



CONSTRUCTION GUIDELINES FOR WHOLESALE FOOD PROCESSING FACILITIES



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Introduction

This construction guide is for any person wanting to construct or remodel a wholesale food facility in Orange County. This guide provides an overview of the plan check process, a checklist, and an outline of all the structural details that this Agency requires for wholesale food processing facilities. A separate guide is available for wholesale food facilities which will handle only prepackaged food. Please contact us if you are unsure about your particular type of facility.

First, let's take an overview of the Environmental Health Plan Check process from beginning to your grand opening:

Plan Check Process Overview

Plan Submittal –

Before beginning any construction or remodeling work, you must submit three (3) copies of detailed plans/blueprints and specifications to the Environmental Health office (see below for plan specifics). The plans may be prepared by an architect, draftsman, contractor, or owner. All plans must be drawn in a professional manner encompassing all applicable requirements of this construction guide. In addition, you must obtain all approvals from your local building and fire authorities prior to construction.

Plan Check Fee –

A plan check fee must be paid at the time of submittal. The fee is based upon square footage and whether it is new construction or a remodel. Current fee schedules are available upon request.

A remodel is any construction or alteration to an existing wholesale food processing facility. Remodeling also includes the installation of equipment or repairs to a food facility which alters its configuration or method of operation. Installing a food facility in a new structure or in an empty building is new construction. Also, installing a food facility in a former non-food related facility, such as a shoe store, falls under the new construction category. If you are starting from a former food facility where all the equipment and interior structures have been removed, that also is considered new construction.

Initial Plan Review –

Plans that are submitted will be reviewed and either approved or denied. In order for plans to be approved, they must include all the structural requirements that are listed in this guide, and the plans themselves must be drawn to scale (e.g., 1/4" = 1'), using non-erasable ink or print (no pencil). Your plans must include:

- ✓ Complete floor plan with plumbing and electrical outlets and electrical panels.
- ✓ Complete equipment layout, including elevations of equipment and equipment specifications.
- ✓ Complete exhaust ventilation plans, including make-up air. Indicate the type of comfort cooling in building (e.g. "building is cooled by refrigerated air conditioning", "evaporative cooling" or "no cooling system is installed").
- ✓ Finish schedule for walls, ceilings and floors that indicates the type of material, surface finish and color. Samples of proposed finish materials should be submitted with the plans.
- ✓ Remodel plans must identify all proposed changes to existing structures, spaces, and equipment.

Approval or Denial –

If the plans you submitted do not meet all the requirements or if the plans are incomplete, they will require revisions before approval is granted. If your plans do meet all the requirements, your plans will be marked with approval stamps and you will be given back two sets of the originals that you submitted. One of these copies must be kept at the jobsite up until the end of the construction/remodel project. It is only after you receive the approval of your plans that you can begin construction/work at your facility.

Modification of Plans –

If any changes are proposed to the plans *after* approval, they must be reviewed and re-approved by this Agency prior to being implemented.

Preliminary Inspection –

When construction is approximately 75% to 80% completed, with plumbing, rough ventilation, and rough equipment installed, you must call your Plan Checker (the person indicated on your approved plans) for a preliminary construction inspection. Requests should be made at least two (2) working days in advance. The preliminary inspection is usually scheduled at least two weeks prior to the proposed opening of the food facility. Note that approved materials and good workmanship are significant factors in the evaluation and field approval of food facility construction and equipment installation.

Final Inspection –

Upon completion of 100% of the construction, including all finishing work, you must call your Plan Checker to arrange for a final construction inspection. Contact your Plan Checker at least two (2) working days in advance for an appointment for the final inspection.

Issuance of Permit –

Once your facility has passed the final inspection, you will be issued a Health Permit and are then able to open for business, or begin using the newly remodel areas of your business.

**CHECKLIST
GENERAL CONSTRUCTION & EQUIPMENT
REQUIREMENTS**

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WHOLESALE FOOD FACILITY GENERAL STRUCTURAL REQUIREMENTS

1. FLOORS:

- a. Floors in food facilities shall be smooth and impervious to water, grease and acid, and be made of easily cleanable construction.
- b. Floor drains are required in floors that are water-flushed for cleaning where pressure spray methods for cleaning equipment are used. Trench drains may be used in doorways or when the amount of water used for cleaning will be excessive.

2. WALLS / CEILINGS:

- a. Walls and ceilings in all rooms shall be smooth and nonabsorbent with an easily cleanable finish.
- b. Wall materials other than smooth plaster or putty coat plaster, drywall with sealed and taped joints, or plywood with properly sealed joints require submission of a sample.
- c. All wall surfaces shall be sealed with a cleanable paint such as: gloss or semigloss enamel, epoxy, varnish or other approved sealer.

3. EXHAUST HOODS AND DUCTS:

Proper ventilation is a requirement of the Food Sanitation Act. The following are excerpts from the Mechanical Code:

- a. Mechanical exhaust ventilation shall be required at or above all cooking equipment such as ranges, griddles, ovens, deep fat fryers, barbecues, and rotisseries to effectively remove cooking odors, smoke, steam, grease and vapors.
- b. All hoods, ducts and exhaust outlets shall be installed in accordance with the current edition of the Uniform Mechanical Code as adopted by the local building department.
- c. Canopy-type hoods: The lower lip of canopy-type hoods shall not be more than seven (7) feet above the floor and shall not be more than four (4) feet above the cooking surface. The hood shall overhang or extend at 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 and drip pans that are easily cleanable.
- d. Noncanopy-type hoods: Noncanopy-type hoods will be approved providing they are constructed to be easily cleanable and they comply with the minimum exhaust air velocity requirements. Shielding at the ends of the hood may be necessary to prevent interference from cross drafts.

- e. Make-up air: Make-up air shall be provided at least equal to that amount which is mechanically exhausted. Windows and doors shall not be used for the purpose of providing make-up air.
- f. Fire extinguishing systems may be required by local fire department codes. They shall be installed so as to allow easy cleanability of the hood and duct systems and, whenever possible, shall not be installed above food or utensil handling areas.

4. WINDOW SCREENS:

All operable windows, such as restroom windows, shall be screened with not less than 14 mesh screening.

5. RESTROOMS:

- a. Toilet facilities shall be provided within each food facility convenient for the employees.
- b. The floors, walls and ceiling shall have surfaces that are smooth, nonabsorbent and easily cleanable.
- c. Handwashing sinks shall be provided within each toilet room. The sink shall be provided with soap and sanitary towels.

6. CLOTHING CHANGE ROOMS / DESIGNATED AREAS:

Provide a room, lockers or similar enclosure, separated from toilet, food storage, and food preparation areas, where employees may change and store their outer garments and personal belongings.

7. DOORS:

- a. All dedicated delivery doors leading to the outside shall open outward and be self-closing.
- b. Large cargo-type doors shall *not* open directly into a food preparation area.

8. LIGHTING:

All food preparation areas, utensil storage rooms, toilet rooms, refrigeration storage rooms, and all dishwashing areas shall be provided with adequate light.

9. WATER AND SEWAGE DISPOSAL:

All liquid waste, including sewage, generated by a food facility, shall be disposed in an approved manner into either a public sewer system or to an approved private on-site sewage disposal system.

SUPPLEMENTAL INFORMATION FOR WHOLESALE FOOD PROCESSING FACILITIES

The information below contains specifications required by the State Department of Health, local building departments, and local fire departments. The following are excerpts from Building, Fire or Mechanical Codes or are part of the Good Manufacturing Practices. This information is being provided to assist you in obtaining registration or permits from these other agencies. Please contact each respective department to confirm current requirements, and to ensure that you will be in compliance with all applicable codes.

1. REFRIGERATION:

- a. All refrigeration units should be adequate in capacity to meet the needs of the proposed operation and should comply with the following requirements:
 - (i) Be capable of operating so as to maintain the refrigerated foods at or below 41°Fahrenheit at all times.
 - (ii) Be specifically constructed for commercial use. Domestic model refrigeration units are not acceptable.
 - (iii) Be provided with an accurate, readily visible thermometer.
 - (iv) Have smooth, nonabsorbent and easily cleanable surfaces. If cement, plywood or other similar absorbent materials are used, the surfaces must be sealed. All joints must be sealed.
 - (v) Condensate waste from reach-in refrigeration units may be drained into a floor sink or an approved evaporator unit.
 - (vi) Cooling coils and related electrical, drainage and refrigerant lines should be installed in a safe and easily cleanable manner. Drainage and refrigerant lines shall be constructed of nontoxic materials or properly insulated and covered with an approved, easily cleanable and nontoxic material.

- b. Walk-in refrigeration units should also:
 - (i) Have a coved base with a radius of at least 3/8 inch at the floor/wall juncture; the floor material shall extend up to a height of at least four (4) inches on the walls. Four (4) inch approved metal topset coving with a minimum 3/8 inch radius is acceptable against metal wall surfaces of walk-in refrigeration units.
 - (ii) Open into an area with approved finishes within the facility.
 - (iii) Have shelving that is at least six (6) inches off the floor with smooth, easily cleanable legs, or cantilevered from the wall for ease of cleaning. Small, easily movable, castered dollies may be used in place of a lower shelf inside a walk-in refrigeration unit.
 - (iv) Have condensate waste drained into a floor sink. The floor sink should not to be located inside the walk-in refrigeration unit.

2. UTENSIL SINK:

- a. Where food equipment has small, cleanable parts, or where multiservice utensils, i.e., pots, pans, etc., are utilized, provide a three (3)-compartment stainless steel sink with dual, integrally installed stainless steel drainboards to accomplish proper washing and sanitizing. This sink should have an indirect connection to a floor sink.
- b. The minimum compartment sizes should be at least 18" x 18" x 12" deep with minimum 18" x 18" drainboards, or 16" x 20" x 12" deep with 16" x 20" drainboards. The sink must otherwise be capable of accommodating the largest utensil to be washed, and the drainboards shall be as large as the largest sink compartment.
- c. When a sink is installed next to a wall, a stainless steel "backsplash" extending up the wall at least eight (8) inches should be formed as an integral part of the sink, and be sealed to the wall. The ends of the sink must be installed with a minimum two (2) inch separation from walls, or be equipped with integrally installed "end returns".
- d. For equipment that is affixed in place or is otherwise too large to be washed and sanitized in a sink, please describe the facilities and method used to clean and sanitize these food contact surfaces. Please further describe methods for the removal of waste water or waste products.

3. JANITORIAL SINK:

- a. A one-compartment, wall-mounted janitorial sink with hot and cold running water should be installed for general cleanup activities.
- b. A curbed area properly sloped to a drain that is provided with hot and cold running water, a mixing faucet, and an approved backflow prevention device, is also acceptable. All curbed area surfaces should be of smooth, impervious and easily cleanable construction. Where duckboards or floor mats are used, a curbed area with a drain is recommended.
- c. Free standing janitorial sinks must be provided with easily cleanable legs. Legs with "L" angles are not recommended as they inhibit the ability to easily clean the floor around them and also trap dirt and food debris.

4. HANDWASHING SINKS:

- a. Handwashing sink(s) should be provided in the food preparation areas.
- b. Soap and sanitary towels should be provided in single-service, permanently installed dispensers at all handwashing sinks.

5. FOOD PREPARATION SINKS:

Food facilities that prepare raw vegetables or meat are required to have a separate food preparation sink to prevent cross contamination. This sink must have an indirect connection to a floor sink.

6. FLOOR SINKS:

- a. All condensate and similar liquid waste shall be drained by means of indirect waste pipes into an open floor sink.
- b. Floor sinks shall be installed flush with the floor surface unless local building authorities require a raised floor sink.
- c. Horizontal runs of drain lines shall be at least 1/2 inch from the wall and six (6) inches off the floor and shall terminate at least one (1) inch above the overflow rim of the floor sink.
- d. Floor sinks shall be located so that they are readily accessible for inspection, cleaning and repair. The floor sink must be located within fifteen (15) feet of the drain opening of the equipment served.
- e. Waste lines may not cross any aisle, traffic area or door opening.
- f. Floor sinks or floor drains are not permitted inside walk-in refrigeration units.

7. GENERAL PURPOSE HOT WATER:

- a. A water heater, which is capable of constantly supplying hot water at a temperature of at least 120° Fahrenheit to all sinks, and other clean-up facilities should be provided. In sizing the water heater, the peak hourly demands for all sinks, etc., are added together to determine the minimum required recovery rate.
- b. You may contact Environmental Health for assistance in sizing the water heater.

8. BACKUP DRY FOOD AND BEVERAGE STORAGE:

- a. Adequate and suitable floor space should be provided for the storage of food, beverages, and related products. In addition to working storage and refrigeration storage, additional back-up 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. Reference the following to determine the minimum recommended amount of backup storage space:
 - (i) Within food facilities that have food preparation areas which total 400 square feet or less, a minimum 100 square feet of floor space shall be dedicated for back-up dry food storage. At least 32 linear feet of approved shelving units shall be installed in the 100 square feet of dedicated floor space.
 - (ii) Within food facilities that have food preparation areas which total more than 400 square feet, the floor space required for back-up dry food storage shall be determined by dedicating one square foot of floor space or by dedicating a space equal to 25% of the food preparation area, whichever is greater. The quantity of shelving units to be installed in this dedicated space shall be based upon the following formula:

$$\text{Required linear footage of shelving units} = \frac{32 \times (\text{sq. ft. of preparation areas})}{400}$$

- (iii) Where remote dry food and beverage storage is proposed, at least half of the required storage must be located within the food preparation areas. The remaining storage must be located within the food facility in an approved storage room.
- b. A shelving unit should be a minimum eighteen (18) inches in depth and three (3) tiers high. For example, eight shelving units, each of which is four feet long and three tiers high, would equal 32 linear feet of shelving units.
- c. Shelving shall be constructed in an easily cleanable design of smooth metal or wood, which has been finished and sealed. Shelves installed on a wall shall have at least one (1) inch of open space between the back edge of the shelf and the wall surface, otherwise, the back edge of the shelf shall be sealed to the wall with silicone sealant or equivalent. The lowest shelf shall be at least six (6) inches above the floor, with a clear unobstructed area below, or be the upper surface of a completely sealed continuously coved base, with a minimum height of six (6) inches. All shelves located below a counter or work surface shall be set back at least two (2) inches from the drip line of the surface above. If shelves are supported by legs on the floor, the legs shall be smooth and easily cleanable.
- d. Electrical panels, large fire prevention system components or similar wall-mounted equipment shall *not* be installed in food storage rooms unless adequate approved provision is made to compensate for the space required for the installation.

9. RESTROOMS:

- a. The sink should be provided with hot and cold running water from a pre-mixing faucet. Soap and sanitary towels in a single service, permanently installed dispenser(s) shall be provided at the handwashing sink.
- b. Toilet tissue should be provided in a permanently installed dispenser at each toilet.
- c. The restrooms should be provided with tight-fitting, self-closing doors.

10. EQUIPMENT:

- a. All show and 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 so constructed and installed as to be easily cleanable.
- b. All equipment should be placed on minimum six (6) inch high, easily cleanable legs, or on a four (4) inch high, continuously coved curb, or on approved casters, or cantilevered from the wall in an approved manner.

11. CONDUIT:

- a. All plumbing, electrical and gas lines shall be concealed within the building structure to as great an extent as possible. Where this is not possible, all runs shall be at least 1/2 inch away from the walls or ceiling, and six (6) inches off the floor.

- b. Where conduit or pipelines enter a wall, ceiling or floor, the opening around the line shall be tightly sealed.
- c. Conduit or pipelines shall *not* be installed across any aisle, traffic area or door opening.
- d. Multiple runs or clusters of conduit or pipelines shall be furred in, and encased in an approved runway or other sealed enclosure approved by this Agency.

12. ICE MACHINES:

All ice machines should be located within the building in an easily cleanable, well-ventilated area, and shall be drained to a floor sink.

13. GARBAGE DISPOSALS:

This Agency does not regulate garbage disposals. Most building departments and/or sanitation agencies prohibit the installation of garbage disposals. Contact your local building and your local sanitation agency for limitations within your area.

14. GREASE TRAPS AND GREASE INTERCEPTORS:

This Agency does not regulate the installation of grease traps or grease interceptors. If you do decide to install one, please indicate its location on the plan and contact your local building department for design, construction, installation and approvals.