

Plan Check Construction Guide for Permanent Retail Food Facilities

TABLE OF CONTENTS

	Page
INTRODUCTION.....	3
DEFINITIONS	3
PLAN REVIEW REQUIREMENT	3
PLAN REVIEW PROCESS	4
PLAN REVIEW FLOW CHART	6
PLAN SUBMISSION REQUIREMENTS	7
GENERAL CONSTRUCTION REQUIREMENTS.....	7
1. Floors	
2. Walls And Ceilings	
3. Conduits And Piping	
4. Exhaust Hoods And Ducts	
5. Refrigeration	
6. Ice Machines	
7. Floor Sinks	
8. Food Preparation Sink	
9. Warewashing Sink	
10. Bar Sink	
11. Automatic Warewashers	
12. Hand Washing Sinks	
13. Janitorial Facilities	
14. Dipper Well	
15. Food Shields	
16. Dry Food And Beverage Storage Area	
17. Toilet Facilities	
18. Dressing Rooms, Lockers And Employee Areas	
19. Window Screens	
20. Pass-Through Windows	
21. Entrance And Delivery Doors	
22. Lighting	
23. Ventilation	
24. Equipment	
25. Water And Water Heater	
26. Backflow Protection	
27. Garbage And Trash Area	
28. Grease Interceptors And Grease Traps	
COMMISSARY REQUIREMENTS	18
APPENDICES:	
A. Sizing Requirements For Water Heaters.....	19
B. Commercial Hoods/Mechanical Exhaust Data Sheet.....	20
C. Matrix Of Requirements By Type Of Food Facility	21

INTRODUCTION

This guide is intended to assist architects, food consultants and other interested professionals in the plan review process when proposing to build or remodel a permanent retail food facility. It is intended to serve as a general overview and is not to be considered all-inclusive of the requirements.

Plan submitters should be aware that all construction work must conform to local and State building codes, health codes, zoning requirements, and must obtain the necessary approval from the Planning Department. Please contact the Permit Center at (626) 744-4200 for plan review and permits that may additionally be required.

DEFINITIONS

Food Facility shall have the meaning set forth in the California Retail Food Code (CRFC) Section 113789. <http://www.cdph.ca.gov/services/Documents/fdbRFC.pdf>. Retail food facilities include restaurants, food retail locations, cafeterias, licensed health care kitchens, retail food processing locations, or any other operation where food is consumed on or off the premises, regardless of whether there is a charge for the food.

Menu change is defined as a modification of a food facility's menu that would require a change in the food facility's food preparation methods, storage equipment, or storage capacity previously approved. These changes may include, but are not limited to, the addition of potentially hazardous foods to a menu, installation of new food preparation or storage equipment, or increasing storage capacity.

New Food Facility is defined as:

- A new building or structure with no prior occupancy, intended for use as a food facility.
- A pre-existing building whose immediate prior occupant was not a food facility.
- A previous food facility where all non-stationary equipment has been removed or a menu change that now requires additional facilities or equipment.

Remodel is defined as the construction, renovation or repair to a food facility that holds a valid Health Permit and requires approval from the building department.

PLAN REVIEW REQUIREMENT

Excerpt from the California Health and Safety Code, Section 114380:

(a) A person proposing to build or remodel a food facility shall submit complete, easily readable plans drawn to scale, and specifications to the enforcement agency for review, and shall receive plan approval before starting any new construction or remodeling of any facility for use as a retail food facility.

(b) Plans and specifications may also be required by the enforcement agency if the agency determines that they are necessary to ensure compliance with the requirements of this part, including, but not limited to, a menu change or change in the facility's method of operation.

(c) (1) All new school food facilities or school food facilities that undergo modernization or remodeling shall comply with all structural requirements of this part. Upon submission of plans by a public school authority, the Office of the State Architect and the local enforcement agency shall review and approve all new and remodeled school facilities for compliance with all applicable requirements.

(2) Except when a determination is made by the enforcement agency that the nonconforming structural conditions pose a public health hazard, existing public and private school cafeterias and licensed health care facilities shall be deemed to be in compliance with this part pending replacement or renovation.

Note: Facilities with only prepackaged, non-potentially hazardous food that have less than 25 square feet of food display are not required to submit plans or obtain a health permit. However, they must provide written confirmation to the Environmental Health Division that they will comply with the applicable sections of the CRFC.

PLAN REVIEW PROCESS

Step 1: APPLICATION, PLAN SUBMISSION AND PLAN REVIEW FEE

To begin the process, submit the following documents:

- Application for Plan Review
- Submit one (1) set of complete, detailed construction plans to initiate the plan review process (**Note: Three complete sets will be required after final approval has been issued by all Departments in the Permit Center**)
- A complete menu detailing all food and beverage items (Standard Operating Procedures or HACCP plan may be required)
- Specification or cut sheets for equipment that clearly shows the certification
- Pay the plan review fee. The plan review fee does not include the annual health permit, which is separate and must be applied for prior to opening.

Please note that incomplete plans will not be approved and will delay the approval process. The plan review fee includes initial review of plans, preliminary and final inspections. Additional revisions, inspections, or consultations will be charged at the hourly rate.

Step 2: REVIEW OF PLANS

Plans are reviewed on a first come, first serve basis. The Environmental Health Division has 20 working days to review, reject, or approve plans for each submittal or resubmittal. You will be notified if the plans have been approved or rejected so that changes and/or additional information are required in order to receive approval. It is important that you allow time for the plan review process before construction.

Note: Plan approval does not signify approval to begin construction. Check with the Planning Department for any additional permitting requirements.

Step 3: PRELIMINARY CONSTRUCTION INSPECTION

When construction is approximately 75% to 80% completed, a preliminary inspection must be scheduled when rough finishes, plumbing, ventilation, and equipment are in place. Requests should be made at least seven (7) working days in advance. A preliminary inspection should be scheduled no less than two weeks prior to the proposed opening of the food facility. The preliminary inspection is an important, first look at the facility and how the construction is progressing. If any changes are required, this is the best time to make corrections to avoid delays in the opening of your food facility.

Step 4: FINAL CONSTRUCTION INSPECTION

Upon completion of all construction and before opening, a final inspection will be conducted to verify that compliance with all requirements has been accomplished. A final inspection must be scheduled when 100 percent of the construction is completed, including all finishing work and utility hook-ups. Schedule this inspection at least seven (7) working days in advance. It is recommended that you allow sufficient time between the final inspection and the facility's projected opening date should any corrective work be necessary.

Step 5: PERMIT ISSUANCE

The Health Permit to operate will be issued at the Environmental Health Division office upon completion of the health permit application and payment of the annual fee. Please provide a copy of the driver license of the primary person responsible, Articles of Incorporation (if it is a corporation), and seller's permit at the final plan check inspection or prior to issuance of the health permit. Food facilities are not allowed to be open or operate without a health permit. Failure to comply may result in legal action.

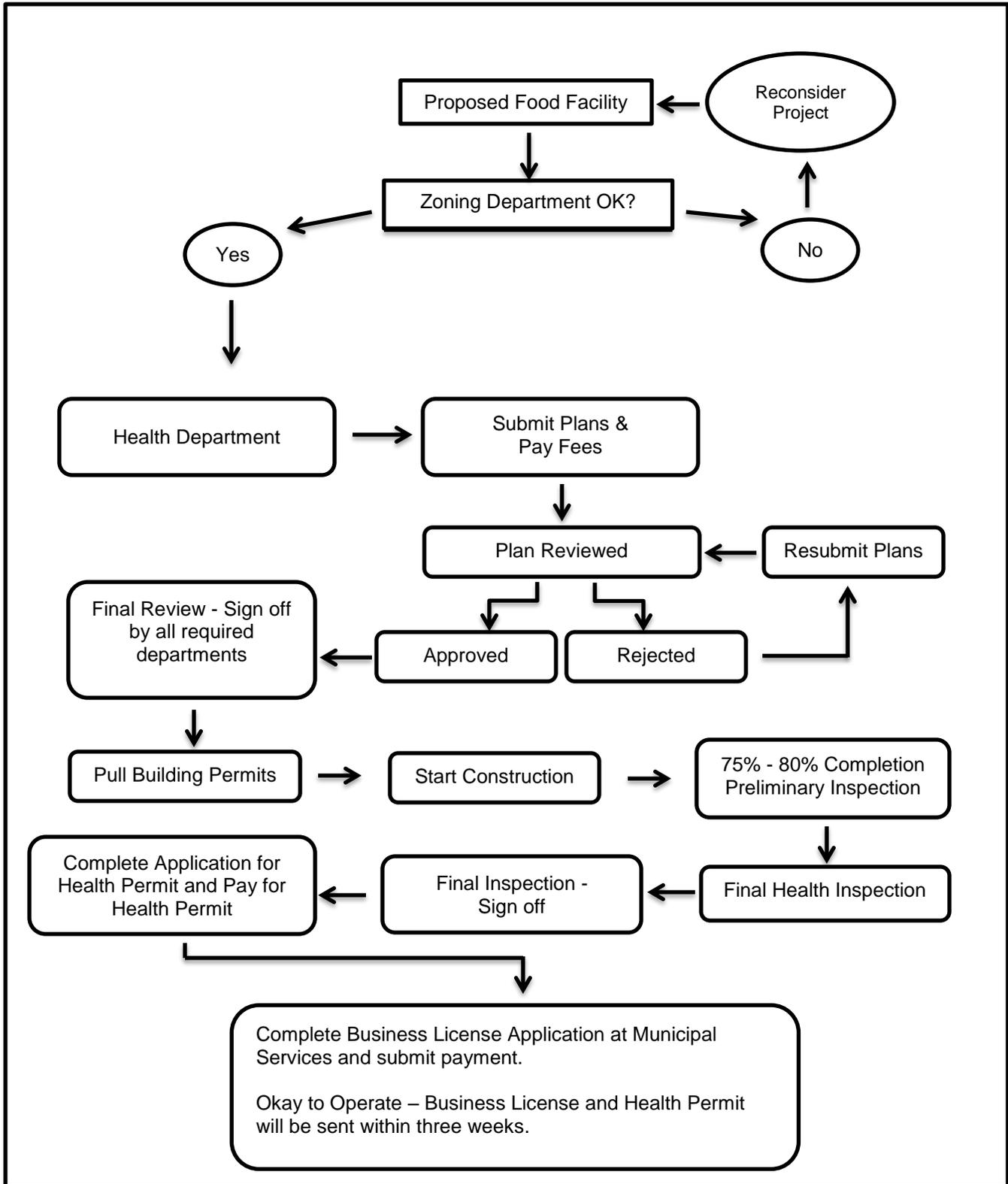
Step 6: OPERATIONAL INSPECTION

An operational inspection will be conducted within 14 days of issuance of the health permit to verify compliance with the California Retail Food Code.

Food facilities that prepare, handle, or serve non-prepackaged potentially hazardous food shall have an owner or employee who has successfully passed an approved and accredited food safety certification examination. A copy of the certificate must be provided within 60 days of approval.

Food handlers (individuals who are involved in the preparation, storage, or service of food in a food facility) must obtain an approved food handlers card within 30 days of hire.

PLAN REVIEW FLOW CHART



PLAN SUBMISSION REQUIREMENTS

1. Plans must be clearly drawn to scale 1/4" = 1' (recommended) using non-erasable ink or print (no pencil) and contain reference construction below.
2. Identify the DBA and address of the food facility.
3. Include a detailed site plan. This plan must show the cross streets with the layout of the center indicating the proposed exterior refuse area including hose bibs and approved drainage.
4. Provide the total square footage of the facility.
5. Indicate the type of facility (e.g. restaurant, food market, retail food processing, etc.) on the plans. Indicate if alcoholic beverages will be served.
6. Indicate the number of employees per shift including managers.
7. The floor plan must identify: food preparation, serving and seating areas, restrooms, office, employee change room, storage, dish washing, janitorial and trash area. Include all interior and exterior doors.
8. Provide equipment layout, including elevations of equipment and specifications, clearly numbered and cross-keyed with the equipment list. Include manufacturer make and model numbers.
9. Provide plumbing layout showing the sewer lines, cleanouts, floor drains, floor sinks, vents, grease trap or grease interceptor, hot and cold water lines, and direction of flow to sanitary sewer.
10. Provide exhaust ventilation layout including location of hood and make up air returns and ducts.
11. Lighting plan, indicating the exact foot candles for each area as required per the California Retail Food Code.
12. Finish schedule showing floor, base cove, wall and ceilings for each area shown on the plans in a table format.

GENERAL CONSTRUCTION REQUIREMENTS

1. FLOORS (CRFC §114266-114272)

Appropriate floor, walls and ceiling finishes promote good sanitation. Sanitation is an important component of public health protection. This is important, since failure to keep a food facility clean is a major cause of vermin (rodent and insect) infestations.

Except in areas used exclusively for dining or point-of-sales, floors must be smooth, nonabsorbent, durable and easily cleanable construction impervious to water, grease, and acid. Acceptable floor materials include the following:

- a. Quarry tile, ceramic tile
- b. Sealed curbed concrete
- c. Seamless poured epoxy minimum 3/16-inch thick (Note: Seamless poured epoxy is not a paint)
- d. Commercial Grade Sheet Linoleum with welded seams consistent with manufacturer's specifications

Floor surfaces which contain slip resistant agents shall be restricted to traffic areas only.

COVINGS (CRFC §114268)

Coving is the floor material found at the base of walls (wall/floor junctures) and equipment toe-kicks (toe kick/floor junctures). Toe-kicks include the bases of counters, cabinets, salad bars, and other floor mounted equipment (including floor-mounted mop sinks) that is not placed on approved legs or casters. The floor material must extend integrally up the wall and toe-kicks at least 4 inches with a minimum 3/8 inch radius at the wall/floor and toe-kick/floor junctures. **Vinyl top set cove base is not acceptable.**

Areas that requires coving:

- a. Food preparation, storage, handling, and packaging areas
- b. Utensil washing and storage areas
- c. Interior waste disposal areas (garbage, refuse, grease)
- d. Restrooms
- e. Hand washing areas
- f. Janitorial facilities
- g. Walk-in refrigerator and freezer units (inside and outside)
- h. Bars (employee side)
- i. Customer self-serve areas where non-individually prepackaged foods or beverages are sold or dispensed (i.e. salad bars, buffets and beverage stations)
- j. Service stations

Integral coving is not required in areas used exclusively for dining, point-of-sales, or the storage of utensils or foods contained in the original un-opened containers.

FLOOR DRAINS (CRFC §114269)

Floor drains are required in floors that are water-flushed for cleaning and/or where pressure spray methods for cleaning equipment are used. Where floor drains are utilized, the floor surface shall be sloped 1:50 (1/4 inch per foot) toward the floor drain.

The floor drains are to be installed flush with the surrounding floor and located for ease of inspection and maintenance. The floor construction must not allow the accumulation of standing water, grease, or any sort of slipping or tripping hazard.

2. WALLS AND CEILINGS (CRFC §114266-114271)

Light-colored wall and ceiling finishes are recommended as a means of monitoring sanitation by readily revealing dirt, grease, rodent rub marks, and insect excrement.

Walls and ceilings are required to be smooth, durable, nonabsorbent and easily cleanable in all rooms or areas except:

- a. Dining and sales area
- b. Offices

Acceptable wall and ceiling finishes include the following:

- a. Gloss, semi-gloss enamel, or epoxy paint on an acceptable smooth surface
- b. FRP paneling
- c. Stainless steel
- d. Smooth ceramic tile
- e. Smooth washable vinyl ceiling tiles

Unacceptable wall and ceiling finishes include but not limited to:

- a. Exposed brick
- b. Concrete block
- c. Rough concrete
- d. Plaster-textured paint
- e. Textured gypsum boards
- f. Wood paneling
- g. Exposed studs
- h. Fissured ceiling tiles

Certain finishes, particularly paint, are unsuitable for areas subject to excessive moisture or high heat

(e.g., dishwashing area or behind cooking equipment). The walls above, behind and around must be covered with durable waterproof or heat resistant materials such as:

- a. Stainless steel
- b. Ceramic tile
- c. Fiberglass reinforced panels (FRP) – waterproof material only

Other requirements include:

- a. Walls in restrooms around plumbing fixtures (e.g., urinals, sinks, toilets) must have a waterproof finish extending to at least 4 feet above the floor.
- b. Walls in dishwashing areas must have a waterproof finish extending to at least 8 feet above the floor.
- c. Walls in areas where floors are cleaned using high-pressure sprayers must have a waterproof finish extending to at least 8 feet above the floor.
- d. Contact the Fire Department for any additional requirements or details regarding the type of wall material around cooking equipment.

Note: Wall surface materials are subject to evaluation and may require submission of samples.

3. CONDUIT AND PIPING (CRFC §114271)

All plumbing, electrical, and gas lines must be installed within the walls, floors, and ceiling to the greatest extent possible. This requirement is intended to facilitate cleaning and eliminate vermin harborage. Where this is not possible, all runs must be encased in an approved sealed enclosure that it is durable and easily cleanable. Where this is not possible, all lines shall be at least one inch off the walls and ceilings and at least six inches above the floor.

Where conduit or pipe lines enter a wall, ceiling or floor, the opening around the line shall be tightly sealed and made smooth, durable and easily cleanable. Multiple runs of clusters outside walls must be encased in approved runways or other approved sealed enclosures.

Exposed overhead sewer lines are not allowed over areas where food, utensils, equipment, or clean linens may be present.

4. EXHAUST HOODS AND DUCTS (CRFC §114149)

Mechanical exhaust ventilation shall be required at or above all ranges, griddles, ovens, deep-fat fryers, barbecues, rotisseries and high temperature dishwashing machines or similar equipment to effectively remove grease, smoke, steam, vapors, heat or odors.

Food heating or warming devices (i.e. cheese melters, etc.) that are installed above other equipment beneath an exhaust hood may create an air flow obstruction for which the hood ventilation system is designed. The design, construction, and installation of such warming devices under a hood are subject to evaluation and approval prior to installation.

All hoods, ducts, and exhaust outlets shall be designed and installed in accordance with the Uniform Mechanical Code or if UL Listed, to UL 710 Standards. UL Listed hoods shall meet all manufacturer specifications. Such specifications must be detailed on the plan.

TYPE I Hood is a kitchen hood for collecting and removing grease and smoke. Type I hoods shall be equipped with approved grease filters or grease extractors designed for that specific purpose.

TYPE II Hood is a general kitchen hood for collecting and removing steam, vapors, heat or odors.

All joints and seams shall be sealed, welded or soldered for ease of cleaning.

Canopy Type Hoods: The lower lip of canopy-type hoods must be no more than four (4) feet above cooking surfaces. The hood shall overhang or extend a horizontal distance not less than six (6) inches beyond the outer edges of the cooking surfaces, on all open sides. It shall have grease troughs or drip pans that are easily cleanable.

Non-canopy Type Hoods: Non-canopy hoods may be approved if they are engineered and constructed so as to comply with the minimum exhaust air velocity requirements (refer to California Mechanical Code) and comply with manufacturers specifications. Shielding at the ends of the hood may be necessary to prevent interference from cross drafts.

Make-up Air: Make-up air supply shall be provided at least equal to that amount which is mechanically exhausted and interconnected by a single control switch. Windows and doors shall not be used for the purpose of providing make-up air.

Fire Suppression Systems: Fire extinguishing systems may be required by local fire department codes. They shall be installed so as to allow ease of cleaning of the hood and duct systems.

California Mechanical Code 515.1.2.4 – All deep-fat fryers shall be installed with at least a sixteen inch space between the fryer and surface flames from adjacent cooking equipment or an eight inch partition between equipment.

Note: *The Environmental Health Division may require a certified Air Balance Report from a licensed mechanical contractor as part of the approval process.*

5. REFRIGERATION (CRFC §113885, 114130, 114193)

Refrigerator and freezer units must be adequate in size to accommodate the storage needs and the proposed operation of the food facility. These needs should take into account the cooling and thawing process of potentially hazardous foods, and catering capacity, where applicable. An excess of capacity is recommended, as it is sometimes difficult to predict the long-term storage needs of a food business.

Refrigerator and freezer units shall comply with the following requirements:

- a. ANSI (American National Standards Institute) Certified for sanitation. Domestic household model refrigeration units will not be accepted.
- b. Be provided with an accurate, readily visible thermometer.
- c. Have shelving that is nonabsorbent and easily cleanable (wood not accepted).
- d. Have smooth, nonabsorbent and easily cleanable surfaces. All joints must be sealed.
- e. Condensate waste must drain to an approved evaporator or a floor sink with at least a one-inch air gap.
- f. Be located inside an approved area of the building.
- g. Refrigeration units may not open into the customer area or directly outside, with the exception of customer self-serve prepackaged refrigeration units.

Walk-in refrigeration units shall comply with the following requirements:

- a. Have an integrally coved base with a radius of at least 3/8 inch at the floor/wall juncture (both inside and outside the unit); the floor material shall extend up to a height of at least four inches on the walls. Four (4) inch approved metal topset coving with a minimum 3/8 inch radius is acceptable against metal wall surfaces. (Wood is not an acceptable interior finish).
- b. Have shelving that is at least six inches off the floor with smooth, round, metal legs or be cantilevered, suspended directly from the wall, for ease of cleaning. Wood shelving is not acceptable. Shelving shall be noncorrosive and designed to allow for optimum flow of refrigerated air. Small, easily movable, casted dollies may be used in place of a lower shelf.
- c. Have condensate waste drain to a floor sink via an air gap. Floor sinks, floor drains or trench

- drains are not permitted inside the walk-in refrigeration units.
- d. Walk-in refrigeration units shall open into an area with approved finishes within the facility.

6. ICE MACHINES (CRFC §114193)

All ice machines shall be located inside the food facility in a ventilated area with approved finishes, and shall be drained to a floor sink via legal air gap.

7. FLOOR SINKS (CRFC §114269)

Floor sinks are the plumbing fixtures required for the receipt and disposal of liquid waste. Careful planning is needed to ensure the proper placement of all required floor sink installations so that equipment generating a liquid waste is properly drained.

- a. Floor sinks are to be installed flush with the floor surface and have appropriate cover grate(s).
- b. Floor sinks must be installed so that they are readily accessible for inspection, cleaning and maintenance. A protective enclosure will be required around the back side of half-exposed floor sinks installed under curb or base mounted equipment to prevent any wastewater back flow under the equipment.
- c. The floor sink must be located within fifteen feet of the drain opening of the equipment served. However, floor sinks for the ice machine must be located immediately adjacent to the ice machine.
- d. Waste line plumbing draining to the floor sink must be located at least $\frac{3}{4}$ inch from the wall and six inches off the floor. The piping is to terminate at least one inch above the overflow rim of the floor sink, or the minimum clearance needed to provide a legal air gap (2X pip diameter of discharge pipe).
- e. Waste line plumbing to a floor sink may not cross any aisle way, traffic area, or door opening.

8. FOOD PREPARATION SINK (CRFC §114163)

A separate stainless steel sink must be provided in facilities where food preparation occurs or could occur (e.g., washing or trimming produce, soaking food, washing meat, thawing food under running water, cooling food in an ice bath, etc.).

- a. Food preparation sink must drain to the sanitary sewer via an indirect waste receptacle.
- b. Additional food preparation sinks may be required depending on the type of operation.
- c. Food preparation sink must be a minimum of 18" X 18" X 12" deep with an integral drain board or adjacent table at least 18" X 18" in length and width.
- d. Food preparation sink is to be situated in a manner protected from potential sources of cross-contamination.
- e. Food preparation sink shall be ANSI Certified for sanitation.

9. WAREWASHING SINK (CRFC §114099)

A three-compartment stainless steel sink with dual integral installed stainless steel drain boards must be provided in facilities where open food are prepared or served. The proper washing of utensils consists of a three-step process: utensils are washed and cleaned in warm, soapy water; then rinsed clean of soap; and sanitized by soaking in warm sanitizer solution. After the sanitizing step, utensils are then air-dried.

- a. The minimum compartment size shall be at least 18" X 18" X 12" deep with minimum 18" X 18" drain boards. The size of the sink must be capable of accommodate the largest utensil to be washed and the drain boards shall be as large as the sink compartment.
- b. The warewashing sink shall be ANSI Certified for sanitation.
- c. When a sink is installed next to a wall, a metal backsplash extending up the wall at least eight inches shall be formed as an integral part of the sink and sealed to the wall.
- d. In large food facilities which may contain separate sections or departments, additional three

compartment sinks may be required such as delis, meat processing areas, bakeries and sushi bars, etc.

- e. Sanitizing agents shall be provided with the appropriate testing indicators, such as color test strips.

10. BAR SINK (CRFC §114099, 114271)

Where alcoholic beverages are served, the facility must provide an approved three (3) compartment bar sink large enough to accommodate the largest utensil. Typically, the largest utensil is a blender which can be washed in the standard size bar sinks that are a minimum 10" X 14" X 10" deep compartments with 18" or 12" long dual, integrally installed stainless steel drainboards and backsplash. This sink should have an indirect connection to a floor sink. A bar sink equipped with a fourth dumping compartment is strongly recommended.

11. AUTOMATIC WAREWASHERS (CRFC §114101, 114103)

All automatic warewashers (dishwashers and glass washers) must be commercial units that are certified for sanitation by an ANSI accredited certification program and must drain to a floor sink or other approved method.

The presence of an automatic warewasher does not eliminate the need for a three-compartment stainless steel sink with dual integral drain boards.

- a. All spray dishwashers and glass washers which are designed for a hot water sanitizing shall be provided with a booster heater that meets sanitation standards by being cycled through equipment that is used in accordance with the manufacturer's specifications and achieving a utensil surface temperature of 160°F as measured by an irreversible registering temperature indicator. These warewashers require an approved Type II exhaust hood.
- b. Warewashing machines must have two integral stainless steel drain boards at least 18" long or the width of a warewasher rack (whichever is greater). Drain boards for under the counter dishwashers may be adjacent to the machine.
- c. The warewasher must also be provided with thermometers and pressure gauges to indicate the proper water flow pressures and temperatures.
- d. Sanitizing agents shall be provided with the appropriate testing methods such as color test strips.

12. HANDWASHING SINKS (CRFC §113953)

Hand sinks shall be provided in all food preparation and warewashing areas that are sufficient in number and conveniently located so as to be accessible at all times for use by food handlers.

- a. Handwashing sinks shall be equipped to provide warm water (100°F) under pressure for a minimum of 15 seconds through a mixing valve.
- b. Handwashing sinks shall be separated from the warewashing sink by a metal splashguard with a height of at least six inches that extends from the back edge of the drainboard to the front edge of the drainboard, the corners of the barrier to be rounded. No splashguard is required if the distance between the sinks are 24 inches or more.
- c. Handwashing sinks shall be provided with the following dispensers at, or adjacent to, each handwashing facility: handwashing cleanser, sanitary single-use towels
- d. A separate, approved hand sink must be installed within each section of a food facility that handles unpackaged food (i.e. deli, meat, sushi bars, etc.)

13. JANITORIAL FACILITIES (CRFC §114279, 114281)

Food facilities must provide a janitorial sink for general cleaning purposes and the disposal of mop bucket and other cleaning waste.

- a. A one-compartment, wall-mounted janitorial sink or a floor mounted janitorial sink, or a curbed

area (properly sloped to a drain), that has hot and cold running water through a mixing faucet, with an approved backflow-prevention device, shall be installed for general cleanup activities.

- b. All curbed-area surfaces shall be smooth, impervious and of easily cleanable construction.
- c. A janitorial sink shall be located within the building, in a separate janitorial room or separated from the rest of the food facility by a solid-wall partition. The partition must be a minimum six feet high, durable, smooth and an easily cleanable surface.
- d. A room, area, or cabinet separated from any food preparation, utensil washing or food or utensil storage area shall be provided for the storage of cleaning equipment and supplies.

14. DIPPER WELLS (PMC §8.12.040)

A cold running water dipper well must be provided if scoops are used for dipping ice cream. The dipper well shall be drained by an indirect connection to a floor sink.

15. FOOD SHIELDS (CRFC §113980, 114060)

Food displayed for customer self-service must be protected from contamination by the installation of a food shield (sneeze guard) or through other effective means.

- a. The food shield shall be designed and installed to intercept a direct line between the customer's mouth (between 54 and 60 inches above the floor) and the food or utensils being displayed. This requirement includes the end of service lines where displayed food or utensils are within the zone of potential droplet contamination.
- b. Food shields must comply with the construction, materials, finishes and formula requirements established by ANSI Standard 2, section 5.35.
- c. Approved self-service containers are required to have tight-fitting individual lids.
- d. Disposable beverage cups, straws or utensils on display for public self-service must be stored for use in sanitary dispensers.

16. DRY FOOD AND BEVERAGE STORAGE AREA (CRFC §114047)

Adequate and suitable floor space shall be provided within the enclosed walls of the building for the storage of food, beverages, paper goods, and other related products. In addition to working storage and refrigeration storage, additional backup storage must be provided. Working storage is considered to be cabinets over and under food handling equipment and wall mounted shelves which are located in and used in conjunction with food preparation areas.

- a. In most cases, at least 96 lineal feet of approved shelving is required storage. Additional storage shelving may be required depending on the size and type of operation.
 - The lineal footage of storage shelving is calculated by multiplying the number of tiers by the number of feet in length of each shelf. For example a five (5) tier shelving rack whose shelves are 5 feet in length and 18 inches in width, would amount to 25 lineal feet.
- b. For larger facilities, the storage footage is based on 25% of the floor space of the kitchen, storage and food preparation areas. Example: Combined floor space of kitchen, storage and food preparation areas is 1000 square feet. Twenty five percent of 1000 square feet is 250 feet. This facility would need 250 feet of storage space.
- c. Shelving shall be ANSI certified. Wood shelving is not acceptable.
- d. Shelving units shall be a minimum of 18 inches in depth and at least three tiers high. The bottom shelf must be at least six inches above the floor.

17. TOILET FACILITIES (CRFC §114250, 114276)

Clean toilet rooms in good repair shall be provided and conveniently located and accessible for use by employees during all hours of operation.

- a. In food facilities constructed on or after January 1, 2004, at least one public accessible restroom must be provided when there is on-site consumption of food or beverages.

- b. Public toilet facilities are also required for food facilities larger than 20,000 square feet.
- c. Toilet facilities shall be part of the building within the food facility.
- d. Toilet facilities are to be located so that patrons do not pass through the food preparation, food storage, or utensil washing areas when they need to access the toilet facilities.
- e. Men toilet facilities shall be provided with a urinal. **PMC 8.12.020B**
- f. A separate male and female toilet facility shall be provided for food facilities with an on-sale alcoholic beverage license. **PMC 8.12.020D**
- g. The floors, walls and ceilings of toilet facilities shall be smooth surfaced, easy to clean and with floors continuously coved up the wall a minimum of 4 inches with a 3/8" cove radius. A floor drain with the floor sloped ¼ inch per foot from the walls to the drain is required.
- h. Handwashing sinks shall provide water of at least 100°F through a mixing valve or combination faucet. Soap and sanitary towels in dispensers shall be provided within the toilet facilities. Heated-air hand drying devices may be used in lieu of sanitary towels.
- i. The toilet rooms shall be provided with well-fitting, self-closing doors.
- j. Signs directing employees to wash their hands after using toilet facilities must be conspicuously posted.
- k. Toilet facilities shall be provided with ventilation meeting the requirements of the Uniform Mechanical Code and/or Uniform Building Code.
- l. The number of toilet facilities required shall be in accordance with applicable local building and plumbing ordinances.

18. DRESSING ROOMS, LOCKERS AND EMPLOYEE AREAS (CRFC §114256, 114256.1)

Street clothing and personal belongings can contaminate food, food equipment, and food-contact surfaces. Proper storage facilities are required for articles such as purses, coats, etc.

- a. Dressing rooms or dressing areas shall be provided if employees are required to change their clothes in the facility.
- b. Lockers or other suitable facilities used for the orderly storage of employee clothing and other possessions shall be provided and located in an area that is protected from contamination.
- c. Areas designated for employees to eat and drink shall be located so that food, equipment, linens, and single-use articles are protected from contamination.

19. WINDOW SCREENS (CRFC §114259)

To prevent the entry of flies, dust and other undesirable conditions into the food facility, all openable windows located anywhere in the facility opening to the outside are required to be screened.

- a. Screens must fit the window opening securely. Minimum sixteen (16) mesh per inch screen material is required.
- b. If open air dining is proposed (via open exterior doors and/or windows), all food preparation areas, food storage areas and utensil washing areas must be completely enclosed.

20. PASS-THROUGH WINDOWS (CRFC §114259.2)

When food is passed through a window to a customer on the outside of the building, the size of the window opening shall not exceed 432 square inches.

- a. Food service pass-through window openings exceeding 216 square inches shall be equipped with an ANSI approved air curtain which will produce an air flow eight inches thick at the discharge opening and with an air velocity of not less than 600 feet per minute (FPM) across the entire opening at a point three feet below the air curtain (Window openings must be closed when not in use).
- b. Air curtains shall turn on automatically when the window is opened.
- c. Food service pass-through window openings less than 216 square inches shall be equipped with a self-closing screen, window or solid closing device.
- d. The minimum distance between the openings may not be less than 18 inches.

- e. The counter surface of the service opening shall be smooth and easily cleanable.

21. ENTRANCE AND DELIVERY DOORS (CRFC §114259)

All food facilities must be constructed and equipped to prevent the entrance and harborage of animals, birds, and vermin including, but not limited to rodents and insects.

- a. All entrances leading to the outside shall be tight fitting, open outward and be self-closing to effectively prevent the entrance of insects and rodents.
- b. Delivery doors leading to the outside shall open outward, be self-closing and be equipped with an air curtain.
- c. For delivery doors that are four feet in width or less, the air curtain must produce an airflow not less than eight inches thick at the nozzle and with an air velocity of not less than 750 feet per minute across the entire opening, as measured at a point three feet above the floor.
- d. For delivery doors wider than four feet, the air curtain must produce an airflow not less than eight inches thick at the nozzle and with an air velocity of not less than 1600 feet per minute across the entire opening, as measured at a point three feet above the floor.
- e. Large cargo-type doors shall not open directly into the food preparation area. Cargo-type doors that open into any food warehouse or food facility may only be open during deliveries.

22. LIGHTING (CRFC §114252)

Sufficient natural and/or artificial lighting shall be provided in all areas of a food facility such that employees may perform their particular job functions properly and in a safe manner.

- a. At least 50 foot candles of light is required in the following areas:
 - Where employees work with food, utensils and equipment where employee safety is a factor
- b. At least 20 foot candles of light is required in the following areas:
 - Customer self service areas
 - Server stations
 - Areas of hand washing
 - Areas of ware washing
 - Areas of equipment and utensil storage
 - Toilet facilities
 - In areas during period of cleaning
- c. At least 10 foot candles of light is required in the following areas:
 - Walk-in refrigeration units
 - Dry food storage areas
 - Area of alcoholic beverage preparation or cleaning
 - Inside equipment such as reach-in and under counter refrigerators
- d. Light fixtures in areas where food is prepared, open food is stored, or utensils are cleaned shall be shatterproof construction or shall be protected with shatterproof shields, and the fixtures shall be readily cleanable.
- e. Approved vapor-proof light fixtures shall be installed inside exhaust hoods.

23. VENTILATION (CRFC §114149)

The accumulation of grease and condensate may contaminate food and food-contact surfaces as well as present a possible fire hazard.

- a. Provide adequate ventilation to remove gases, odors, steam, heat, grease, vapors or smoke from all rooms in the facility including the toilet, janitorial, change and any similar rooms.
- b. Adequate ventilation shall be provided to maintain the comfort level of employees and ensure reasonable shelf life of the food in storage.

24. EQUIPMENT (CRFC §114130)

All new and replacement equipment shall be certified or classified for sanitation by an American National Standards Institute (ANSI) accredited certification program.

- a. All display cases, counters, shelves, tables, refrigeration equipment, sinks and other equipment used in connection with the preparation, service and display of food shall be made of nontoxic materials and constructed/installed as to be easily cleanable.
- b. All floor mounted equipment shall be placed on minimum six inch high, metal legs or completely sealed in position on a four inch high continuously-coved base or concrete curb, or on approved casters or cantilevered from the wall in an approved manner.
- c. Counter top equipment shall be sealed to the countertop or elevated on four inch high round metal legs unless equipment can be readily movable by an employee for cleaning.

25. WATER/WATER HEATER (CRFC §114192, 114195)

An adequate, protected, pressurized, potable supply of hot and cold water shall be provided to serve the facility.

- a. Hot water shall be supplied at a minimum temperature of at least 120°F measured from the faucet, unless otherwise specified.
- b. Provide the make, model and input rating of the water heater.
- c. Water under pressure shall be provided at a sufficient level as specified by the Uniform Plumbing Code and manufacturer's specification for equipment and fixtures in the food facility.
- d. A booster heater must be provided for hot water sanitizing ware washing machine.
- e. Where fixtures are located more than sixty feet from the water heater, a recirculation pump must be installed, in order to ensure that water reaches the fixture at a temperature of at least 120°F.
- f. When multiple water heaters are connected, they must be installed in parallel, not in series.

26. BACKFLOW PROTECTION (CRFC §114192c)

An approved backflow device shall be properly installed upstream of any potential hazard to the potable water supply. This includes threaded water outlets, hose bibs, janitorial sinks, dishwashers, sprayers, carbonators, etc.

27. GARBAGE AND TRASH AREA (CRFC §114244, 114245, 114245.3, 114245.4)

Outdoor areas or enclosures used for refuse and recyclables shall be constructed of nonabsorbent material such as concrete or asphalt and shall be easily cleanable, durable and sloped to a drain.

- a. Outside trash storage areas should be located as far away from facility entrances as practical to prevent attraction of vermin and rodents.
- b. Check with your local planning, building and storm water agencies to determine their requirements for sizing, constructions and wastewater discharge for outside refuse.
- c. Inside trash storage areas shall be properly slope (1:50) to a floor drain. Floor, walls, and ceilings finishes for indoor trash area should be smooth, durable, nonabsorbent and easily cleanable.

28. GREASE INTERCEPTORS/GREASE TRAP (CRFC §114190, 114201)

All liquid waste, including sewage, generated by a food facility shall be disposed of in an approved manner into a public sewer system.

- a. Grease interceptor sizing and installation shall conform to the requirements of the California Plumbing Code.
- b. All new grease interceptor/trap units shall be installed outside the food facility in the ground.

- c. Grease interceptors shall be installed at a location easily accessible for inspection, cleaning and removal of grease.
- d. A grease interceptor shall not be installed in the food and utensil storage and food preparation area. A room or area such as that used for janitorial or mechanical equipment may be approved. Interceptor rooms must have adequate ventilation and may include floor drainage and a hose bib for cleaning.
- e. Grease traps sizing and installation shall conform to the requirement of California Plumbing Code.
- f. A grease trap shall be installed which has a stated rate flow of no more than 55 gallons per minute nor less than 20 gallons per minute, except when specifically authorized by the enforcement officials.
- g. Food waste disposal unit or dishwasher shall not be connected to or discharge into any grease trap.
- h. Wastewater in excess of 140°F shall not be discharged into a grease trap.
- i. All grease waste must be stored in an approved leak proof container with a tight fitting lid. All grease waste must be removed from the premises and disposed in an approved manner.

COMMISSARY REQUIREMENTS

Commissary means a food facility that services mobile food facilities, mobile support unit(s), or vending machines where any of the following occur:

- a) Food, containers or supplies are stored;
- b) Food is prepared or prepackaged for sale or service at other locations;
- c) Utensils are cleaned; or
- d) Liquid and solid wastes are disposed, or potable water is obtained.

In addition to meeting the requirements of a permanent food facility, commissaries must also meet the following requirements depending on the scope and type of food facility being serviced.

WASH DOWN STATION (CRFC §114297, 114326)

- a. Hot and cold water under pressure shall be provided for cleaning of the mobile food facilities, mobile support units and vending machines. Wash down water lines shall be equipped with an approved backflow prevention device.
- b. Adequate wash down pad area (for dumping of waste water and cleaning of the vehicle and carts) made of cement/durable material which can withstand constant water and cleaning, sloped to ensure it drains properly to approved sewage disposal system.
- c. Check with local Building Department if waste water shall be filtered through a three stage clarifier before emptying into a sanitary sewer line.

WATER & WASTE WATER TANKS (CRFC §114326)

- a. An approved potable water source shall be provided for filling water tanks separate from cleaning/servicing.
- b. If potable water hoses are provided at every truck parking space, proper quick disconnect connections shall be provided.

SERVICING AREAS (CRFC §114326)

- a. Servicing areas at commissaries shall be provided with overhead protection, except that areas used only for the loading of water or the discharge of sewage and other liquid waste.

ADDITIONAL REQUIREMENTS (CRFC §113984, 114326)

- a. Adequate facilities shall be provided for the storage of food, utensils, and other supplies.
 - Storage spaces (wet and dry storage) have to be clearly identified by operators.
 - A minimum of 25% of the food facility's square foot.
- b. All equipment must be stored inside an enclosed vermin and rodent proof food facility.
- c. Additional 3 compartment sinks, hand sinks, food preparation sinks, etc. may be required depending on the scope of operation (size of facility, number of operators, etc.), type of mobile food facilities being serviced.
- d. Adequate electrical outlets shall be provided for mobile food facilities and mobile support units that require electrical service.
- e. Adequate facilities shall be provided for the handling and disposal of garbage and refuse originating from mobile food facilities, mobile support units, and push carts.
- f. Grease containers shall be provided for appropriate disposal of grease, like barrels or a special grease container that can be pumped by an approved company.

SIZING REQUIREMENTS FOR WATER HEATERS

Utensil Sinks

- 18" X 18" 14 gallons per compartment
- 24" X 24" 25 gallons per compartment
- Custom L (ft) X W (ft) X 7.5 gallons per compartment

Bar Sinks

6 gallons per compartment

Hand Sinks

5 gallons per compartment

Dishwashing Pre-rinse Units

- Hand spray type 45 gallons per compartment
- Others refer to manufacturer's specifications

Dishwashers

refer to manufacturer's specifications

Food Preparation Sinks

10 gallons per sink

Clothes Washer

- 9 – 12 lbs. washers 45 gallons
- 16 lbs. washers 60 gallons
- Others refer to manufacturer's specifications

Janitorial Sinks

15 gallons per sink

Garbage can wash facility

15 gallons per sink

Factors of Formula

- Weight (Wt.) of water per gal = 8.33
- Temperature rise (avg) 120°F – 70°F = 50° F
- Thermal efficiency of natural gas = 0.75
- Thermal efficiency of electricity = 0.98 (round off to 1.0 for ease of calculation)
- 1 Kw = 3,412 BTU's (round off to 3,400 BTU)

1. Gas Hot Water Systems

$$\frac{\text{GPH} \times \text{Wt per gal} \times \text{temp. rise}}{\text{Thermal efficiency}} = \text{BTUs}$$

$$\text{Example: } \frac{77 \text{ GPH} \times 8.33 \times 50 \text{ F}}{0.75} = 42,761 \text{ BTUs}$$

2. Electric Hot Water Heater Systems

$$\frac{\text{GPH} \times \text{Wt. per gal} \times \text{temp rise}}{\text{Thermal efficiency}} \times \text{Kw conversion} = \text{Kw}$$

$$\text{Example: } \frac{77 \text{ GPH} \times 8.33 \times 50}{1} \times \frac{1 \text{ BTU}}{3400 \text{ Kw}} = 9.4 \text{ Kw}$$

COMMERCIAL HOODS/MECHANICAL EXHAUST DATA SHEET

(One sheet per hood)

DBA:	DATE:
ADDRESS:	PLAN CHECK #:
PREPARED BY:	PHONE #:

Identify Equipment To Be Placed Under Exhaust Hood:

Manufacturer	Type (Deep fryer, broiler, etc.)	Manufacturer	Type (Deep fryer, broiler, etc.)

Notes: Charcoal and other solid-fuel charbroilers require separate exhaust systems (separate exhaust duct and fan)

Exhaust Hood Specifications:

 Type I

 Type II

UL Listed (Manufacturer & model #) _____

Custom-Non-listed (Fabricator & Installer) _____ Phone # _____

Canopy Compensating Eyebrow Non-Canopy Other _____

Size of Hood Length _____ feet X Width _____ feet = _____

Exhaust CFM _____ Formula Used To Calculate CFM _____
(UL listed hoods use formula specified by manufacturer as listed by UL; Custom hoods use California Mechanical Code Formula)

Number of Exhaust Ducts: _____ Size of Ducts: _____ inches X _____ inches

Square Feet of duct _____ (L x W in inches) ÷ 144
 (1 duct for every 12 feet of hood length per CMC)

Exhaust Velocity _____ FPM (Exhaust CFM ÷ Square feet of Duct)
 (Duct velocity must be 150-2500 FPM per CMC)

Number of Filters _____ Type of Filters _____ Size of Filters(inches): L _____ X W _____

Rating of Filters _____

Make-up Air Supply

Make-up Air CFM _____ (MUA for custom hoods must equal exhaust CFM; MUA for listed hoods must be as specified by Manufacturer)

Number of registers _____ (Two (2) or more strongly recommended for all hoods and spaced so as not to short-circuit exhaust)

*Notes: Make-up air and Hood Exhaust must be electrically interconnected on one switch.
 Windows and Outside doorways are **Not Acceptable** for makeup air.*

MATRIX OF REQUIREMENTS BY TYPE OF FOOD FACILITY

Type of Facility	Prepackaged PHF Food Only (>25 sq ft)	Food Market Retail with Open Food	Restaurant/Retail Food Processing
1. Floors	X	X	X
2. Walls and ceilings	X	X	X
3. Conduit and piping	X	X	X
4. Exhaust hoods and ducts			X
5. Refrigeration	X	X	X
6. Ice Machines		X	X
7. Floor sinks		X	X
8. Food prep sink		X*	X
9. Ware washing sink		X	X
10. Bar sink			X
11. Automatic warewashers			Optional
12. Hand washing sinks		X	X
13. Janitorial facilities	X	X	X
14. Dipper wells (ice cream facilities only)			X*
15. Food shields / sneeze guard		X	X
16. Dry food and beverage storage area	X	X	X
17. Toilet facilities	X	X	X
18. Dressing rooms and lockers/employee areas		X*	X
19. Window screens	X*	X*	X*
20. Pass-through windows			X*
21. Entrance and delivery doors	X	X	X
22. Lighting	X	X	X
23. Ventilation	X	X	X
24. Equipment	X	X	X
25. Water and water heater	X	X	X
26. Backflow protection	X	X	X
27. Garbage and trash area	X	X	X
28. Grease interceptors / grease traps			X

*indicates that it may be required based on type of operation