

Food Facility Plan Check Resource Guide

Introduction

This Guide is designed to assist customers understand the requirements and review process for plan review by Butte County Environmental Health (EH) that is required whenever a retail food facility is constructed or remodeled.

Review Process

- I. **Step One: Initial Consultation**. The process begins with a consultation between the person preparing the plans and the EH staff from this office who will be responsible for reviewing the plans. It is **recommended** that this initial communication be in-person to help assure that:
 - A. The customer understands the review process, submittal requirements, and facility and equipment standards
 - B. The staff person from our office who will be reviewing the plans has a clear understanding of the customer's plans and timeline needs
 - C. Contact information is exchanged between the customer and our staff
 - D. Staff has provided the customer with a copy of this [Food Facility Plan Check Resource Guide](#) and explained how to apply it to the proposed project
 - E. Staff has provided the person who will prepare the plans a [Food Facility Plan Coversheet Checklist](#) to submit with the [Food Facility Plan Check Application](#) and completed plans

- II. **Step Two: Plan Submittal and Review**. Our office only requires a single set of plans for review initially, but two complete sets will be needed at the time of final approval (one for our office and one for the person who prepared the plans). After the plans are submitted, along with the [Application](#) and designated plan review fee, EH staff will review the plans using the checklist in this [Guide](#).
 - A. It is **recommended** to expedite this step, that the person preparing the plans perform



Updated: December 16, 2011

the plan review jointly with the EH staff reviewing the plans. Direct consultation may be arranged by appointment and will help assure:

1. EH staff efficiently confirms compliance with the items in the checklist
2. The person preparing the plans understands any elements in the plan that might need to be modified

B. If the plans are incomplete or modifications are needed:

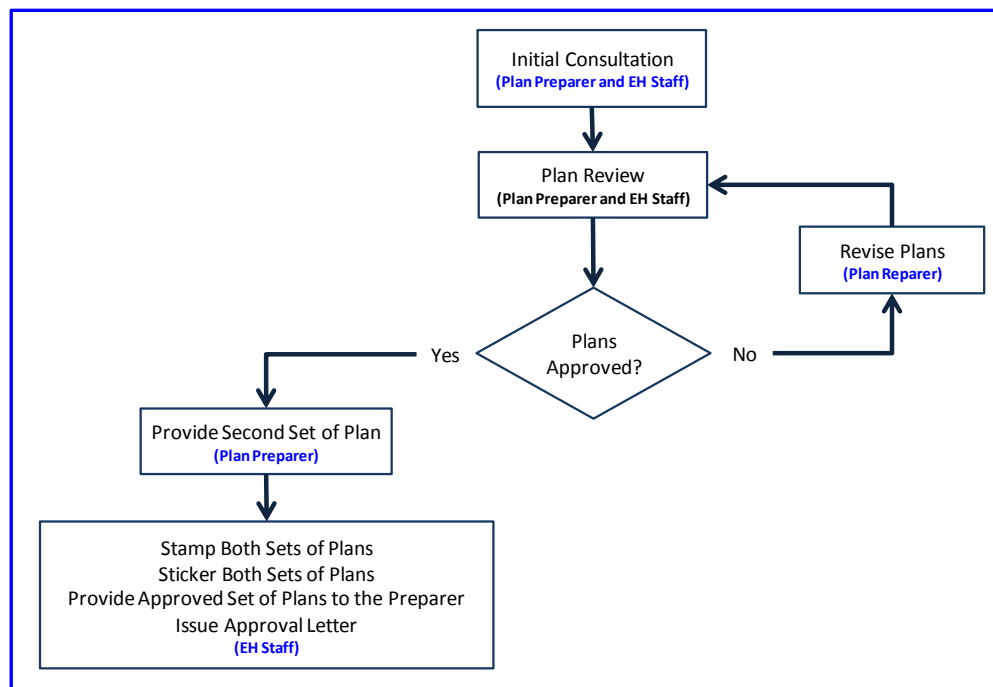
1. Any elements of the plans that need to be modified will be marked on the plans and summarized in the *Food Facility Plan Review Correction Notification* document provided to the customer with a copy retained by this office;
2. The marked up plans will be returned to the person who prepared them so that modifications can be made. A copy of the marked up plans will not be retained by this office.

III. **Step Three: Plan Approval.** When the plans are complete and no modifications are needed, EH staff will request a second set of plans. It is **recommended** to expedite this step, that if corrections to the original plans were required, that the person modifying the plans perform this follow up plan review jointly with the EH staff person reviewing the plans. Upon receipt of the second set of plans, EH staff will:

- A. Provide the customer with a letter stating:
 1. The date the plans were reviewed and approved;
 2. Identifying the points in facility construction that inspections will be required
- B. Stamp both sets of plans “Approved;”
- C. Affix a *Standard Construction Requirements* sticker to each set of plans; and
- D. Return one approved set of plans, along with the approval letter to the customer.



Plan Submittal Review Process Summary



Submittal Requirements

The proper layout and construction of a food facility is an important element in a successful and profitable business. It assures that you will meet all structural and operational requirements of the applicable State health laws and, at the same time, meet the objective of serving safe and wholesome food to the public. The intent of this guideline is to assist you in meeting these goals.

Plans need to be easily readable, drawn to scale, (recommend ¼ inch = 1 foot) and include:

- A. Complete floor plan with plumbing, electrical, lighting and equipment details. Demolition plans may be required for the proposed remodel of an existing food facility
- B. Complete mechanical exhaust ventilation plans including make-up air. Indicate the type of comfort cooling in the building, e.g. "building is cooled by refrigerated air conditioning," "evaporative cooling," or "no cooling system is installed"
- C. Finish schedule for floors, walls, and ceilings that indicate the type of material, the surface finish, and the type of coved base at the floor-wall juncture
- D. A site plan including interior and exterior waste storage, restrooms, janitorial facilities, employee break/changing room and personal storage, and on-site management office, if applicable
- E. Manufacturer's specification sheets for all equipment
- F. Copy of the proposed menu



Submittal Checklist and Reference

- A. ___ Name and address of food facility.
- B. ___ Name, mailing address and telephone number of:
 - 1. ___ Owner
 - 2. ___ Contractor (if one has been selected at this point)
 - 3. ___ Contact person
- C. ___ Submit one set of detailed plans drawn to scale initially for review.
- D. ___ Floor plan showing equipment layout (**Appendix A**)
 - 1. ___ Equipment checklist/method of installation (**Appendix B**)
 - 2. ___ Equipment manufacturer specification sheets.
- E. ___ Room finish schedule with names and specifications or samples (**Appendix C**)
 - 1. ___ Floors (**Appendix D**)
 - 2. ___ Base
 - 3. ___ Walls
 - 4. ___ Ceiling
- F. ___ Plumbing layout and hot water demand (Include floor sinks and water heater BTU or kW rating, recovery rate and capacity) (**Appendices E1 and E2**)
- G. ___ Exhaust hood ventilation and make-up air systems. Complete worksheets (**Appendix F**)
 - 1. ___ Submitted to fire district and building department for approval.
- H. ___ Site plan, including inside and outside waste storage locations.
- I. ___ Number of seats (Indoor: ___ Outdoor: ___)
- J. ___ Proposed Menu (if restaurant).
- K. ___ Sneeze guard design (if one is proposed)
- L. ___ Plan check application and plan check fees (fees are listed on the application)

Facility Requirements

Note: Each item in the check list is followed by a reference in brackets. The applicable section reference is provided for each requirement taken directly from the California Retail Food Code. Requirements and interpretations developed by our office in consultation with other enforcement agencies are identified as “Best Industry Standards.”

Floors

- _____ Floors must be smooth, durable, nonabsorbent and easily cleanable. [[Sect. 114268 \(a\)](#)]
- _____ Floor surfaces in all food preparation and storage areas, utensil wash and storage areas, janitorial and restroom areas, must be an approved type that continues up the walls (or toe-kicks) at least 4 inches, forming a 3/8” minimum radius cove as an integral unit. [[Sect. 114268 \(b\)](#)]
- _____ Quarry tile and seamless poured epoxy are recommended floor materials. Commercial grade sheet vinyl (no felt backing) with heat welded seams are suitable for many applications, based on information in the Product Specification sheet. Where sheet vinyl is used, a cove backing (cove stick) must be used at the wall/floor and to kick/floor junctures. Vinyl composition tile (VCT) and vinyl rubber top set base are not acceptable. Anti-slip floor surfaces are restricted to traffic areas only (all other areas must be smooth). [[Best Industry Standards](#)]
- _____ Floor drains are required if floors are water flushed or equipment is cleaned in place with pressure spray. [[114269 \(a\)](#)]
- _____ Floor sinks (flush or slightly elevated) are required to receive indirect fluid waste (all condensate and liquid waste) from the following equipment: dishwashers, 3-compartment or other utensil sanitizing sinks, food preparation sinks, pot and pan sinks, ice machines and bins, display cases, refrigerator units, steam tables, drink dispenser units, espresso machines, and similar equipment. [[114269 \(b\)](#)]

Walls/Ceiling/Entry Doors

- _____ Walls and ceilings must be smooth, durable, non-absorbent, and easily cleanable. [[Sect. 114271 \(a\)](#)]
- _____ Brick, concrete block, rough concrete, rough plaster or heavily textured gypsum board are not considered “easily cleanable.” [[Best Industry Standards](#)]
- _____ All cracks and gaps in walls/ceiling created during the installation of the equipment are to be sealed to a smooth and easily washable finish. [[Best Industry Standards](#)]
- _____ Walls behind all sinks (other than hand washing sinks) and dishwashers must be constructed of a waterproof material (FRP, Formica, stainless steel, or similar surfaces) 6 feet up from top of the coved base. [[Best Industry Standards](#)]

- _____ All unfinished wood surfaces must be sealed with a gloss or semi-gloss, epoxy, varnish or other sealer approved by this department. [[Best Industry Standards](#)]
- _____ All entrance doors (leading to the outside) are to be self-closing and trimmed to prevent entrance of vermin. [[Best Industry Standards](#)]
- _____ Ceiling acoustical tile may be approved if it is located at least 6 ft above the floor and must have a vinyl surface if located in the food preparation area, warewashing area or in areas where open food is stored. [[Sect. 114271 \(c\)](#)]
- _____ Facilities must be fully enclosed (but may have unenclosed dining areas and other areas approved by this office for outside food service). [[Sect. 114266](#)]
- _____ Conduit: all plumbing, electrical and gas lines must be concealed within the building walls, floors and ceiling when practicable or within approved conduit runs or chases at least 6 inches off the floor. When conduit or pipe lines enter a wall, ceiling or floor, the opening around the line(s) must be tightly sealed and made smooth for easy cleaning. [[Sect. 114271 \(d\)](#)]

Refrigeration

- _____ Must be specifically constructed for commercial use and conform to ANSI Standards and suitable for intended use. (Domestic model refrigeration units will NOT be accepted). [[Sect. 114130 \(b\)](#)]
- _____ Must be provided with an accurate, readily visible thermometer. [[Sect. 114157](#)]
- _____ Floor drains and floor sinks must be located outside walk-in units. [[Best Industry Standards](#)]
- _____ Walk-in shelving must be safe, durable, corrosion-resistant, nonabsorbent, and with a smooth, easily cleanable surface. Wood shelving is not acceptable. [[Sect. 114130.4](#)] [[Best Industry Standards](#)]
- _____ Shelving must store food at least 6" off the floor. [[Sect. 114047](#)] [[Best Industry Standards](#)]
- _____ Shelving must have smooth, metal legs or be cantilevered from the wall for ease of cleaning. [[Best Industry Standards](#)]
- _____ Shelving must be equivalent to applicable ANSI standards. [[Sect. 114130 \(b\)](#)]

Note: For walk in floor material, refer to that section of this checklist.

Equipment

- _____ Equipment must meet or be equivalent to applicable ANSI standards. [[Sect. 114130 \(a\) & \(b\)](#)]
- _____ Ice machines must be located within the building in an easily cleanable, well-ventilated area. [[Best Industry Standards](#)]
- _____ **Equipment and Sink Back-Siphonage Prevention:** All sinks and equipment with liquid waste discharge, with the exception of hand washing and janitorial sinks, must be connected to an

approved indirect sewage connection (i.e. floor sink or funnel drain). [Sect. 114193, 114193.1, and 114269 (b)]

Types of Sinks and Dishwasher Requirements

Dishwashing Units

_____ Dishwashing machines are recommended where a large volume of eating and drinking utensils are washed. [Best Industry Standards]

_____ Dishwashing machines need to have two integral metal drain boards, one at the point of entry and the other at the point of exit. Under-counter machines need to have two drain boards, but may use the drain boards of the three-compartment manual warewashing sink if it is located adjacent to an adequately sized under counter dishwasher. [Sec. 114103 (a) and (b)]

Three-Compartment Sink

_____ A three-compartment warewashing sink with two integral metal drain boards is required for all equipment with food contact surfaces and multi-service consumer utensils. [Sect. 114095 and Sect. 114097]

_____ The compartments of the warewashing sink and dual integral drain boards must be large enough to accommodate the largest utensils to be washed. [Sect. 114099]

Food Preparation Sink

_____ Food facilities that prepare food need a food preparation sink with a minimum size of 18" x 18 "x 12" depth or 16" x 20" x 12" depth with an integral drain board or an adequately sized adjacent table that is located within the food preparation area and used exclusively for food preparation. [114163 (a) (1) and (2)]

Hand Washing Sinks

_____ Hand washing sinks (dedicated specifically to hand washing) must be located in or adjacent to toilet rooms, food preparation areas, and warewashing areas. [113953 (a) and (b) (1)]

_____ Hand washing sinks for food preparation and warewashing areas are considered "conveniently located" if readily accessible within 25 feet of those areas.¹

_____ Hot water must be provided through a mixing faucet. Faucet must provide hot water at least 100°F. [Sec. 113953 (c)]

Janitorial Sink

_____ A conveniently located janitorial sink or curbed cleaning facility served with hot and cold water must be provided. [Sect. 114279 (a)]

¹ Hand washing sinks are required in Sect. 113953(b)(1) to be "conveniently located." This office defines this as a readily accessible sink that is no more than 25 feet from the food preparation or warewashing area.

- _____ A “curbed cleaning facility” is slab floor basin within a containment curb sloped into a drain. It must be constructed of concrete or equivalent material. [[Best Industry Standards](#)]
- _____ A backflow prevention device is required on mop area faucets. [[Best Industry Standards](#)]
- _____ Locate the janitorial sink to provide for easy disposal of mop water. [[Sect. 114279 \(a\)](#)]
- _____ Install hooks or other suitable retaining device to hold mops, rubber mats, etc. over the janitorial sink. [[Sect. 114282](#)]²
- _____ Garbage disposal cannot be installed under a required sink unless an additional scrap sink compartment is provided for the disposal. They are not recommended for discharge to onsite wastewater (septic) system. [[Best Industry Standards](#)]
- _____ Cold running water dipper well must be provided if scoops or other reusable serving utensils are stored in water. [[Best Industry Standards](#)]

Restrooms

- _____ Restrooms are equipped with well fitted self-closing doors, hand sinks with a hot and cold mixing faucet. And provided with soap and paper tower dispensers. [[Sect. 114276 \(c\) \(1, \(d\) and Sect. 113953.2\)](#)]
- _____ Restrooms are required for use by employees. [[Sect. 114276 \(a\)](#)]
- _____ Restrooms are required for use by customers when either: (a) there is onsite consumption of food, or (b) the facility has more than 20,000 square feet of floor space. A food facility with more than 20,000 square feet of floor space must provide at least one separate toilet facility for men and one separate toilet facility for women. [[Sect. 114276 \(b\) \(1\) and \(3\)](#)]
- _____ Toilet facilities which are provided for use by patrons, must be so situated that patrons do not pass through food preparation, food storage or utensil washing areas. [[Sect. 114276 \(b\) \(2\)](#)]

Exception: Any building (less than 20,000 sq. ft.) that was constructed before January 1, 2004 where food is consumed onsite by the public does not need to provide restrooms for customers if they “prominently” post a sign in the public area of the facility stating restrooms are not available. [[Sect. 114276 \(f\) \(1\)](#)]

Note: For the material requirements for restroom floor, wall, and ceiling, and for the ventilation requirement for restrooms, refer to those sections of this checklist.

² Code actually specifies that mops be placed in a position that allows them to air-dry without soiling walls, equipment or supplies.

Window Screens

_____ All windows that open, including restroom windows, must be screened with not less than 16 mesh screening.³

Outdoor Pass-Through Windows

_____ The size of the window opening should not exceed 216 square inches, unless an air curtain device is used and then the window opening should not exceed 432 square inches. [Sect. 114259.2]

_____ Service openings not closer together than 18 inches. [Sect. 114259.2]

_____ Screening, if used, must be at least 16 mesh per square inch. [Sect. 114259.2]

Open Food Protection

_____ Food on display must be protected from contamination by the use of: (a) counter location, (b) service line setup and oversight, i.e. food dished up and served cafeteria-style, (c) sneeze guards to intercept a direct line between the customer's mouth and the food being displayed, (d) containers with tight fitting lids, display cases, mechanical dispensers, or approved self-service containers. [Sect. 114060 (a)]

Note: Display of the following items does not require protection as described above:
(a) nuts in the shell, (b) whole raw fruit and vegetables.

Storage

_____ Food storage areas must be 6 inches off the floor, clean and dry and not expose the food to splash, dust, vermin, or other sources of contamination. [Sect. 114047]

Note: Foods that do not need to be stored 6 inches off the floor are beverage containers under pressure, cased foods in water proof containers (such as bottles or cans), milk containers in plastic crates, prepackaged foods, and foods stored temporarily on dollies, pallets, racks and skids. [Sect. 114047 (c) and (d)]

_____ Other than cleaners and sanitizers that may be stored in the warewashing area, all chemicals, insecticides, poisons and cleaning agents need to be stored in an area entirely separate from food, food handling equipment and utensils, and food packaging materials to prevent accidental contamination of the food. [Sect. 114254.2]

³ This requirement is not directly stated in the code but implied by Sect. 114259.2. If pass through windows must be screened, presumably all other windows must be screened also.

Clothing Change/Storage Area

_____ Provide a storage area for employee clothing and personal effects which is entirely separated from food and utensil storage areas. [[Sect. 114256 \(b\)](#)]

Lighting

_____ The following minimum light intensities must be met:

- 1) 10-footcandles: (a) Inside walk-in refrigeration units and reach-in refrigerators; (b) Dry storage areas. [[Sect. 114252 \(a\)](#)]
- 2) 20-footcandles: (a) Consumer self-service area, (b) Wherever fresh produce or pre-packaged foods are sold or offered for consumption; (c) Hand washing, warewashing, equipment and utensil storage, and toilet rooms. [[Sect. 114252 \(b\)](#)]
- 3) 50-footcandles: (a) Wherever an employee works with food or utensils or equipment such as knives, slicers, grinders or saws where employee safety is a factor; (b) In all areas and rooms during periods of cleaning. [[Sect. 114252 \(c\)](#)]

_____ Shatterproof covers must be installed over all lights in food preparation, rooms storing un-packaged food, utensil storage areas, and dishwashing areas. [[Sect. 114252.1 \(a\)](#)]

Garbage and Trash Storage Area

_____ Area designated for refuse and recyclable collection and storage must be separate from food, equipment, utensils, linens, and single service articles. [[Sect. 114245 \(a\)](#)]

_____ Refuse storage area within facility must have smooth and easily cleanable floors, walls, and ceilings. [[Sect. 114245.3](#)]

_____ Outside storage area for refuse and recyclables must be constructed of nonabsorbent material such as concrete or asphalt and be easily cleanable, durable, and sloped to a drain. [[Sect. 114245.4](#)]

Ventilation

_____ Sufficient ventilation is required in all areas to facilitate proper food storage and provide reasonable comfort for each employee. [[Sect. 114149](#)]

_____ For restrooms, provide ventilation to outside air with openable, screened window, air shaft, or light-switch-activated exhaust fan consistent with the requirements of local building codes. [[Sect. 114149 \(b\)](#)]

Hot Water Supply

_____ An adequate protected pressurized potable supply of hot water must be provided. Hot water must be supplied at a minimum temperature of 120° F (or as noted on the dishwasher data

plate) from all faucets except hand wash sinks which must be supplied warm water between 100⁰ F and 108⁰ F. if the temperature is not readily adjustable at the faucet. [Sect. 114192 (a) and Sect. 113953]

Note: With your plan submittal, be sure to include water heater make, model, size, BTU or KW, and the first hour recovery rate.

Kitchen Exhaust System (Hoods and Ducts)

- _____ Mechanical exhaust ventilation must be provided at or above all cooking equipment such as ranges, griddles, ovens, deep fat fryers, barbecues and rotisseries and may be required at or above mechanical dishwashing equipment to effectively remove cooking odors, smoke, steam, grease and vapors. An integrated make-up air system is required. [Sect. 114149.1 (a)]
- _____ Make-up air must be supplied in a volume equal to the volume of air that is being exhausted. [Sect. 114149.1 (d)]
- _____ The exhaust and make-up air system must be connected by an electrical interlocking switch. [Best Industry Standards]
- _____ Windows and doors should not be used for the purpose of providing make-up air. [Best Industry Standards]
- _____ Compensating hoods must extract at least 20% of their required exhaust air flow from the kitchen area. (HVAC is not a make-up air system because it recycles 85% of the internal air and only takes 15 % of the outside air.) [Best Industry Standards]

Notes: When you submit your plans, be sure to include complete exhaust ventilation plans and performance calculations, details of make-up air and cut sheets of blowers, motors, and filters and a list of all equipment types to be used under the hood. (Also, see *Appendix F* of this *Guide*). All exhaust hoods and ducts must be installed in accordance with Chapter 20 of the current edition of the Uniform Mechanical Code.

Grease Trap/ Interceptor

- _____ If provided, the grease trap/interceptor must be located outside food and utensil handling areas and where it can be easily accessible for servicing. [Sect. 114201 (b)]
- _____ Food facilities located in an area served by a public sewer system must contact the appropriate City or County Public Works Department for grease trap/interceptor requirements. [Best Industry Standards]
- _____ A facility located in an area not served by a public sewage system must contact the Land Use Division of this office regarding grease trap/interceptor and onsite wastewater system approval requirements. [Sect. 114197]

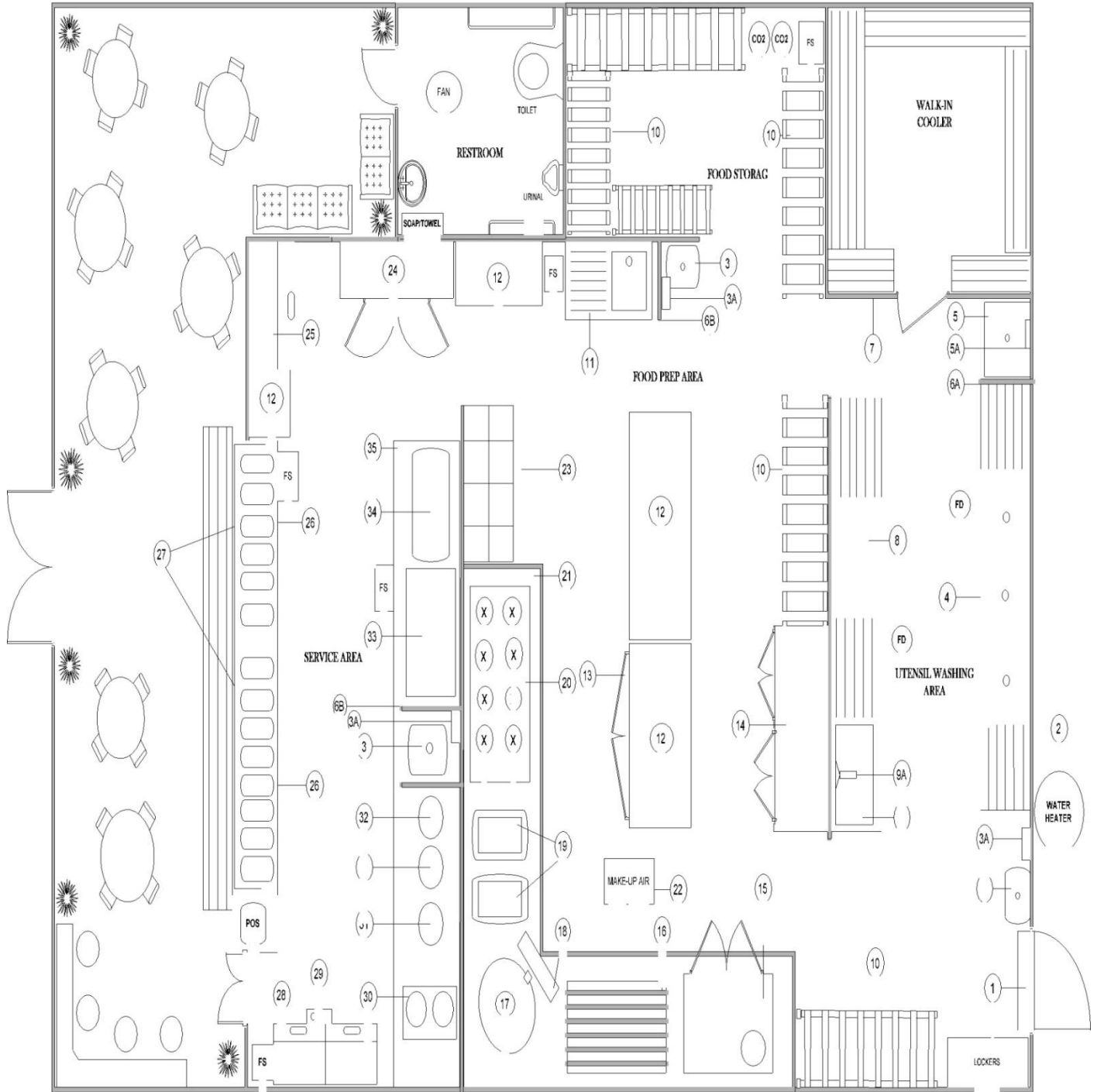
Additional Contact Information

Requests for variances or exemptions from the requirements summarized in this checklist should be directed to:

**Brad Banner, Environmental Health Director
(530) 538-7281**

APPENDIX A

Sample Floor Plan



LEGENDS:
 FS - FLOOR SINK
 (FD) - FLOOR DRAIN

DBA: PC CAFE

ADDRESS: _____

APPENDIX B

Sample Equipment Schedule

#	EQUIPMENT	MANUFACTURER MODEL NO.	ANSI	PLUMBING				COMMENT
				HW	CW	DIR	IN- DIR	
1	DOOR ACTIVATED AIR CURTAIN							1600 fpm
2	COMMERCIAL GAS WATER HEATER							90,000 BTU
3	(3) HANDWASHING SINKS		X			X		
3A	SOAP & TOWEL DISPENSERS							
4	MANUAL WAREWASHING 3-COMPARTMENT SINK 18" x 18" x 12"		X			X		Comply with UPC 704.3 (2) 18" drain boards
5	MOP BASIN					X		Approved backflow prevention device
5A	MOP & BROOM HANGER							Wall-mounted chemical storage shelf
6A	18" S/S SPLASHGUARD							
6B	6" S/S SPLASHGUARD							
7	WALK-IN COOLER		X				X	
8	LOW TEMPERATURE MECHANICAL WAREWASHING MACHINE		X			X		Comply with UPC 704.3
9A	PRE-RINSE FAUCET		X					
9B	PRE-RINSE SINK		X			X		Comply with UPC 704.3
10	METRO SHELVES (1)-8'; (3)-6'; (1)-5'; (1)-4'		X					5 tiers Dry food storage
11	FOOD PREP SINK (18" x 18" x 12")		X				X	18" drain board
12	FOOD PREP TABLE		X					
13	2-DOOR UNDERCOUNTER REFRIGERA- TOR		X					Self-contained
14	4-DOOR UPRIGHT FREEZER		X					Self-contained
15	DOUBLE CONVECTION OVEN		X					
16	RADIANT CHARBROILER		X					

#	EQUIPMENT	MANUFACTUR MODEL NO.	ANSI	PLUMBING				COMMENT
				HW	CW	DIR	IN- DIR	
17	TILTING KETTLE		X					Indirect waste
18	TRENCH/TROUGH DRAIN							
19	(2) FRYERS		X					
20	8 BURNER STOVE		X					
21	TYPE I HOOD		X					UL - LISTED
22	MAKE-UP AIR							Electronically interlocked with hood
23	SANDWICH PREP TABLE		X					Self-contained
24	2 DR UPRIGHT REFRIG.		X					Self-contained
25	ICE MACHINE		X				X	
26	(2) STEAM TABLE		X				X	
27	SNEEZE GUARD		X					
28	DIPPING CABINET		X				X	
29	DIPPER WELL		X				X	
30	COFFEE BREWER		X					
31	COFFEE GRINDER		X					CSA
32	(2) BLENDERS		X					
33	SODA DISPENSER		X				X	ETL
34	ESPRESSO MACHINE		X				X	
35	S/S COUNTER		X					

APPENDIX C

Room Finish Schedule

(Specific brand names and colors for materials should be specified whenever possible to insure acceptability.)

ROOM OR AREA		FLOOR	FLOOR BASE OR COVE	WALLS	CEILING	REMARKS
Example: Wait Station		<i>Smooth quarry tile</i>	<i>4" quarry coved tile (3/8" radius coving)</i>	<i>Gypsum board; smooth; semi-gloss paint Swiss coffee</i>	<i>Drop ceiling; vinyl faced panel; smooth; white</i>	
A	Dining Area					
B	Wait Station					
C	Kitchen Area					
D	Dishwashing Area					
E	Janitorial Station					
F	Restroom					
G	Storeroom					
H	Trash Enclosure					

Notes: This form may be omitted if plans contain a complete finish schedule.

Manufacturer specification sheets and project samples may be requested by this office for review of these items.

APPENDIX D

Floor Material and Base Coving

Where These Requirements Apply

Floor materials used in retail food facilities must be of smooth, easily cleanable, and durable construction and of nonabsorbent materials, in areas where:

- Food is prepared, packaged or stored
- Utensils are washed
- Refuse or garbage is stored
- Janitorial facilities are located,
- Toilets are located
- Hand washing takes place
- Unpackaged customer self-service food and/or beverage areas are located
- Wait stations are located
- Open or unpackaged food and supplies are stored

Before installing or repairing floors, we request that you contact our office to verify that approved materials and methods of installation will be used. This office may request manufacturer specification sheets and floor samples when reviewing the Room Finish Schedule (Appendix C).

Floor Materials Not Acceptable

The following floor materials that are not accepted except in areas used exclusively for the sale of prepackaged food or in dining areas:

- Carpet
- Vinyl composition tile (VCT)
- Rubber or vinyl topset base

Acceptable Floor Materials

The following are floor materials are the generally accepted as meeting best industry standards in Butte County:

- **Commercial Grade Homogeneous Sheet Vinyl**. This product must have: (1) A minimum 0.08" wear thickness; (2) No felt or fiber backing; (3) Heat welded seams; and (4) Cove stick backing.
- **Quarry Tile**. This product must have: (1) A $\frac{3}{8}$ inch radius cove base tile installed integral (flush) with the floor (topset cove base tile is not permitted) in the kitchen, food preparation area, open food storage area, and restroom facilities by means of Cove Face Tile or Schluter System; and (2) A minimum tile thickness of $\frac{1}{4}$ inch.
- **Ceramic Tile**. This product has the same requirements as those specified for Quarry Tile.

- **Poured or Troweled Epoxy Resin.** This product must have: (1) A minimum finish thickness $\frac{3}{16}$ inch; (2) Be coved at floor/wall junctures and floor/toe-kick junctures with an integral $\frac{3}{8}$ inch radius cove (typically Speed Cove); and (3) A smooth finish under equipment and on cove base. This product must not be painted.
- **Concrete.** This product must: (1) Be sealed with an approved, commercial grade, clear, penetrating sealer that is resistant to grease, acid, oil and moisture (paint is not an acceptable sealer); (2). Have a surface that is smooth and free from pits, chips, or exposed aggregate; (3) Have a cove base that is either an integral coved concrete curb, manufacturer's metal coving, or a "keyed-in" tile cove base

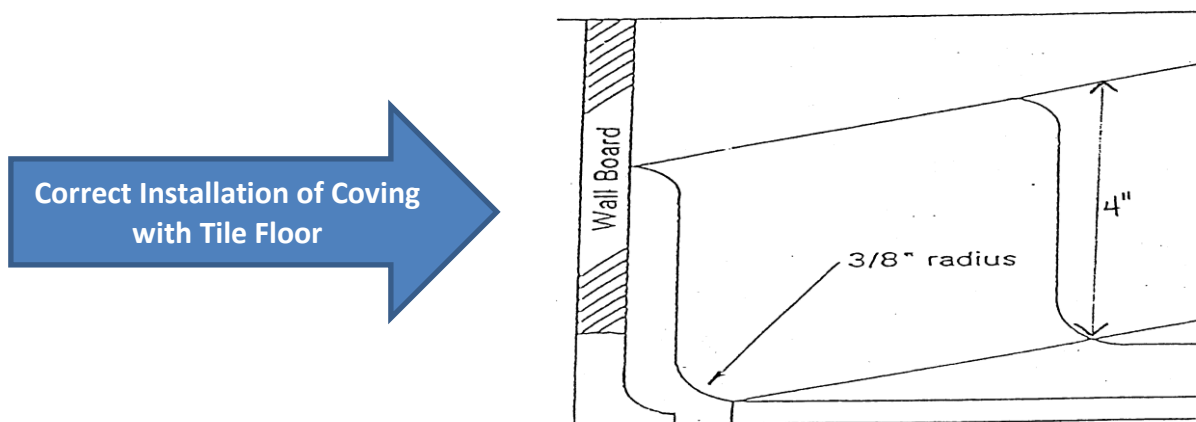
Notes:

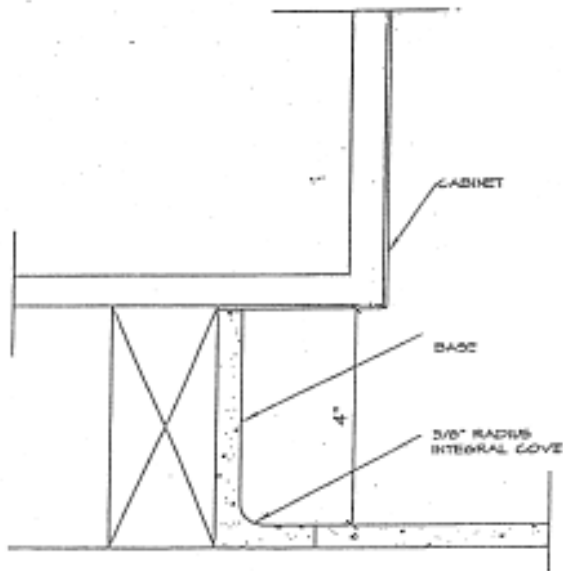
We recommend against integral coved concrete curb because it is hard to set up and prone to cracking.

In order to "key-in" a tile cove base, the floor must be saw-cut at the wall/floor juncture and an approved coved base inserted and grouted in so as to be flush, integral, and continuous with the floor surface).

Cove Base

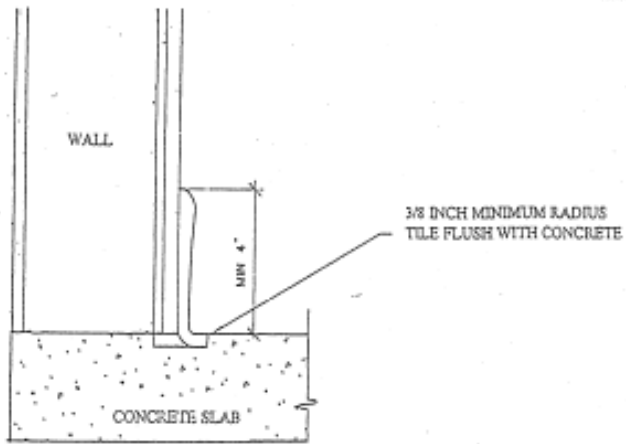
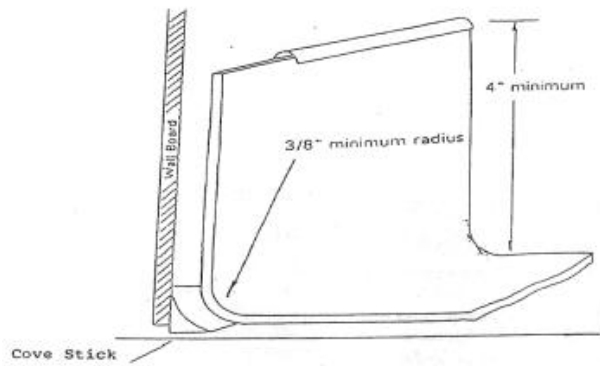
Floor surfaces need to continue up walls or toe-kicks (including floor mounted counter and cabinet toe-kick bases) at least 4 inches, in a seamless manner, forming a minimum of $\frac{3}{8}$ inch radius cove as an integral unit. For tile floors, this means the cove base tile is flush and continuous with the floor. Topset (sanitary) cove base is not permitted. Most "Slimfoot" tile is an approved cove base for wait stations, self-serve areas and other light use areas. Samples should be submitted to this office prior to installation due to product variations. The following are examples of proper and improper installation of floor coving:





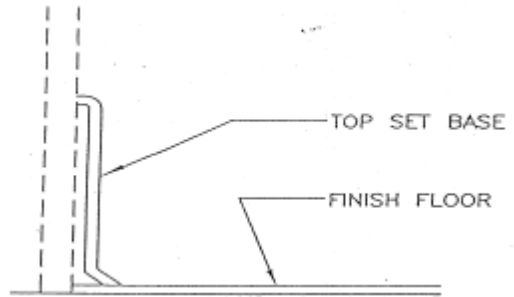
Correct Installation of Cove
with Cabinet Toe Kick

Correct Installation of Cove
with Sheet Vinyl Floor



Correct Installation of Cove
with "Keyed In" Integral Tile Cove Base

INCORRECT Installation of
Topset Cove Base



APPENDIX E - 1

Calculating Hot Water Demand

A. Storage Water Heaters

- a. **Step One:** Calculate total required Gallons per Hour (GPH) demand based on the type and number of equipment in the facility based on the table below.

<u>Equipment Type</u>	<u>GPH</u>	<u>Equipment Type</u>	<u>GPH</u>
Vegetable Sink-----	15	Employee Shower-----	20
Single Pot Sink-----	20	Utility Sink-----	5
Double Pot Sink-----	40	Pre-Rinse for Dishes-----	45
Triple Pot Sink-----	60	Bar Sink – Three Compartments-----	20
Hot Water Filling Faucet-----	15	Bar Sink – Four Compartments-----	25
Bain Marie-----	10	Chemical Sanitizing Dishwasher-----	60
Kettle Stand-----	5	Ware Washer-----	64
9 and 12 Pound Clothes Washer-----	45	Hand Sink-----	5
16 Pound Clothes Washer-----	45	Cook Sink-----	10

- b. **Step Two:** Multiply the total calculated GPH by the appropriate adjustment factor for the type of utensils based on the table below.

<u>Food Facility's Utensil Use</u>	<u>Sizing Adjustment</u>
Multi-Service Eating Utensils, Heavy Use (Serving 3 Meals/Day)-----	100% GPH
Multi-Service Eating Utensils, Moderate Use-----	90% GPH
Single-Service Eating Utensils or Don't Use Utensils at All-----	80% GPH

Facilities serving only pre-packaged food are only required to have a water heater with a minimum storage capacity of 10 gallons.

B. Instantaneous Water Heaters

Calculate total required Gallons per Minute (GPM) demand required to achieve a 60° F temperature rise in water temperature while maintaining adequate water flow from all fixtures based calculated from below. Submit the manufacturer's water heater specifications and flow chart for review.

<u>Fixture Type</u>	<u>GPH</u>	<u>Fixture Type</u>	<u>GPH</u>
Utensil Sink-----	15	Single Rack Dishwasher ^{4,5} -----	20
Utensil Sink with Integral Pre-Rinse-----	20	Double Rack Dishwasher ^{4,5} -----	5
Utensil Sink with Separate Pre-Rinse-----	40	Hand Sink-----	5
Mop/Utility Sink-----	60	Prep Sink-----	10

⁴ Check manufacturer's water use per rack

⁵ For conveyor, check manufacturer's specifications as they are generally unsuitable for use with instantaneous (tank-less) water heaters.

APPENDIX E - 2

Calculating BTU (Gas) and KW (Electric) Requirements

A. Gas Water Heaters

$$\text{BTU input} = \frac{\text{GPH}^{\text{A}} \times 60^{\circ}\text{F}^{\text{B}} \text{ Rise} \times 8.33 \text{ lbs./gal of water}^{\text{C}}}{0.70^{\text{D}}}$$

A Gallons per hour, calculated in Appendix E-1

B Desired Rise in Water Temperature: 60° F is the Increase in water temperature required to meet Cal Code requirements for food facilities within Butte County

C Conversion factor

D Thermal Efficiency: 70% (0.70) is assumed to be the thermal efficiency of gas water heaters, unless listed by NSF or other nationally recognized testing laboratories

B. Electric Water Heaters

$$\text{KW input} = \frac{\text{GPH}^{\text{A}} \times 60^{\circ}\text{F}^{\text{B}} \text{ Rise} \times 8.33 \text{ lbs./gal of water}^{\text{C}}}{3,412 \text{ BTU/KW}^{\text{D}}}$$

A Gallons per hour, calculated in Appendix E-1

B Desired Rise in Water Temperature: 60° F is the Increase in water temperature required to meet Cal Code requirements for food facilities within Butte County

C Conversion factor

D Conversion factor

Make-Up Air

- CFM (*cubic feet/minute*) = _____

Note: Make-up air must be provided at the rate of that exhausted.

- If providing 80% make-up air, specify source of the 20% supply air: _____

Notes

- ❖ Provide separate hood/mechanical exhaust data sheet(s) for each hood
- ❖ Fire suppression system may be required by local fire department