

General Notes

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

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

DATE  
 10-20-22

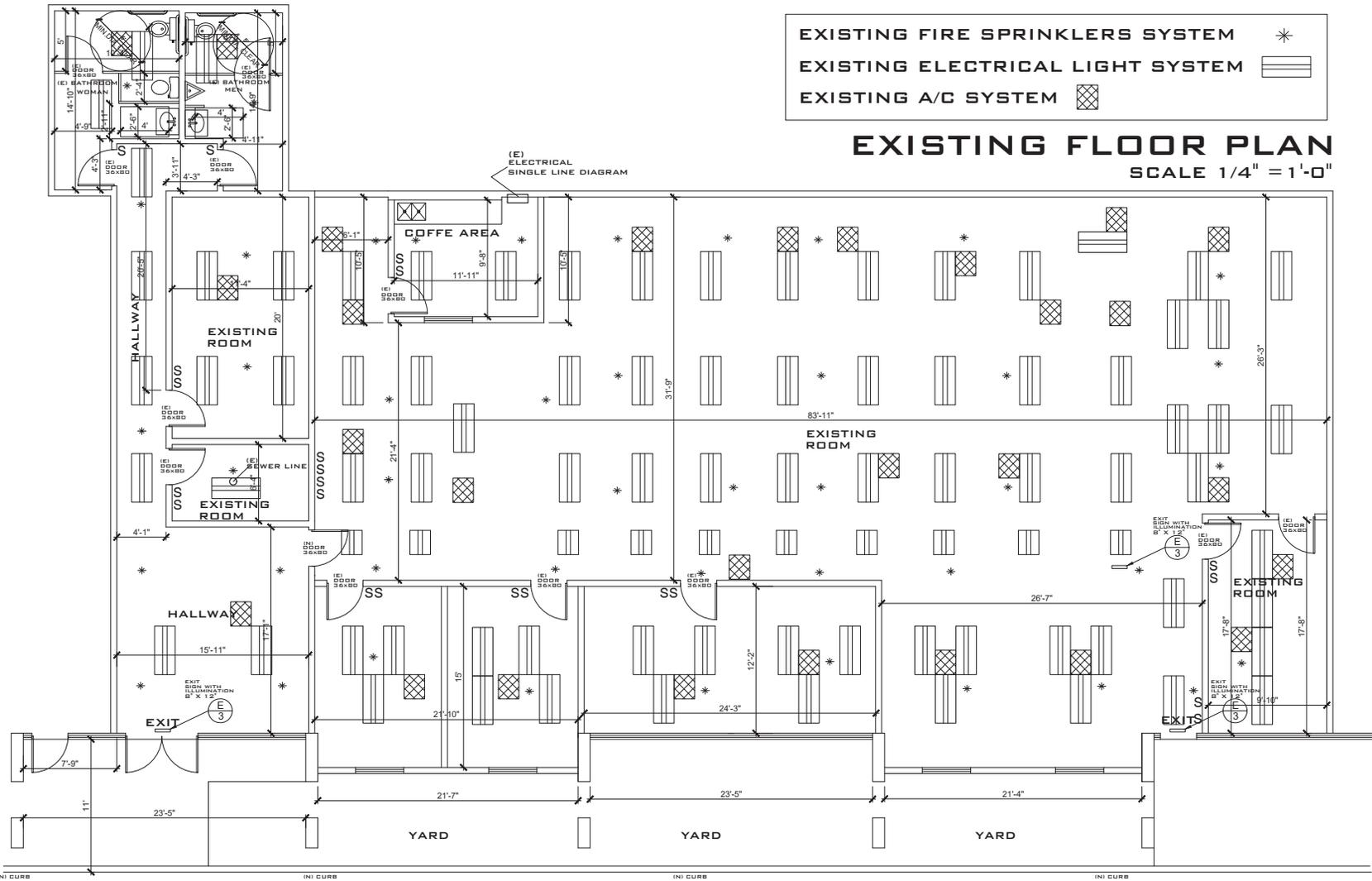
SCALE  
 1/64" = 1'-0"

SHEET  
**1**









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

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

DATE

10-20-22

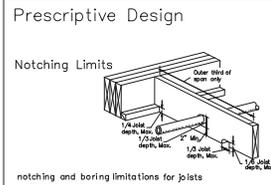
SCALE

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**

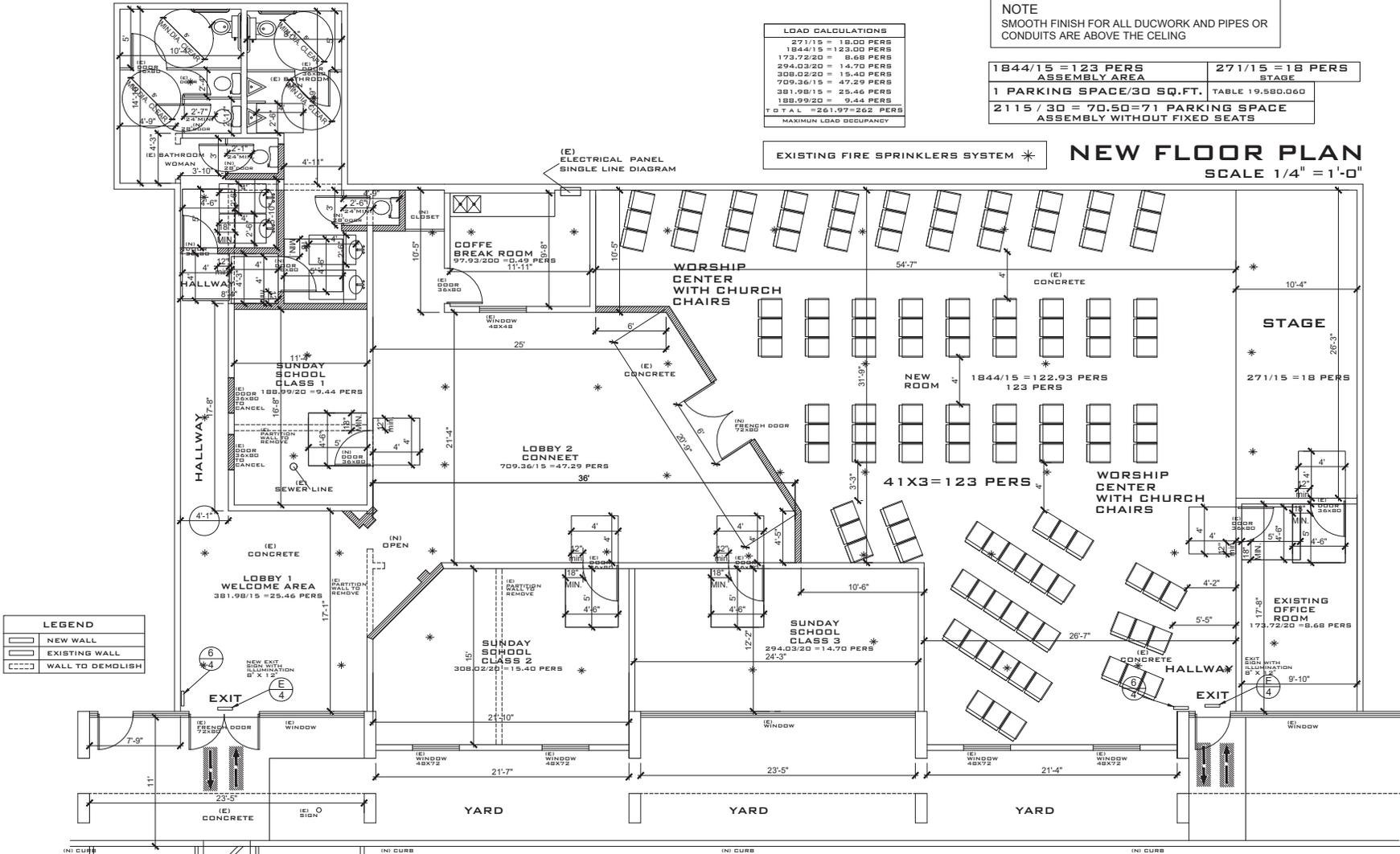
NOTE  
 SMOOTH FINISH FOR ALL DUCWORK AND PIPES OR CONDUITS ARE ABOVE THE CEILING

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"



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SHEET  
**3**

FINISH SCHEDULE		
No	ROOM NAME	WALLS
1	COMMON AREA	IMPERMEABLE ENAMEL PAINTED DRYWALL PURE WHITE
2	RESTROOM	IMPERMEABLE ENAMEL PAINTED DRYWALL PURE WHITE



**ACCESSIBLE ENTRY**

② SIGN  
18"x12" (HxW)



**EXIT**

EXIT SIGN WITH ILLUMINATION  
8" X 12"

## NOTES

**NOTE E**  
SANITATION FACILITY TOILET ROOM FLOORS SHALL HAVE A SMOOTH, HARD, NON-ABSORBENT SURFACE SUCH AS PORTLAND CEMENT, CONCRETE, CERAMIC TILE OR OTHER APPROVED MATERIAL WHICH EXTENDS UPWARDS ONTO THE WALLS AT LEAST 5 INCHES. WALLS WITHIN 2 FEET OF THE FRONT AND SIDES OF THE URINALS AND WATER CLOSETS SHALL BE SIMILARLY FINISHED TO A HEIGHT OF 4 FEET.

## NOTES

**NOTE A**  
THE WORDS "NO PARKING" SHALL BE PAINTED ON THE GROUND WITHIN EACH EIGHT-FOOT LOADING AND UNLOADING AISLE. THIS NOTICE SHALL BE PAINTED IN WHITE LETTERS NO LESS THAN 12 INCHES HIGH AND LOCATED SO THAT IT IS VISIBLE TO TRAFFIC ENFORCEMENT OFFICIALS.

**NOTE C**  
UNAUTHORIZED VEHICLES PARKED IN DESIGNATED ACCESSIBLE SPACES NOT DISPLAYING DISTINGUISHING PLACARDS OR LICENSE PLATES ISSUED FOR PERSONS WITH DISABILITIES MAY BE TOWED AWAY AT OWNER'S EXPENSE. TOWED VEHICLES MAY BE RECLAIMED BY TELEPHONING THE RIVERSIDE POLICE DEPARTMENT.

**NOTE D**  
THE SURFACE OF EACH ACCESSIBLE PARKING SPACE OR STALL SHALL HAVE A SURFACE IDENTIFICATION DUPLICATING EITHER OF THE FOLLOWING SCHEMES:

- BY OUTLINING OR PAINTING THE STALL OR SPACE IN BLUE AND OUTLINING ON THE GROUND IN THE STALL OR SPACE IN WHITE OR SUITABLE CONTRASTING COLOR A PROFILE VIEW DEPICTING A WHEELCHAIR WITH OCCUPANT, OR
- BY OUTLINING A PROFILE VIEW OF A WHEELCHAIR WITH OCCUPANT IN WHITE ON BLUE BACKGROUND. THE PROFILE VIEW SHALL BE LOCATED SO THAT IT IS VISIBLE TO A TRAFFIC ENFORCEMENT OFFICER WHEN A VEHICLE IS PROPERLY PARKED IN THE SPACE AND SHALL BE 36 INCHES HIGH BY 36 INCHES WIDE.

**NOTE E**  
SANITATION FACILITY TOILET ROOM FLOORS SHALL HAVE A SMOOTH, HARD, NON-ABSORBENT SURFACE SUCH AS PORTLAND CEMENT, CONCRETE, CERAMIC TILE OR OTHER APPROVED MATERIAL WHICH EXTENDS UPWARDS ONTO THE WALLS AT LEAST 5 INCHES. WALLS WITHIN 2 FEET OF THE FRONT AND SIDES OF THE URINALS AND WATER CLOSETS SHALL BE SIMILARLY FINISHED TO A HEIGHT OF 4 FEET.



**ACCESS AT**

① SIGN  
18"x12" (HxW)



**ACCESSIBLE ENTRY**

② SIGN  
18"x12" (HxW)



**PARKING ONLY**

③ SIGN  
18"x12" (HxW)  
AREA=216 SQ FT

**VAN ACCESSIBLE**

④ SIGN  
6"x12" (HxW)

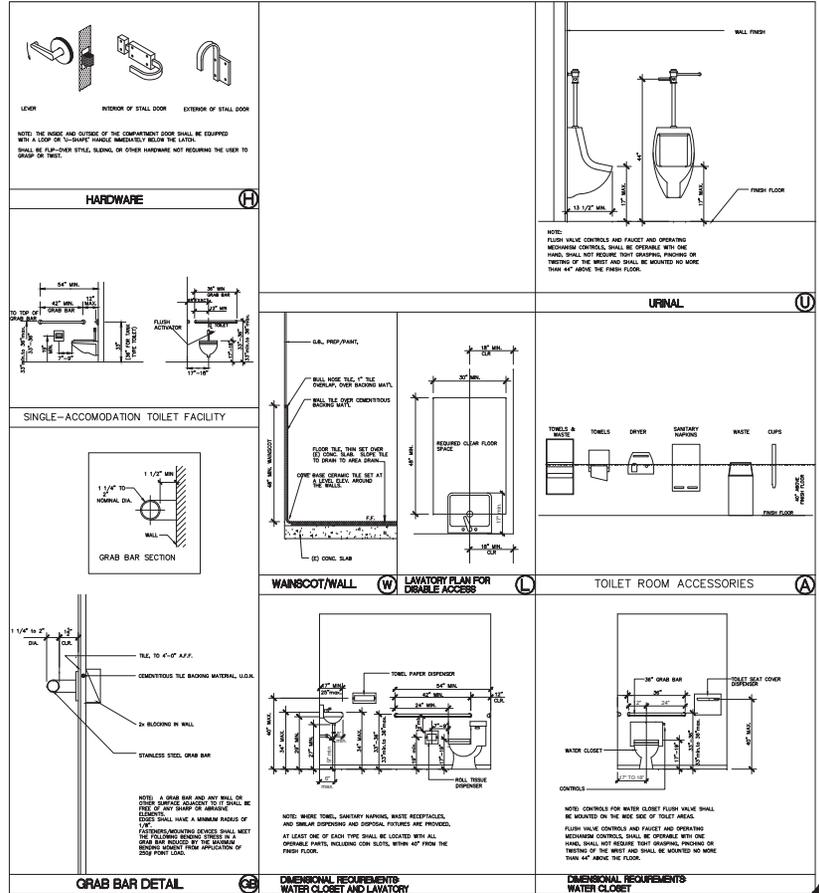
UNAUTHORIZED VEHICLES PARKED IN DESIGNATED ACCESSIBLE SPACES NOT DISPLAYING DISTINGUISHING PLACARDS OR LICENSE PLATES ISSUED FOR PERSONS WITH DISABILITIES MAY BE TOWED AWAY AT OWNER'S EXPENSE. TOWED VEHICLES MAY BE RECLAIMED BY TELEPHONING THE CITY OF RIVERSIDE. CA POLICE DEPARTMENT

"MINIMUM FINE \$ 250.00"

⑤ SIGN SEE NOTE C  
17"x22" (HxW)

**EXIT**

⑥ TACTILE SIGNAGE  
8"x12" (HxW)



General Notes


**COMMERCIAL PROJECT**

SOUTH HILLS CHURCH  
MOSES CAMACHO  
1737 ATLANTA AVE SUITE H-5  
RIVERSIDE CA 92507  
PH (659) 385-8015

DRAWN BY  
ARMANDO CARDONA  
1907 N DEER PARK DR 473  
FULLERTON CA 92831  
(626) 862-4604

DATE  
10-20-22

SCALE

SHEET  
**4**

**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**



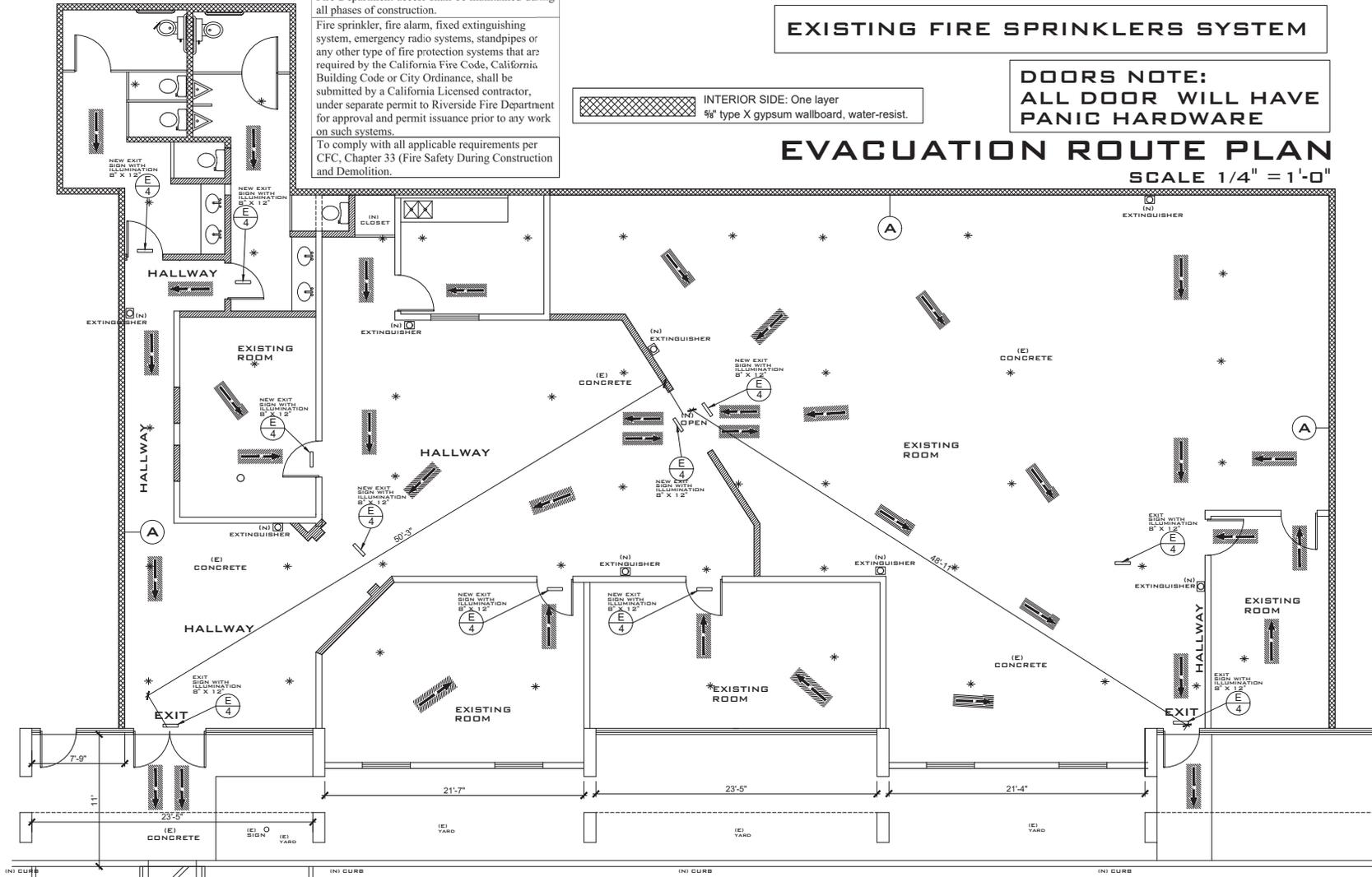
**EXISTING FIRE SPRINKLERS SYSTEM**

**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"



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# 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 Larimer National 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/stormwater/](http://www.waterboards.ca.gov/swrc/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, 5.106.4.1.2, 5.106.4.1.3, and 5.106.4.1.4.

**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	18
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 [N]** 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 capacity shall be identified by the total amperage and voltage of the EV charging equipment.

**5.106.5.3.5 [N]** Future charging spaces qualify as 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.

**5.106.8 LIGHT POLLUTION REDUCTION, [N]** Outdoor lighting systems shall be designed and installed to comply with:

- The minimum requirements in the California Energy Code for Lighting Zones 0-4 as defined in Chapter 10, Section 106.114 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 106.1.6 [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 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**

**5.106.10 GRADING AND PAVING.** Construction plans shall indicate how site grading or a drainage system will manage all surface water flows to keep water from entering buildings. Examples of methods to manage surface water include, but are not limited to, the following:

- Swales;
- Water collection and disposal systems;
- French drains;
- Water retention gardens;
- Other water measures which keep surface water away from buildings and aid in groundwater recharge.

**Exception:** Additions and alterations not altering the drainage path.

**5.106.12 SHADE TREES [DSS-BS].** Shade Trees shall be planted to comply with Sections 5.106.12.1, 5.106.12.2, and 5.106.12.3. Percentages shown shall be measured at noon on the summer solstice. Landscape irrigation systems to establish and maintain tree health shall comply with Section 5.304.6.

**5.106.12.1 Surface parking areas.** Shade tree plantings, minimum #10 container size or equal, shall be installed to provide shade over 50 percent of the parking area within 15 years.

**Exceptions:** The surface parking area covered by solar photovoltaic shade structures, or shade structures, with roofing materials that comply with Table AS.106.11.2.2 in Appendix AS, are not included in the total area calculation.

**5.106.12.2 Landscape areas.** Shade tree plantings, minimum #10 container size or equal shall be installed to provide shade of 20% of the landscape area within 15 years.

**Exceptions:** Landscapes for organized sport activity are not included in the total area calculation.

**5.106.12.3 Hardscape areas.** Shade tree plantings, minimum #10 container size or equal, shall be installed to provide shade over 20 percent of the hardscape area within 15 years.

**Exceptions:** Walks, hardscape areas covered by solar photovoltaic shade structures, or shade structures, with roofing materials that comply with Table AS.106.11.2.2 in Appendix AS, are not included in the total area calculation.

**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 (a) 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 specific 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 materials listed below:

- Covered, lockable enclosures with permanently anchored racks for bicycles;
- Lockable bicycle rooms 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 [DSS-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 materials listed one of the following:

- Covered, lockable enclosures with permanently anchored racks for bicycles;
- Lockable bicycle rooms 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**

**TABLE 5.106.6 (B) MAXIMUM ALLOWABLE BACKLIGHT, UPLIGHT AND GLARE (BUG) RATINGS<sup>1</sup>**

ALLOWABLE RATING ZONE	LIGHTING ZONE LE1	LIGHTING ZONE LE2	LIGHTING ZONE LE3	LIGHTING ZONE LE4	LIGHTING ZONE LE5
<b>MAXIMUM ALLOWABLE BACKLIGHT RATING</b>					
Luminaire greater than 2 lumens per fixture from property line	NA	No Limit	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
<b>MAXIMUM ALLOWABLE UPLIGHT RATING (U)</b>					
For area lighting.	NA	U0	U0	U0	U0
For all other outdoor lighting including decorative luminaires	NA	U1	U2	U3	UR
<b>MAXIMUM ALLOWABLE GLARE RATING (G)</b>					
Luminaire greater than 2 MH from property line	NA	G1	G2	G3	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 abut 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 meet U-value limits for "all other outdoor lighting".

**5.106.8.1 Facing-Backlight**

Luminaires within 2MB of a property line shall be oriented so that the nearest property line is behind the fixture, and shall comply with the backlight rating specified in Table 5.106.6 based on the lighting zone and distance to the nearest property line.

**Exception:** Coplanar luminaires (or two signages of the same property line) have equivalent point to point luminaires, then the luminaire may be oriented so that the intersection of the two lines (the corner) is directly behind the luminaire. The luminaire shall still use the distance to the nearest point(s) on the property line to determine the required backlight rating.

**5.106.8.2 Facing-Glare**

For luminaires covered by 5.106.8.1, if a property line also exists within or extends into the front hemisphere within 2MB of the luminaire, then the luminaire shall comply with the more stringent glare ratings specified in Table 5.106.6 based on the lighting zone and distance to the nearest point on the nearest property line within the front hemisphere.

**Note [N]**

- See also California Building Code, Chapter 12, Section 1206.6 for college campus lighting requirements for outdoor lighting.
- Refer to Chapter 8 (Compliance Files, Worksheets and Reference Material) for ES TM 15-1.1 Table A.1, California Energy Code Tables 130.2.4 and 130.2.6.
- Refer to the California Building Code for requirements for additions and alterations.

**RESPON PARTY**

**5.106.12.3 Hardscape areas.** Shade tree plantings, minimum #10 container size or equal, shall be installed to provide shade over 20 percent of the hardscape area within 15 years.

**Exceptions:** Walks, hardscape areas covered by solar photovoltaic shade structures, or shade structures, with roofing materials that comply with Table AS.106.11.2.2 in Appendix AS, are not included in the total area calculation.

**DIVISION 5.2 ENERGY EFFICIENCY SECTION 5.201 GENERAL**

**5.201.1 Scope [BSC-CG].** California Energy Code (CES-ES). For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory building standards.

**DIVISION 5.3 WATER EFFICIENCY AND CONSERVATION SECTION 5.301 GENERAL**

**5.301.1 Scope.** The provisions of this chapter shall establish the means of conserving water use indoors, outdoors and in wastewater conveyance.

**SECTION 5.302 DEFINITIONS**

**5.302.1 Definitions.** The following terms are defined in Chapter 2 (and are included here for reference):

**EVAPOTRANSPIRATION ADJUSTMENT FACTOR (ETA) [DSS-BS].** An adjustment factor when applied to internal evapotranspiration that adjusts for plant factors and irrigation efficiency, which has two major influences on the amount of water that needs to be applied to the landscape.

**FOOTPRINT AREA [DSS-BS].** The total area of the furthest exterior wall of the structure projected to natural grade, not including screened areas such as stairs, covered walkways, patios and docks.

**METERING GAUGE.** A self-acting device that dispenses a specific volume of water for each actuation cycle. The volume of cycle duration can be fixed or adjustable.

**GRAYWATER.** Pursuant to Health and Safety Code Section 17602.12, "graywater" means untreated wastewater that has not been contaminated by any toilet discharge, has not been affected by hydrocarbons, contaminants, or harmful body wastes, and does not present a threat from contamination by unreasonable quantities of laundry or operating wastes. "Graywater" includes, but is not limited to wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines and laundry basins, but does not include waste water from kitchen sinks or dishwashers.

**WATER EFFICIENT LANDSCAPE ORNAMENT (MWELO).** The California ordinance regulating landscape design, installation and maintenance practices that will ensure commercial, multifamily and other developer installed landscapes greater than 2500 square feet meet an irrigation water budget developed based on landscaped area and climatological parameters.

**WATER EFFICIENT LANDSCAPE ORNAMENT [MWELO] [MCO].** The California model ordinance (California Code of Regulations, Title 22, Division 2, Chapter 27), regulating landscape design, installation and maintenance practices. Local agencies are required to adopt the updated MWELO, or adopt a local ordinance at least as effective as the MWELO.

**POTABLE WATER.** Water that is drinkable and meets the U.S. Environmental Protection Agency (EPA) Drinking Water Standards. See definition in the California Plumbing Code, Part 5.

**POTABLE WATER [MCO]** Water that is satisfactory for drinking, culinary, and domestic purposes, and meets the U.S. Environmental Protection Agency (EPA) Drinking Water Standards and the requirements of the Health Authority Having Jurisdiction.

**RECYCLED WATER.** Water which, as a result of treatment of waste, is suitable for a direct beneficial use or a controlled use that would not otherwise occur (Water Code Section 12050 (g)). Simply put, recycled water is water treated to remove waste matter attaining a quality that is suitable to use the water again.

**SUMMER [MCO] [N]** A secondary device beyond a meter that measures water consumption of an individual residential unit and calculates in accordance with the Department of Water Resources Model Efficient Landscape Ordinance (MWELO).

**SECTION 5.303 INDOOR WATER USE**

**5.303.1 METERS.** Separate submeters or metering devices shall be installed for the uses described in Sections 503.1.1 and 503.1.2.

**5.303.1.1 Buildings in excess of 60,000 square feet.** Separate submeters shall be installed as follows:

- For each individual level, resident or other tenant building within the building projected to consume more than 100 gallons (380 L/day), including, but not limited to, spaces used for laundry or cleaners, restaurant or food service, medical or dental office, laboratory, or beauty salon or barber shop.
- Where separate submeters for individual building tenants are unfeasible, water for supply to the following shall be metered:
  - Making water for cooling towers where flow through is greater than 500 gpm (187 L/s).
  - Making water for evaporative coolers greater than 6 gpm (0.94 L/s).
  - Clean and hot water boilers with input energy more than 500,000 Btu/h (140 kW).

**5.303.1.2 Excess consumption.** A separate submeter or metering device shall be provided for any tenant within a new building with an addition that is projected to consume more than 1,000 gallons per day.

**5.303.2 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS.** Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:

**5.303.2.1 Water Closets.** The effective flush volume of all water closets shall not exceed 1.28 gallons per flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-Type Toilets.

**Note:** The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush.

**5.303.2.2 Urinals.**

**5.303.2.2.1 Wall-mounted Urinals.** The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush.

**5.303.2.2.2 Floor-mounted Urinals.** The effective flush volume of floor-mounted or other urinals shall not exceed 0.5 gallons per flush.

**5.303.3 Showerheads [BSC-CG]**

**5.303.3.1 Single Showerheads.** Showerheads shall have a maximum flow rate of not more than 1.8 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.

**5.303.3.2 Multiple Showerheads serving one shower.** When a shower is served by more than one showerhead, the combined flow rate of all the showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi, or the shower shall be designed to allow only one shower outlet to be in operation at a time.

**Note:** A hand-held shower shall be considered a showerhead.

**ABBREVIATION DEFINITIONS:**

HCD Department of Housing and Community Development  
 BSC California Building Standards Commission  
 DSS-BS Division of the State Architect, Structural Safety  
 DSS-CE 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**

**5.101.1 DESIGN AND DEVELOPMENT METHODS.** The provisions of this chapter outline planning, design and development methods that include environmental responsible site selection, building design and development 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 60 degrees above and 100 (100 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 4300 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 49CFR571.500 (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

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

**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 2% 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 charging 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 limited 40-ampere dedicated branch circuit for the future installation of the EVSE.
- 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 panel shall be in close proximity to a service panel or a subpanel serving the area, and shall terminate in close proximity to the proposed location of the charging equipment and limited 40-ampere dedicated branch circuit, 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 safety transformers and have sufficient capacity to simultaneously charge all required EVs at full rated amperage.
- The service panel or subpanel shall have sufficient capacity to accommodate the required number of dedicated branch circuits for the future installation of the EVSE.

**5.106.5.3 Charging space calculations [N]** Table 5.106.5.3 shall be used to determine if single or multiple charging spaces 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**

**TABLE 5.106.6 (B) MAXIMUM ALLOWABLE BACKLIGHT, UPLIGHT AND GLARE (BUG) RATINGS<sup>1</sup>**

ALLOWABLE RATING ZONE	LIGHTING ZONE LE1	LIGHTING ZONE LE2	LIGHTING ZONE LE3	LIGHTING ZONE LE4	LIGHTING ZONE LE5
<b>MAXIMUM ALLOWABLE BACKLIGHT RATING</b>					
Luminaire greater than 2 lumens per fixture from property line	NA	No Limit	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
<b>MAXIMUM ALLOWABLE UPLIGHT RATING (U)</b>					
For area lighting.	NA	U0	U0	U0	U0
For all other outdoor lighting including decorative luminaires	NA	U1	U2	U3	UR
<b>MAXIMUM ALLOWABLE GLARE RATING (G)</b>					
Luminaire greater than 2 MH from property line	NA	G1	G2	G3	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 abut 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 meet U-value limits for "all other outdoor lighting".

**5.106.8.1 Facing-Backlight**

Luminaires within 2MB of a property line shall be oriented so that the nearest property line is behind the fixture, and shall comply with the backlight rating specified in Table 5.106.6 based on the lighting zone and distance to the nearest property line.

**Exception:** Coplanar luminaires (or two signages of the same property line) have equivalent point to point luminaires, then the luminaire may be oriented so that the intersection of the two lines (the corner) is directly behind the luminaire. The luminaire shall still use the distance to the nearest point(s) on the property line to determine the required backlight rating.

**5.106.8.2 Facing-Glare**

For luminaires covered by 5.106.8.1, if a property line also exists within or extends into the front hemisphere within 2MB of the luminaire, then the luminaire shall comply with the more stringent glare ratings specified in Table 5.106.6 based on the lighting zone and distance to the nearest point on the nearest property line within the front hemisphere.

**Note [N]**

- See also California Building Code, Chapter 12, Section 1206.6 for college campus lighting requirements for outdoor lighting.
- Refer to Chapter 8 (Compliance Files, Worksheets and Reference Material) for ES TM 15-1.1 Table A.1, California Energy Code Tables 130.2.4 and 130.2.6.
- Refer to the California Building Code for requirements for additions and alterations.

**RESPON PARTY**

**5.106.12.3 Hardscape areas.** Shade tree plantings, minimum #10 container size or equal, shall be installed to provide shade over 20 percent of the hardscape area within 15 years.

**Exceptions:** Walks, hardscape areas covered by solar photovoltaic shade structures, or shade structures, with roofing materials that comply with Table AS.106.11.2.2 in Appendix AS, are not included in the total area calculation.

**DIVISION 5.2 ENERGY EFFICIENCY SECTION 5.201 GENERAL**

**5.201.1 Scope [BSC-CG].** California Energy Code (CES-ES). For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory building standards.

**DIVISION 5.3 WATER EFFICIENCY AND CONSERVATION SECTION 5.301 GENERAL**

**5.301.1 Scope.** The provisions of this chapter shall establish the means of conserving water use indoors, outdoors and in wastewater conveyance.

**SECTION 5.302 DEFINITIONS**

**5.302.1 Definitions.** The following terms are defined in Chapter 2 (and are included here for reference):

**EVAPOTRANSPIRATION ADJUSTMENT FACTOR (ETA) [DSS-BS].** An adjustment factor when applied to internal evapotranspiration that adjusts for plant factors and irrigation efficiency, which has two major influences on the amount of water that needs to be applied to the landscape.

**FOOTPRINT AREA [DSS-BS].** The total area of the furthest exterior wall of the structure projected to natural grade, not including screened areas such as stairs, covered walkways, patios and docks.

**METERING GAUGE.** A self-acting device that dispenses a specific volume of water for each actuation cycle. The volume of cycle duration can be fixed or adjustable.

**GRAYWATER.** Pursuant to Health and Safety Code Section 17602.12, "graywater" means untreated wastewater that has not been contaminated by any toilet discharge, has not been affected by hydrocarbons, contaminants, or harmful body wastes, and does not present a threat from contamination by unreasonable quantities of laundry or operating wastes. "Graywater" includes, but is not limited to wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines and laundry basins, but does not include waste water from kitchen sinks or dishwashers.

**WATER EFFICIENT LANDSCAPE ORNAMENT (MWELO).** The California ordinance regulating landscape design, installation and maintenance practices that will ensure commercial, multifamily and other developer installed landscapes greater than 2500 square feet meet an irrigation water budget developed based on landscaped area and climatological parameters.

**WATER EFFICIENT LANDSCAPE ORNAMENT [MWELO] [MCO].** The California model ordinance (California Code of Regulations, Title 22, Division 2, Chapter 27), regulating landscape design, installation and maintenance practices. Local agencies are required to adopt the updated MWELO, or adopt a local ordinance at least as effective as the MWELO.

**POTABLE WATER.** Water that is drinkable and meets the U.S. Environmental Protection Agency (EPA) Drinking Water Standards. See definition in the California Plumbing Code, Part 5.

**POTABLE WATER [MCO]** Water that is satisfactory for drinking, culinary, and domestic purposes, and meets the U.S. Environmental Protection Agency (EPA) Drinking Water Standards and the requirements of the Health Authority Having Jurisdiction.

**RECYCLED WATER.** Water which, as a result of treatment of waste, is suitable for a direct beneficial use or a controlled use that would not otherwise occur (Water Code Section 12050 (g)). Simply put, recycled water is water treated to remove waste matter attaining a quality that is suitable to use the water again.

**SUMMER [MCO] [N]** A secondary device beyond a meter that measures water consumption of an individual residential unit and calculates in accordance with the Department of Water Resources Model Efficient Landscape Ordinance (MWELO).

**SECTION 5.303 INDOOR WATER USE**

**5.303.1 METERS.** Separate submeters or metering devices shall be installed for the uses described in Sections 503.1.1 and 503.1.2.

**5.303.1.1 Buildings in excess of 60,000 square feet.** Separate submeters shall be installed as follows:

- For each individual level, resident or other tenant building within the building projected to consume more than 100 gallons (380 L/day), including, but not limited to, spaces used for laundry or cleaners, restaurant or food service, medical or dental office, laboratory, or beauty salon or barber shop.
- Where separate submeters for individual building tenants are unfeasible, water for supply to the following shall be metered:
  - Making water for cooling towers where flow through is greater than 500 gpm (187 L/s).
  - Making water for evaporative coolers greater than 6 gpm (0.94 L/s).
  - Clean and hot water boilers with input energy more than 500,000 Btu/h (140 kW).

**5.303.1.2 Excess consumption.** A separate submeter or metering device shall be provided for any tenant within a new building with an addition that is projected to consume more than 1,000 gallons per day.

**5.303.2 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS.** Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:

**5.303.2.1 Water Closets.** The effective flush volume of all water closets shall not exceed 1.28 gallons per flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-Type Toilets.

**Note:** The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush.

**5.303.2.2 Urinals.**

**5.303.2.2.1 Wall-mounted Urinals.** The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush.

**5.303.2.2.2 Floor-mounted Urinals.** The effective flush volume of floor-mounted or other urinals shall not exceed 0.5 gallons per



