lots, the property line may be considered to be 5 feet beyond the actual property line for the purpose of determining compliance with this section. For property lines that shall public roadways and public transit corridors, the property line may be considered to be the centerline of the public roadway or public transit corridor for the purpose of determining compliance with this section.**

**3. General lighting luminaires in areas such as outdoor parking, sales or storage lots shall meet these reduced ratings. Decorative luminaires located in these areas shall not have U-value limits for "all other outdoor lighting".**

**SECTION 5.106 SITE DEVELOPMENT**

**5.106.1 STORMWATER POLLUTION PREVENTION FOR PROJECTS THAT DISTURB LESS THAN ONE ACRE OF LAND.** New construction projects and additions which disturb less than one acre of land, and are part of a larger common plan of development shall comply with the provisions of storm water runoff from the construction activities through one or more of the following measures:

**5.106.1.1 Local Ordinance.** Comply with a lawful enacted storm water management and/or erosion control ordinance.

**5.106.1.2 Best Management Practices (BMPs).** Prevent the loss of material through wind or erosion control by implementing an effective combination of erosion and sediment control and good housekeeping BMPs.

- Soil loss BMPs that should be considered for implementation as appropriate for each project include, but are not limited to the following:
  - Scheduling construction activity during dry weather, when possible.
  - Limiting soil exposure to wind, erosion, and/or surface runoff.
  - Drainage swales or lined ditches to control stormwater flow.
  - Stabilized construction areas to reduce soil disturbance.
  - Erosion control to protect slopes.
  - Protection of storm drain inlets from debris and catch basins (curbs).
  - Perimeter sediment control (perimeter silt fence, flow racks).
  - Stabilized topsoil or sediment bank to retaining sediment on site.
  - Stabilized construction exits.
  - Wind breaks.
- Other soil loss BMPs acceptable to the enforcing agency.

**2. Good housekeeping BMPs to reduce sediment and erosion control materials, non-stormwater discharges and wastes that should be considered for implementation as appropriate for each project include, but are not limited to the following:**

- Devolving activities.
- Limiting materials storage.
- Building materials stockpile management.
- Limiting materials storage to paved areas.
- Control of vehicles/equipment fueling to contractor's staging area.
- Spill prevention and control.
- Other housekeeping BMPs acceptable to the enforcing agency.

**RESPON PARTY**

**TABLE 5.106.5.2 - PARKING**

TOTAL NUMBER OF PARKING SPACES	NUMBER OF REQUIRED SPACES
0-9	0
10-25	3
26-50	6
51-75	9
76-100	12
101-150	18
151-200	21
201 AND OVER	AT LEAST 12% OF TOTAL

**1. Calculation for spaces shall be rounded up to the nearest whole number.**

**Note:** Designated parking for clean air vehicles shall count towards the total parking spaces required by the local enforcing agencies.

**5.106.5.2.1 Single charging space requirements.** [N] When only a single charging space is required per Table 5.106.5.3 (rows 9) or more, the space shall be installed in accordance with the California Energy Code. Construction plans and specifications shall include, but are not limited to, the following:

- The type and location of the EVSE.
- A listed receptacle capable of accommodating a 208/240-volt dedicated branch circuit.
- The receptacle shall not be less than trade size "1".
- The receptacle shall originate at a service panel or a subpanel serving the area, and shall terminate in close proximity to the proposed location of the charging equipment and listed receptacle cabinet, box, enclosure or equivalent.
- The service panel or subpanel shall have sufficient capacity to accommodate a minimum 40-ampere dedicated branch circuit for the future installation of the EVSE.

**5.106.5.2.2 Multiple charging space requirements.** [N] When multiple charging spaces are required per Table 5.106.5.3 (rows 9) or more, they shall be installed at the time of construction and shall be installed in accordance with the California Energy Code. Construction plans and specifications shall include, but are not limited to, the following:

- The type and location of the EVSE.
- The type and location of a service panel or a subpanel(s) serving the area, and shall terminate in close proximity to the proposed location of the charging equipment and listed receptacle cabinet, box, enclosure or equivalent.
- Plan design shall be based upon 40-ampere minimum branch circuits.
- Electrical calculations shall substantiate the design of the electrical system, to include the rating of equipment and any other voltage transformers and have sufficient capacity to simultaneously charge all required EVs at full rated ampacity.
- The service panel or subpanel(s) shall have sufficient capacity to accommodate the required number of dedicated branch circuit(s) for the future installation of the EVSE.

**5.106.5.3.3 Charging space calculations.** [N] Table 5.106.5.3.3 shall be used to determine if single or multiple charging space requirements apply for the future installation of EVSE.

**Exception:** In a case-by-case basis where the local enforcing agency has determined EV charging and infrastructure is not feasible based upon one or more of the following conditions:

**RESPON PARTY**

**5.106.8.1 LIGHT POLLUTION REDUCTION, N1.** Outdoor lighting systems shall be designed and installed to comply with the following:

- The minimum requirements in the California Energy Code for Lighting Zones 0-4 as defined in Chapter 10, Section 104.114 of the California Administrative Code; and
- Backlight (B) ratings as defined in ES TM 15-1.1 (shown in Table A.1 in Chapter 8);
- Light and Glare ratings as defined in California Energy Code (shown in Tables 130.2.4 and 130.2.6 in Chapter 8); and
- Allowable BUG ratings not exceeding those shown in Table 106.8.16 [N] or Comply with a local ordinance lawfully enacted pursuant to Section 101.7, whichever is more stringent.

**Exceptions:** [N]

- Luminaires that qualify as exceptions in Sections 130.2 (b) and 140.7 of the California Energy Code;
- Emergency lighting;
- Building facade lighting meeting the requirements in Table 140.7.8 of the California Energy Code, Part 6;
- Light and Glare ratings as allowed by the local enforcing agency, as permitted by Section 101.6 Alternate materials, designs and methods of construction;
- Luminaires with less than 6,250 initial luminaire lumens.

**SECTION 5.106 SITE DEVELOPMENT**

**5.106.1 STORMWATER POLLUTION PREVENTION FOR PROJECTS THAT DISTURB LESS THAN ONE ACRE OF LAND.** New construction projects and additions which disturb less than one acre of land, and are part of a larger common plan of development shall comply with the provisions of storm water runoff from the construction activities through one or more of the following measures:

**5.106.1.1 Local Ordinance.** Comply with a lawful enacted storm water management and/or erosion control ordinance.

**5.106.1.2 Best Management Practices (BMPs).** Prevent the loss of material through wind or erosion control by implementing an effective combination of erosion and sediment control and good housekeeping BMPs.

- Soil loss BMPs that should be considered for implementation as appropriate for each project include, but are not limited to the following:
  - Scheduling construction activity during dry weather, when possible.
  - Limiting soil exposure to wind, erosion, and/or surface runoff.
  - Drainage swales or lined ditches to control stormwater flow.
  - Stabilized construction areas to reduce soil disturbance.
  - Erosion control to protect slopes.
  - Protection of storm drain inlets from debris and catch basins (curbs).
  - Perimeter sediment control (perimeter silt fence, flow racks).
  - Stabilized topsoil or sediment bank to retaining sediment on site.
  - Stabilized construction exits.
  - Wind breaks.
- Other soil loss BMPs acceptable to the enforcing agency.

**2. Good housekeeping BMPs to reduce sediment and erosion control materials, non-stormwater discharges and wastes that should be considered for implementation as appropriate for each project include, but are not limited to the following:**

- Devolving activities.
- Limiting materials storage.
- Building materials stockpile management.
- Limiting materials storage to paved areas.
- Control of vehicles/equipment fueling to contractor's staging area.
- Spill prevention and control.
- Other housekeeping BMPs acceptable to the enforcing agency.

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- Luminaires with less than 6,250 initial luminaire lumens.

**RESPON PARTY**

**TABLE 5.106.8 (B) MAXIMUM ALLOWABLE BACKLIGHT, UPLIGHT AND GLARE (BUG) RATINGS**

ALLOWABLE RATING ZONE	LIGHTING ZONE LB	LIGHTING ZONE LZ	LIGHTING ZONE LZ2	LIGHTING ZONE LZ3	LIGHTING ZONE LZ4
MAXIMUM ALLOWABLE BACKLIGHT RATING	Luminaire greater than 2 lumens per fixture from property line	NA	No Limit	No Limit	No Limit
Luminaire back hemisphere is 1-2 MH from property line	NA	B2	B3	B4	B4
Luminaire back hemisphere is 0.5-1 MH from property line	NA	B1	B2	B3	B3
Luminaire back hemisphere is less than 0.5 MH from property line	NA	B0	B0	B1	B2
MAXIMUM ALLOWABLE UPLIGHT RATING (U)	For area lighting, NA	U0	U0	U0	U0
For all other outdoor lighting including decorative luminaires	NA	U1	U2	U3	UR
MAXIMUM ALLOWABLE GLARE RATING (G)	Luminaire greater than 2 MH from property line	NA	G1	G2	G4
Luminaire front hemisphere is 1-2 MH from property line	NA	G0	G1	G1	G2
Luminaire front hemisphere is 0.5-1 MH from property line	NA	G0	G0	G1	G1
Luminaire back hemisphere is less than 0.5 MH from property line	NA	G0	G0	G0	G1

**1. IESNA Lighting Zones 0 and 5 are not applicable; refer to Lighting Zones as defined in the California Energy Code and Chapter 10 of the California Administrative Code.**

**2. For property lines that are public walkways, sidewalks, plazas and parking lots, the property line may be considered to be 5 feet beyond the actual property line for the purpose of determining compliance with this section. For property lines that shall public roadways and public transit corridors, the property line may be considered to be the centerline of the public roadway or public transit corridor for the purpose of determining compliance with this section.**

**3. General lighting luminaires in areas such as outdoor parking, sales or storage lots shall meet these reduced ratings. Decorative luminaires located in these areas shall not have U-value limits for "all other outdoor lighting".**

**SECTION 5.106 SITE DEVELOPMENT**

**5.106.1 STORMWATER POLLUTION PREVENTION FOR PROJECTS THAT DISTURB LESS THAN ONE ACRE OF LAND.** New construction projects and additions which disturb less than one acre of land, and are part of a larger common plan of development shall comply with the provisions of storm water runoff from the construction activities through one or more of the following measures:

**5.106.1.1 Local Ordinance.** Comply with a lawful enacted storm water management and/or erosion control ordinance.

**5.106.1.2 Best Management Practices (BMPs).** Prevent the loss of material through wind or erosion control by implementing an effective combination of erosion and sediment control and good housekeeping BMPs.

- Soil loss BMPs that should be considered for implementation as appropriate for each project include, but are not limited to the following:
  - Scheduling construction activity during dry weather, when possible.
  - Limiting soil exposure to wind, erosion, and/or surface runoff.
  - Drainage swales or lined ditches to control stormwater flow.
  - Stabilized construction areas to reduce soil disturbance.
  - Erosion control to protect slopes.
  - Protection of storm drain inlets from debris and catch basins (curbs).
  - Perimeter sediment control (perimeter silt fence, flow racks).
  - Stabilized topsoil or sediment bank to retaining sediment on site.
  - Stabilized construction exits.
  - Wind breaks.
- Other soil loss BMPs acceptable to the enforcing agency.

**2. Good housekeeping BMPs to reduce sediment and erosion control materials, non-stormwater discharges and wastes that should be considered for implementation as appropriate for each project include, but are not limited to the following:**

- Devolving activities.
- Limiting materials storage.
- Building materials stockpile management.
- Limiting materials storage to paved areas.
- Control of vehicles/equipment fueling to contractor's staging area.
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**Exceptions:** [N]

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- Emergency lighting;
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Luminaire front hemisphere is 1-2 MH from property line	NA	G0	G1	G1	G2
Luminaire front hemisphere is 0.5-1 MH from property line	NA	G0	G0	G1	G1
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**1. IESNA Lighting Zones 0 and 5 are not applicable; refer to Lighting Zones as defined in the California Energy Code and Chapter 10 of the California Administrative Code.**

**2. For property lines that are public walkways, sidewalks, plazas and parking lots, the property line may be considered to be 5 feet beyond the actual property line for the purpose of determining compliance with this section. For property lines that shall public roadways and public transit corridors, the property line may be considered to be the centerline of the public roadway or public transit corridor for the purpose of determining compliance with this section.**

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  - Erosion control to protect slopes.
  - Protection of storm drain inlets from debris and catch basins (curbs).
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  - Stabilized topsoil or sediment bank to retaining sediment on site.
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- Devolving activities.
- Limiting materials storage.
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- Limiting materials storage to paved areas.
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- Light and Glare ratings as defined in California Energy Code (shown in Tables 130.2.4 and 130.2.6 in Chapter

# 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE

## NONRESIDENTIAL MANDATORY MEASURES, SHEET 1 (July 2021, Includes July 2021 Supplement)

**RESPONSE PARTY**

**3.303.1.4 Faucets and fountains.**

**3.303.1.4.1 Nonresidential Lavatory faucets.** Lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi.

**3.303.1.4.2 Kitchen faucets.** Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 60 psi.

**3.303.1.4.3 Wash fountains.** Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute/20 [im space (inches)] at 60 psi.

**3.303.1.4.4 Metering faucets.** Metering faucets shall not deliver more than 0.20 gallons per cycle.

**3.303.1.4.5 Metering faucets for wash fountains.** Metering faucets for wash fountains shall have a maximum flow rate of not more than 0.20 gallons per minute/20 [im space (inches)] at 60 psi.

Note: Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.

**3.303.1.4.6 Pre-rinse spray valve**  
When installed, shall meet the requirements in the California Code of Regulations, Title 20 (Appliance Efficiency Regulations), Section 1605.1 (h)(4) Table H-2, Section 1605.3 (h)(4)(A), and Section 1607.1 (6)(7), and shall be equipped with an integral automatic shutoff.

**FOR REFERENCE ONLY** The following table and code section have been reprinted from the California Code of Regulations, Title 20 (Appliance Efficiency Regulations), Section 1605.1 (h)(4) and Section 1605.3 (h)(4)(A).

TABLE H-2 STANDARDS FOR COMMERCIAL PRE-RINSE SPRAY VALVES MANUFACTURED ON OR AFTER JANUARY 28, 2019	
PRODUCT CLASS [Spray force in ounce force (ozf)]	MAXIMUM FLOW RATE (gpm)
Product Class 1 (≤ 5.0 ozf)	1.00
Product Class 2 (≥ 5.0 ozf and ≤ 8.0 ozf)	1.20
Product Class 3 (≥ 8.0 ozf)	1.28

**3.303.1.5 COMMERCIAL KITCHEN EQUIPMENT.**

**3.303.1.5.1 Food Waste Disposers.** Disposers shall either modulate the use of water to no more than 1 gpm when the disposer is not actively grinding food waste (load) or shall automatically shut off after no more than 10 minutes of inactivity. Disposers shall use no more than 8 gpm of water.

Note: This code section does not restrict local jurisdiction authority to prohibit or require disposer installation.

**3.303.1.5.2 AREAS OF ADDITION OR ALTERATION.** For those occupancies within the authority of the California Building Standards Commission as specified in Section 103, the provisions of Section 3.303.3 and 3.303.4 shall apply to new features in additions or areas of alteration to the building.

**3.303.2 STANDARDS FOR PLUMBING FIXTURES AND FITTINGS.** Plumbing fixtures and fittings shall be installed in accordance with the California Plumbing Code and shall meet the applicable standards referenced in Title 17.01 of the California Plumbing Code and in Chapter 6 of this Code.

**SECTION 5.304 OUTDOOR WATER USE**

**5.304.1 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS.** Nonresidential developments shall comply with a local water efficient landscaping ordinance or the current California Department of Water Resources' Model Water Efficient Landscaping Ordinance (MWELO), whichever is more stringent.

Note:  
1. The Model Water Efficient Landscaping Ordinance (MWELO) is located in the California Code of Regulations, Title 23, Chapter 2.1, Division 2.  
2. MWELO and supporting documents, including a water budget calculator, are available at: <http://www.water.ca.gov>

**5.304.2 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS.** For public schools and community colleges, landscape projects as described in Sections 3.304.1 and 3.304.2 shall comply with the California Department of Water Resources' Model Water Efficient Landscaping Ordinance (MWELO) commencing with Section 490 of Chapter 2, Division 2, Title 23, California Code of Regulations, except that the evapotranspiration adjustment factor (ETAF) shall be 0.65 with an additional water allowance for local landscape areas (LA) of 0.30.

Exception: Any project with an aggregate landscape area of 2,500 square feet or less may comply with the prescriptive measures contained in Appendix D of the MWELO.

**5.304.6.1 Newly constructed landscapes.** New construction projects with an aggregate landscape area equal to or greater than 500 square feet.

**5.304.6.2 Rehabilitated landscapes.** Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 1,200 square feet.

**DIVISION 5.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY**

**SECTION 5.401 GENERAL**

**5.401.1 SCOPE.** The provisions of this chapter shall outline means of achieving material conservation and resource efficiency through protection of buildings from exterior moisture, construction waste diversion, employment of techniques to reduce pollution through recycling of materials, and building commissioning or testing and adjusting.

**SECTION 5.402 DEFINITIONS.** The following terms are defined in Chapter 2 (and are included here for reference)

**ADJUST.** To regulate fluid flow rate and/or pressure at the terminal equipment, such as to reduce fan speed or adjust a damper.

**BALANCE.** To proportion flows within the distribution system, including sub-main, branches and terminals, according to design quantities.

**BUILDING COMMISSIONING.** A systematic quality assurance process that spans the entire design and construction process from verifying and documenting that building systems and components are planned, designed, installed, tested, operated and maintained to meet the owner's project requirements.

**ORGANIC WASTE.** Food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food soiled paper waste that is mixed in with food waste.

**TEST.** A procedure to determine quantitative performance of a system or equipment

**SECTION 5.407 WATER RESISTANCE AND MOISTURE MANAGEMENT**

**5.407.1 WEATHER PROTECTION.** Provide weather protection for wall and foundation envelopes as required by California Energy Code Section 1402.2 (Weather Protection), manufacturer's installation instructions or local ordinance, whichever is more stringent.

**5.407.2 MOISTURE CONTROL.** Employ moisture control measures by the following methods.

**5.407.2.1 Sprinklers.** Design and maintain landscape irrigation systems to prevent spray on structures.

**5.407.2.2 Entrances and openings.** Design exterior doors and/or openings subject to foot traffic with wind-driven rain to prevent water intrusion into buildings as follows:

**5.407.2.2.1 Exterior door protection.** Primary exterior entries shall be covered to prevent water intrusion by using nonobstructed floor and wall finishes within at least 6 feet around and perpendicular to such openings plus at least one of the following:

1. An installed awning at least 4 feet in depth.
2. The door is protected by a roof overhang at least 4 feet in depth.
3. The door is recessed at least 4 feet.
4. Other methods which provide equivalent protection.

**5.407.2.2.2 Flashing.** Install flashings integrated with a drainage plane.

**SECTION 5.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING**

**5.408.1 CONSTRUCTION WASTE MANAGEMENT.** Recycle and/or salvage for reuse a minimum of 65% of the non-hazardous construction waste generated with Sections 5.408.1.1, 5.408.1.2 and 5.408.1.3, or meet a local construction and demolition waste management ordinance, whichever is more stringent.

**5.408.1.1 Construction waste management plan.** Where a local jurisdiction does not have a construction and demolition waste management ordinance, submit a construction waste management plan that:

1. identifies the construction and demolition waste materials to be diverted from disposal by efficient usage, recycling, reuse on the project or salvage for future use or sale;
2. determines if construction and demolition waste materials will be sorted on site (source-separated) or bulk mixed (single stream);
3. identifies the waste management and recycling facilities to be used;
4. specifies that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.

**5.408.1.2 Waste Management Contract.** Utilize a waste management company that can provide verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill complies with this Section.

Note: The owner or contractor shall make the determination if the construction and demolition waste material will be diverted by a waste management company.

Exceptions to Sections 5.408.1.1 and 5.408.1.2:

1. Excavated soil and land-clearing debris.
2. Materials waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist.
3. Demolition waste meeting local ordinance or calculated at construction of local recycling facilities and markets.

**5.408.1.3 Waste stream reduction alternative.** The combined weight of new construction disposal that does not exceed two pounds per square foot of building area may be deemed to meet the 65% minimum requirement as approved by the enforcing agency.

**5.408.1.4 Documentation.** Documentation shall be provided to the enforcing agency which demonstrates compliance with Sections 5.408.1.1, through 5.408.1.3. The waste management plan shall be updated as necessary and shall be accessible during construction for examination by the enforcing agency.

Note:  
1. Sample forms found in "A Guide to the California Green Building Standards Code (Nonresidential)" located <http://www.ca.gov/DCRResources/Pages/CaliforniaBuildingStandardsCommission-Resources-List-Folder/CAGreen> may be used to assist in documenting compliance with the waste management plan.

**5.408.1.5 UNIVERSAL WASTE (UW)** Addition and alterations to a building or rental space that meet the scoping provisions in Section 501.3 for nonresidential additions and alterations, shall require verification that Universal Waste items such as fluorescent lamps and ballast and mercury containing thermostats as well as other California prohibited Universal Waste materials are disposed of properly and are diverted from landfills. A list of prohibited Universal Waste materials shall be included in the construction documents.

Note: Refer to the Universal Waste Risk list at: <http://www.tdca.ca.gov/universalwaste/>

**5.408.1.6 EXHAUSTED SOIL AND LAND CLEARING DEBRIS.** 100 percent of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. For a phased project, such materials shall be stockpiled on site until the storage site is developed.

Exception: Reuse, either on or off-site, or vegetation or soil contaminated by disease or pest infestation.

Note:  
1. Contamination by disease or pest infestation is supported, contact the County Agricultural Commissioner and follow his direction for recycling or disposal of the material.  
2. For a map of how pest and disease quarantine zones, consult with the California Department of Food and Agriculture. ([www.cdaf.ca.gov](http://www.cdaf.ca.gov))

**SECTION 5.410 BUILDING MAINTENANCE AND OPERATIONS**

**5.410.1 RECYCLING BY OCCUPANTS.** Provide readily accessible areas that serve the entire building and are equipped for the sorting, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, computered cardboard, glass, plastics, organic waste, and metals and meet a locally enacted local recycling ordinance, if more restrictive.

Exception: Rural jurisdictions that meet and apply for the exemption in Public Resources Code 42569.82 (a)(2)(A) (see, shall also be exempt from the organic waste portion of this section).

**5.410.1.1 Additions.** All additions constructed within a 12-month period under single or multiple permits, resulting in an increase of 30% or more in floor area, shall provide recycling area on site.

Exception: Additions within a tenant space resulting in less than a 30% increase in the tenant space floor area.

**5.410.1.2 Sample ordinance.** Space allocation for recycling areas shall comply with Chapter 18, Part 3, Division 30 of the Public Resources Code, Chapter 18 known as the California Solid Waste Reuse and Recycling Access Act of 1991 (4)(d).

Note: A sample ordinance for use by local agencies may be found in Appendix A of the document at the CalRecycle's web site.

**5.410.2 COMMISSIONING.** [N] New buildings 10,000 square feet and over. For new buildings 10,000 square feet and over, building commissioning shall include in the design and construction processes of the building project to verify the building systems and components meet the owner's or owner representative's project requirements. Commissioning shall be performed in accordance with this section by trained personnel with experience on projects of comparable size and complexity. For occupancies that are not regulated by OSHPD or for occupancies and occupancies that are not regulated by the California Energy Code Section 100.2 Scope, all requirements in Sections 5.410.2 through 5.410.2.6 shall apply.

Note: For energy-related systems under the scope (Section 100) of the California Energy Code, including heating, ventilation, air conditioning (HVAC) systems and controls, lighting systems and controls, as well as water heating systems and controls, refer to California Energy Code Section 120.8 for commissioning requirements

Commissioning requirements shall include:

1. Owner's or Owner representative's project requirements.
2. Basis of design.
3. Commissioning measures shown in the construction documents.
4. Commissioning plan.
5. Functional performance testing.
6. Documentation and training.
7. Commissioning report.

Exceptions:  
1. Unconditioned warehouses of any size.  
2. Areas less than 10,000 square feet used for offices or other conditioned accessory spaces within unconditioned warehouses.  
3. Tenant improvements less than 10,000 square feet as described in Section 303.1.1.  
4. Open parking garages of any size, or open parking garage areas, of any size, within a structure.

Note: For the purposes of this section, unconditioned shall mean a building, area, or room which does not provide heating and/or air conditioning.

Informational Notes:  
1. IAS AC 476 is an accreditation criteria for organizations providing training and/or certification of commissioning personnel. AC 476 is available to the Authority Having Jurisdiction as a reference for certification of commissioning personnel. AC 476 does not only individuals to commissioning performance tests or to adjust and balance systems.  
2. Functional performance testing for heating, ventilation, air conditioning systems and lighting controls must be performed in accordance with the California Energy Code.

**5.410.2.1 Owner's or Owner Representative's Project Requirements (OPR).** [N] The expectations and requirements of the building appropriate to its phase shall be documented before the design phase of the project begins. This documentation shall include the following:

1. Environmental and sustainability goals.
2. Building sustainable goals.
3. Indoor environmental quality requirements.
4. Project program, including facility functions and hours of operation, and need for after hours operation.
5. Equipment and systems expectations.
6. Building occupant and operation and maintenance (OAM) operational expectations.

**5.410.2.2 Basis of Design (BOD).** [N] A written explanation of how the design of the building system meets the OPR shall be completed at the design phase of the building project. The Basis of Design document shall cover the following systems:

1. Renewable energy systems.
2. Landscape irrigation systems.
3. Water reuse systems.

**5.410.2.3 Commissioning plan.** Prior to permit issuance a commissioning plan shall be completed to document how the project will be commissioned. The commissioning plan shall include the following:

1. General project information.
2. Commissioning goals.
  - a. An explanation of the original design intent.
  - b. Equipment and systems to be tested, including the extent of tests.
  - c. Functions to be tested.
  - d. Conditions under which the test shall be performed.
  - e. Measurable criteria for acceptable performance.
3. Commissioning process activities, schedules and responsibilities. Plans for the completion of commissioning shall be included.

**5.410.2.4 Functional performance testing.** [N] Functional performance tests shall demonstrate the correct installation and operation of each component, system and system-to-system interface in accordance with the approved plans and specifications. Functional performance testing reports shall contain information addressing each of the building components tested, the testing methods utilized, and include any readings and adjustments made.

**5.410.2.5 Documentation and training.** [N] A Systems Manual and Systems Operations Training are required, including Occupational Safety and Health Act (OSHA) Manual and California Code of Regulations (CCR), Title 8, Section 5142, and other related regulations.

**5.410.2.5.1 Systems manual.** [N] Documentation of the operational aspects of the building shall be completed within the systems manual and delivered to the building owner or representative. The systems manual shall include the following:

1. Site information, including building description, history and current requirements.
2. Site contact information.
3. Basic operations and maintenance, including general site operating procedures, basic troubleshooting, recommended maintenance requirements, site events log.
4. Major systems.
5. Site equipment inventory and maintenance notes.
6. A copy of verifications required by the enforcing agency or this code.
7. Other resources and documentation, if applicable.

**5.410.2.5.2 Systems operations training.** [N] A program for training of the appropriate maintenance staff for each equipment type and/or system shall be developed and documented in the commissioning report and shall include the following:

1. System/equipment overview (what it is, what it does and what other systems and/or equipment it interfaces).
2. Review and demonstration of servicing/equipment maintenance.
3. Review of the information in the Systems Manual.
4. Review of the record drawings on the system/equipment.

**5.410.2.6 Commissioning report.** [N] A report of commissioning process activities undertaken through the design and construction phases of the building project shall be completed and provided to the owner or representative.

**5.410.4 TESTING AND ADJUSTING.** New buildings less than 10,000 square feet. Testing and adjusting of systems shall be required for new buildings less than 10,000 square feet or new systems to serve an addition or alteration to existing buildings less than 10,000 square feet.

**5.410.4.2 (Reserved)**

**5.410.4.3 SYSTEMS.** For energy-related systems under the scope (Section 100) of the California Energy Code, including heating, ventilation, air conditioning (HVAC) systems and controls, indoor lighting systems and controls, as well as water heating systems and controls, refer to California Energy Code Section 120.8 for commissioning requirements.

**5.410.4.4 SYSTEMS.** Develop a written plan of procedures for testing and adjusting systems. Systems to be installed for testing and adjusting shall include at a minimum, as applicable to the project:

1. Renewable energy systems.
2. Landscape irrigation systems.
3. Water reuse systems.

**5.410.4.5 PROCEDURES.** Perform testing and adjusting procedures in accordance with manufacturer's specifications and applicable standards on each system.

**5.410.4.6 HVAC BALANCING.** In addition to testing and adjusting, before a new space-conditioning system serving a building or space is opened for normal use, the system shall be balanced in accordance with the procedures defined by the Testing, Adjusting and Balancing Bureau National Standards, the National Environmental Balancing Bureau Procedural Standards, Associated Air Balance Council National Standards or as approved by the enforcing agency.

**5.410.4.7 Reporting.** After completion of testing, adjusting and balancing, provide a final report of testing signed by the individual responsible for performing the testing and adjusting procedures to verify the building systems and components meet the owner's or owner representative's project requirements. Commissioning shall be performed in accordance with this section by trained personnel with experience on projects of comparable size and complexity. For occupancies that are not regulated by OSHPD or for occupancies and occupancies that are not regulated by the California Energy Code Section 100.2 Scope, all requirements in Sections 5.410.2 through 5.410.2.6 shall apply.

**5.410.4.8 Operation and maintenance (O & M) manual.** Provide the building owner or representative with detailed operating and maintenance instructions and copies of warranties/warranties for each system. O & M instructions shall be consistent with OSHA requirements in CCR, Title 8, Section 5142, and other related regulations.

**5.410.4.5.1 Inspections and reports.** Include a copy of all inspection worksheets and reports required by the enforcing agency.

**DIVISION 5.5 ENVIRONMENTAL QUALITY**

**SECTION 5.501 GENERAL**

**5.501.1 SCOPE.** The provisions of this chapter shall outline means of reducing the quantity of air contaminants that are odorous, irritating, annoying/harmful to the comfort and well-being of a building's installers, occupants and neighbors.

**SECTION 5.502 DEFINITIONS**

**5.502.1 DEFINITIONS.** The following terms are defined in Chapter 2 (and are included here for reference)

**ARTERIAL HIGHWAY.** A general term denoting a highway primarily for through traffic, usually on a continuous route.

**A WEIGHTED SOUND LEVEL (dBA).** The sound pressure level in decibels as measured on a sound level meter using the internationally standardized weighting filter or computed from sound spectral data to which A-weighting adjustments have been made.

**1 BTU/HR.** British thermal units per hour, also referred to as Btu. The amount of heat required to raise one pound of water one degree Fahrenheit per hour, a common measure of heat transfer rate. A unit of heat equivalent to 12,000 Btu.

**COMMUNITY NOISE EQUIVALENT LEVEL (CNEL).** A metric similar to the day-night average sound level (Ldn), except that a 5 decibel adjustment is added to the equivalent continuous sound exposure level for evening hours (7pm to 10pm) in addition to the 10 dB nighttime adjustment used in the Ldn.

**COMPOSITE WOOD PRODUCTS.** Composite wood products include hardwood plywood, particleboard and medium density fiberboard. Composite wood products does not include hardboard, structural plywood, structural panels, structural composite lumber, oriented strand board, glued laminated timber, laminated veneer lumber, finger-joint lumber, etc. as specified in California Code of Regulations (CCR), Title 17, Section 93120.1(a).

Note: See CCR, Title 17, Section 93120.1.

**DAY-NIGHT AVERAGE SOUND LEVEL (Ldn).** The A-weighted equivalent continuous sound exposure level for a 24-hour period with a 5 dB adjustment added to sound levels occurring during nighttime hours (10 pm to 7 a.m.).

**DECIBEL (dB).** A measure on a logarithmic scale of the magnitude of a particular quantity (such as sound pressure, sound power, sound intensity) with respect to a reference quantity.

**ELECTRIC VEHICLE (EV).** An automotive-type vehicle for on-road use, such as passenger automobiles, buses, trucks, vans, neighborhood electric vehicles, electric motorcycles, and the like, primarily powered by an electric motor that draws current from a rechargeable storage battery, fuel cell, photovoltaic array, or other source of electric current. Plug-in electric vehicles (PHEV) are considered electric vehicles. For purposes of the California Electrical Code, off-road, self-propelled electric vehicles, such as industrial trucks, hoists, lifts, transporters, golf carts, airline ground support equipment, track tractors, and the like, are not included.

**ELECTRIC VEHICLE CHARGING STATIONS (EVCS).** One or more spaces intended for charging electric vehicles.

**ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE).** The conductors, including the ungrounded, grounded, and equipment grounding conductors and the electric vehicle connectors, attachment plugs, and all other fittings, devices, power and lighting fixtures installed specifically for the purpose of transferring energy between the providing wire and the electric vehicle.

**ENERGY EQUIVALENT NOISE LEVEL (Leq).** The level of a steady noise which would have the same energy as the varying noise level integrated over the time of period of interest.

**EXPRESSWAY.** An arterial highway for through traffic, which may have partial control of access, but which may not be divided or have grade separations at intersections.

**FREEWAY.** A divided arterial highway with control of access and with grade separations at intersections.

**GLOBAL WARMING POTENTIAL (GWP).** The relative forcing impact of one mass-based unit of a given greenhouse gas relative to an equivalent mass of carbon dioxide over a given time period. The Carbon Dioxide is the reference compound with a GWP of one.

**GLOBAL WARMING POTENTIAL VALUE (GWP VALUE).** A 100-year GWP value published by the Intergovernmental Panel on Climate Change (IPCC) in either its Second Assessment Report (SAR) (IPCC, 1995), or its Fourth Assessment Report (AR4) (IPCC, 2007). The SAR GWP values are found in column "SAR" (1985) of Table 2.14, the AR4 GWP values are found in column "100 yr" of Table 2.14.

**HIGH-GWP REFRIGERANT.** A compound used as a heat transfer fluid or gas that (a) is chlorofluorocarbon, a hydrochlorofluorocarbon, a hydrofluorocarbon, a perfluorocarbon, or any compound or blend of compounds, with a GWP value that is greater than or equal to the values listed in Table 2.14, and is defined in Title 40 of the Code of Regulations, Part 82, sec. 82.3 (as amended March 10, 2009).

**LONG RADIIUS ELBOW.** Pipe fitting installed between two lengths of pipe or tubing to allow a change of direction, with a radius 1.5 times the pipe diameter.

**LOW-GWP REFRIGERANT.** A compound used as a heat transfer fluid or gas that (A) has a GWP value less than 150, and (B) is not an ozone depleting substance as defined in Title of the Code of Federal Regulations, Part 82, sec.82.3 (as amended March 10, 2009).

**MERV.** Filter minimum efficiency reporting value, based on ASHRAE 52.2-1999.

**MAXIMUM INCREMENTAL REACTIVITY INDEX.** The maximum change in weight of ozone formed by adding a compound to the "Base (Sulfuric Acid, Gas (ROG) Mixture" per weight of compound added, expressed to hundreds of a gram (g/g) (ROG).

**PRODUCT-WEIGHTED MFR (PW-MFR).** The sum of all weighted-MFR for all ingredients in a product subject to this article. The PW-MFR is the total product divided by hundreds of a gram of ozone formed per gram of product (excluding container and packaging).

**PSG.** Pounds per square inch, gauge.

**REACTIVE ORGANIC COMPOUND (ROC).** Any compound that has the potential, once emitted, to contribute to ozone formation in the troposphere.

**SCHROEDER ACCESS VALVES.** Access fittings with a valve core installed.

**SHORT RADIIUS ELBOW.** Pipe fitting installed between two lengths of pipe or tubing to allow a change of direction, with a radius 1.5 times the pipe diameter.

**SUPERMARKET.** For the purposes of Section 5.502.2, a supermarket is any retail food facility with 3,000 square feet or more conditioned area, and that utilizes either refrigerated display cases, or walk-in coolers or freezers connected to remote compressor units and other related equipment.

**VOC.** A volatile organic compound broadly defined as a chemical compound based on carbon chains or rings with vapor pressures greater than 0.1 millimeters of mercury at room temperature. These compounds typically contain hydrogen and may contain chlorine, nitrogen and other elements. (See CCR Title 17, Section 93068(a)).

Note: Where specific regulations are cited from different agencies such as SCAMOM, ARB, etc., the VOC definition included in that specific regulation is the one that prevails for the specific measure in question.

**SECTION 5.503 FIREPLACES**

**5.503.1 FIREPLACES.** Install only a direct vent sealed-combustion gas or sealed wood-burning fireplace, or a sealed woodstove or pellet stove, and refer to residential requirements in the California Energy Code, Title 24, Part 6, Subchapter 1, Section 100. Woodstoves, pellet stoves and fireplaces shall comply with applicable local ordinances.

**5.503.1.1 Woodstoves.** Woodstoves and pellet stoves shall comply with U.S. EPA New Source Performance Standards (NSPS) emission limits as applicable, and shall have a permanent label indicating they are certified to meet the emission limits.

**SECTION 5.504 POLLUTANT CONTROL**

**5.504.1 TEMPORARY VENTILATION.** The permanent HVAC systems shall only be used during construction if necessary to condition the building or areas of addition or alteration within the required temperature range for material and equipment installation. If the HVAC system is used during construction, use return air filters with a Minimum Efficiency Reporting Value (MERV) of 8, based on ASHRAE 52.2-1999, or an average efficiency of 30% based on ASHRAE 52.2-1999. Replace all filters immediately prior to occupancy, or if the building is occupied during alteration, at the conclusion of construction.

**5.504.3 Covering of dust openings and protection of mechanical equipment during construction.** At the time of rough installation and during storage on the construction site, the final stages of the heating, cooling and ventilation equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of dust, water and debris which may enter the system.

**RESPONSE PARTY**

**RESPONSIBLE PARTY**

**RESPONSIBLE PARTY BY ARCHITECT REGISTRATION NUMBER**

**OWNER**

**SOUTH HILLS CHURCH**  
**MOSSES CAMACHO**  
**1737 ATLANTA AVE SUITE H-5**  
**RIVERSIDE CA 92507**  
**PH (659) 385-9015**

**DATE**  
06-01-21

**SCALE**

**SHEET**  
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