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Community Health Board
Public Health
Prevent. Promote. Protect.

Kandiyohi-Renville Community Health Board

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FOOD SERVICE CONSTRUCTION GUIDE

Minnesota Statutes, section 157.16 states that: “any person wishing to operate a place of business licensed in this section shall first make application, pay the required fee, and receive approval for operation, including plan review approval.”

Minnesota Rules, part 4626.1720 states that:

“A. A license applicant or licensee shall submit properly prepared plans and specifications and the required plan review fee, to the regulatory authority for plan review and approval before beginning:

- (1) the construction of a food establishment;
- (2) the conversion of an existing structure for use as a food establishment; or
- (3) the extensive remodeling of a food establishment or a change of type of food establishment or food operation if the regulatory authority determines that plans and specifications are necessary to ensure compliance with the Code.

B. Plans, specifications, an application form, and the fee specified in part [1547.0110](#) *, subpart 2, and Minnesota Statutes, chapter 31 or 157, shall be submitted to the regulatory authority **at least 30 days before beginning construction**, extensive remodeling, or conversion of a food establishment.

C. Special event food stands and retail food vehicles, portable structures, or carts are exempt from the requirement to submit plans and specifications.

D. The regulatory authority shall approve the completed plans and specifications if they meet the requirements of the Code, and the regulatory authority shall report its findings to the license applicant or licensee within 30 days of the date the completed plans are received.

E. Plans and specifications that are not approved as submitted shall be changed to comply or be deleted from the project.”

Minnesota Rules, part 4626.1725 states that:

“A. The plans and specifications for a food establishment shall include:

- (1) the intended menu;
- (2) the anticipated volume of food to be stored, prepared, and sold or served;
- (3) the proposed layout, mechanical schematics, construction materials, and finish schedules;
- (4) the proposed equipment types, manufacturers, model numbers, locations, dimensions, performance capacities, and installation specifications;
- (5) a complete set of elevations and drawings for all custom fabricated equipment;
- (6) a functional flow plan indicating how food will be handled; and
- (7) other information that may be required by the regulatory authority for the proper review of the proposed construction, conversion, or modification.

B. Used equipment shall be equivalent to the standards specified in parts [4626.0450](#) to [4626.0975](#) and approved by the regulatory authority before use.”

Minnesota Rules, part 4626.1750 states that: “The food establishment shall provide notice of opening to the regulatory authority at least 14 calendar days before the opening date.”

Minnesota Rules, part 4626.1770 (C) states that: “To qualify for a license, an applicant shall pay the applicable license fees at the time the application is submitted.”

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PLANS AND INSPECTIONS

Kandiyohi County Public Health must approve plans before any construction may begin.

*****PLAN SUBMITTAL MUST INCLUDE:**

- A completed plan review application with the required fee.
- One complete set of plans (drawn to scale) including site, building, floor, plumbing, and mechanical schematics. Seating capacity must also be indicated. Include well (unique well number) and septic system (current certificate of compliance) information if applicable.
- Finish schedules for walls, ceilings, floors, and base coving.
- An equipment layout plan including complete equipment identification corresponding to equipment list.
- One complete set of elevations and shop drawings for all custom equipment by an NSF-listed fabricator.
- One complete set of equipment specifications indicating manufacturer and model number. All food service equipment shall be listed by either NSF International (NSF), Edison Testing Laboratories (ETL), Canadian Standards Association (CSA) as meeting applicable NSF International standards for sanitation. Food service equipment listed by Underwriters Laboratory (UL) is also approved as meeting NSF International Standards 2, 3, 4, 5, 6, 7, 8, 12, 13, 18, 20, 25, 29, 35, 51, 59 and C-2. **See Attachment A in Appendix.*
- Used equipment must be evaluated and approved prior to installation by the sanitarian.
- A proposed menu.
- Counters and cabinetry shop drawings indicating cabinet construction and countertop finish.

Submit Food and Beverage Service plans to:
Kandiyohi-Renville Community Health Board
2200 23rd St. NE, Suite 1080
Willmar, MN 56201
(320) 231-7860 ext. 2535

Or
Kandiyohi-Renville Community Health Board
105 South 5th St., Suite 119H
Olivia, MN 56277
(320) 523-2570

Allow at least 30 working days for plan review approval. Plans must be approved before constructing, enlarging, altering, or converting any building for use as a food service establishment. Starting construction prior to approval may result in costly corrections and delayed openings. If any changes are proposed after this Department approves the plans, written changes or additional plans may be required in writing to receive approval.

Plumbing plans must be submitted to:

Minnesota Department of Labor and Industry
Engineering and Plumbing Unit
443 North Lafayette
St. Paul, Minnesota 55155
651/284-5067
<http://www.doli.state.mn.us/plumbing.html>

Pre-Opening Inspections

You are required to give a minimum of **14 days notice** to the Public Health Department prior to the opening date. All license applications and fees must be submitted before the opening inspection. You may not operate until applications and fees are submitted and final approval is given. (MN Statutes, section 157.16)

Certified Food Manager Requirements

A Certified Food Manager (CFM) is required at most foodservice facilities.

The CFM must be employed fulltime or on duty during food preparation. The CFM must have the authority to take corrective action, as needed, to protect the health of the consumer.

If you need more information regarding this requirement, it is available on the MDH Web site at <http://www.health.state.mn.us/divs/eh/food/fmc/index.html> or call (651) 201-4500.





Important Reminders About Code Compliance

- Contact your local or county zoning office for information about zoning requirements.
- Contact your local or county building official for information about necessary permits.

EQUIPMENT

All food service equipment shall be constructed to conform to standards of NSF International regarding design, materials, workmanship, and installation (Minnesota Rules, Chapter 4626.0505, items A-K).

The most common certifying groups for equipment, which meet NSF standards, are:

Certifying Group	Mark
NSF International (NSF)	
Intertek Marked "ETL Sanitation."	
Underwriters Laboratory (UL) Marked "classified UL EPH."	
Canadian Standards Association (CSA) Marked "CSA sanitation to NSF/ANSI."	

Installation

- 1. Table-Mounted Equipment:** Table-mounted equipment shall be installed in one of the following methods:
 - A. Mounted on legs with a sanitary design of sufficient height to ensure a minimum four inches of unobstructed clearance beneath the unit. The clearance space between the table and table-mounted equipment may be:
 - I. Three inches (7.5 centimeters) if the horizontal distance of the table top under the equipment is no more than 20 inches (50 centimeters) from the point of access for cleaning, or
 - II. Two inches (5 centimeters) if the horizontal distance of the table top under the equipment is no more than three inches (7.5 centimeters) from the point of access for cleaning.
 - B. Designed to be portable and equipped with:
 - I. Flexible utility connections, adequate in length to clean around and behind the equipment.
 - II. Flexible utility connections and quick disconnects.
 - C. Sealed to the counter or shelf.

- 2. Floor-Mounted Equipment:** (For example: reach-in refrigerators, free-standing mixers, ovens.) Floor-mounted equipment shall be installed in one of the following methods:
 - A. Mounted on legs with a sanitary design of sufficient height to ensure a minimum six inches of unobstructed clearance beneath the unit.
 - B. If no part of the floor under the floor-mounted equipment is more than 15 centimeters (six inches) from the point of cleaning access, the clearance space may be 10 centimeters (four inches).
 - C. Installed with casters, rollers, or gliders and equipped with:
 - I. flexible utility connections, adequate in length to clean around and behind the equipment.
 - II. flexible utility connections and quick disconnects.
 - D. Sealed to the floor or placed on a raised masonry or concrete base at least 4” high with approved basecoving installed.
 - I. If a solid masonry base is used, the cabinet must overhang the base by at least 1”, but not more than 4”.
 - II. The appropriate basecove of the same flooring material must be installed.

- 3. Food Preparation Sinks:** Sinks used for the preparation, washing, thawing, rinsing of food product. A separate food preparation sink is required if food product will be washed or thawed using a sink.
 - A. An integral drain board should be provided on the food preparation sink for each basin.
 - B. Every food preparation sink shall be equipped with a tell-tale floor drain to indicate a sewer back-up in the sanitary sewer line.
 - C. Food preparation sinks and three-compartment sinks shall not be installed in plastic-laminated counters (per NSF Standard 2, Part 5.38.4).

- 4. Refrigeration:** Mechanical refrigeration meeting NSF standards is required for potentially hazardous foods.
 - A. All refrigeration units, including prep tables and salad bar units, shall maintain potentially hazardous food at the required temperature of 41°F or below.
 - B. Integrally mounted thermometers shall be accurate to plus/minus 2°F. An additional free-standing thermometer is recommended inside the unit for verification.
 - C. Condensate from walk-in refrigeration equipment shall be drained to a floor drain located outside of the unit, or the unit shall be equipped with an evaporator pan.

5. Walk-In Refrigerators/Beer Coolers/Freezer

- A. Walk-in refrigerators or freezers shall meet NSF international standards or equivalent.
- B. Walk-in refrigerators or freezers installed without prefabricated floors shall have a pre-approved floor and basecove installed on a smooth concrete surface. An insulated floor is required for walk-in freezers. Galvanized materials are not permitted in walk-in refrigerators and freezers.
- C. In beer refrigerators **with no food storage**, diamond aluminum tread-plate or an epoxy resin surface installed on a smooth concrete surface are acceptable finishes.
- D. A base is required which should be stainless steel, manufacturers pre-fabricated vinyl screed or a material matching the finish of the cooler floor. Vinyl bases are not acceptable. A quarry tile base may only be used when placed against a rigid foam-filled cooler wall with the screed securely fastened to the floor.
- E. The base shall provide a ¼-inch radius at the floor juncture and should be sealed to the floor.
- F. All joints and panel attachment areas shall be sealed with food grade silicone caulk or equivalent. See manufacturers' installation instructions.
- G. Shelving shall meet NSF standards for cold storage use and be corrosion resistant. Chrome-plated, zinc and galvanized shelving shall not be permitted in refrigeration.
- H. Each walk-in unit must be equipped with lighting that provides at least 10 foot candles measured 30 inches above the floor throughout the unit.

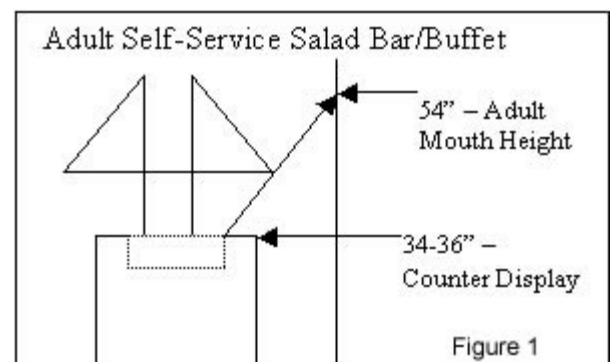
6. Special Equipment

- A. **Dipper wells:** Dipper wells, with running water, are required when bulk ice cream is dispensed. A dipper well may also be required for other in-use food scoops that are not appropriately stored in the food product. The dipper well shall be located adjacent to the proposed area of use. The water line shall have an approved air gap (see UTILITIES). The dipper well shall be indirectly wasted to a floor drain or trapped waste line.
- B. **Single-service articles:** Articles that are intended for food contact or lip contact shall be furnished for consumer self-service with the original individual wrapper intact or from an approved dispenser.

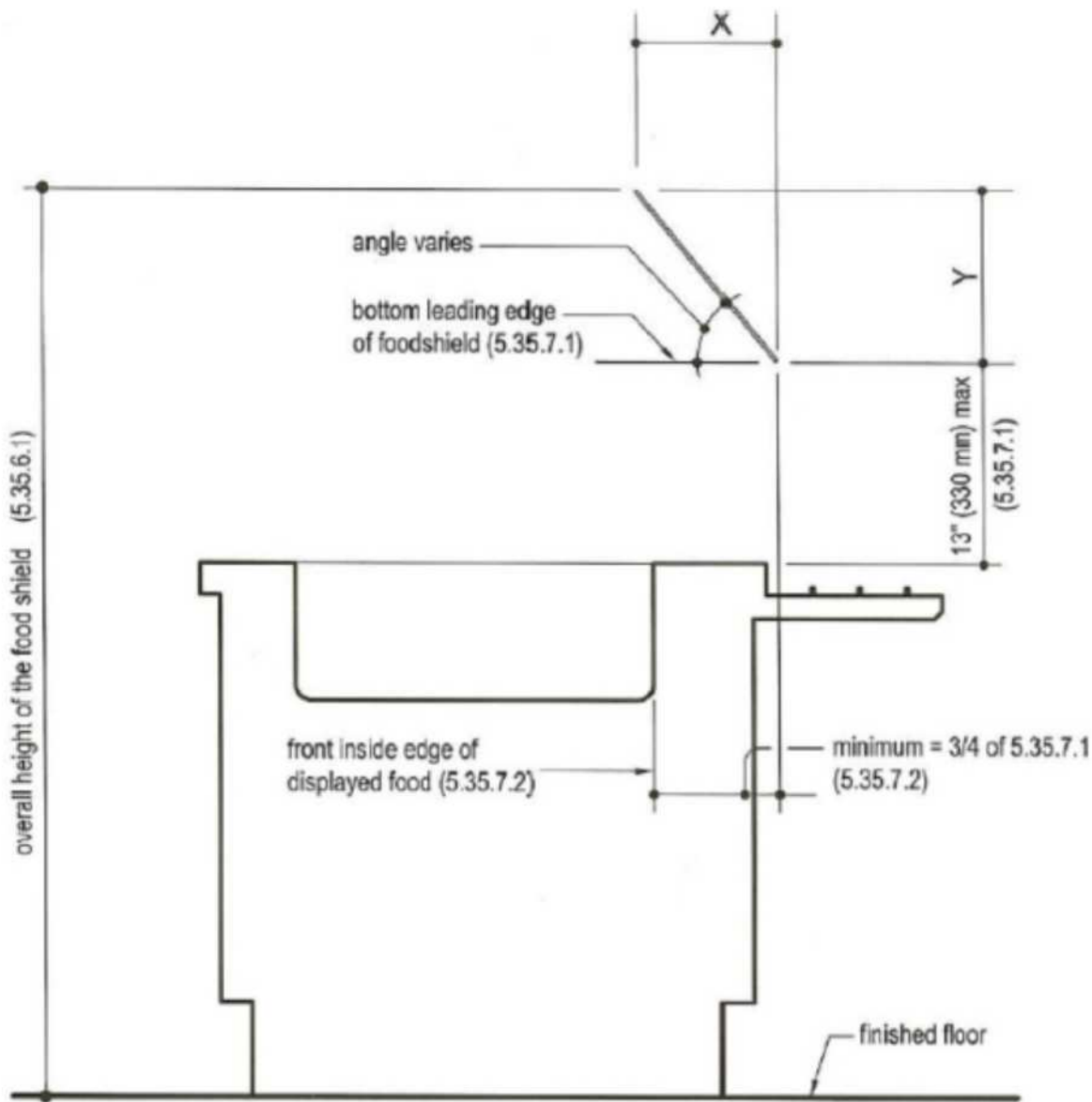
7. Customer Self-Service Equipment

- A. Self-service beverage dispensers should be push-button operated. Any lever-activated dispensers shall be designed to protect the lip contact surface of the drinking vessel.
- B. Salad bars and buffets shall utilize mechanical refrigeration/hot-holding, approved food shields (sneeze guards or equivalent), and shall be indirectly wasted to a floor drain. Salad bars and buffets shall be located on a smooth, durable, easily cleanable floor, or equivalent, which extends three feet beyond the edge of the salad bars and buffets.

- C. Food on display for self-service or otherwise shall be protected from consumer contamination by using easily cleanable counter protector devices, display cases, and similar equipment. These devices shall be designed and installed to intercept the direct line between the mouth of the customer and the foods on display. **(FIGURE 1)**



- D. Customer self-service buffets with hot or cold holding units must meet minimum requirements for food contact surface finishes. For example, stainless steel, solid surface or equivalent. Plastic laminate is not acceptable.



Example 1 – Self Service Food Shield

Alcohol (Bar) Service Facilities

- A. At least one hand washing sink is required and shall be equipped with fingernail brush, dispensable soap and single service towel dispenser. The hand wash sink should be accessible for wait staff.
- B. All refrigeration units shall meet NSF standards. Refrigerators meeting NSF standard No. 2 shall be permitted for the storage of pre-packaged food, or canned or bottled products only. All other refrigerated food shall be stored in a unit meeting the requirements of NSF standard No. 7.
- C. A glass washer, or three-compartment sink with two integral drain boards, is required for glass washing. A separate dump sink shall be provided. If a four-compartment sink is used, the first compartment may be used as the dump sink.
- D. Shielded lighting shall provide at least 20 foot-candles measured 30 inches above the floor on food contact and dishwashing surfaces, including under-counter areas.
- E. Ice bins shall be self-draining into an indirect waste in compliance with the Minnesota Plumbing Code

Chapter 4715. Ice for consumption shall be stored separately from ice used for cooling bottles and condiments.

- F. Separate drop-in cold plates in ice bins for cooling beverage lines are **not** permitted. All cold plates shall be integrally formed into the ice bin unit.
- G. Liquor storage requirements are the same as for dry food storage rooms. If alcohol/mix dispensing equipment is installed in the liquor storeroom, storage requirements are the same as for food preparation areas, except the ceiling shall have an easily cleanable finish.
- H. All interior surfaces of the bar shall be smooth and accessible for cleaning (See Table 1, page 11). Identified splash zones behind a bar must be finished with durable, nonabsorbent materials.
- I. If wood is to be used as the bar top, it should be a hard-wood, such as maple or oak, and be finished with a minimum of three coats of polyurethane or equivalent.
- J. Stone or tile finished bar tops shall have an approved sealer applied to render the surface impervious to liquids and grease.

Beverage Dispensing Equipment

- A. Beverage lines shall be run inside the walls of the bar counter, when possible.
- B. Beverage lines extending through a floor or wall shall be installed so they do not obstruct the cleaning of floors and walls.
- C. Beverage dispensing guns and drains shall not be installed directly over food, ice or clean glassware.
- D. An approved stainless steel backflow preventer shall be installed on post-mix carbonated beverage systems. A backflow preventer shall be located in the water line to the carbonator, preferable between the pump and the carbonator. However, in units that have the pump within an enclosure along with the carbonator, the backflow preventer should be located in an accessible and visible location outside the enclosure. There shall be no copper tubing used after the backflow preventer.

Wait Stations/Service Counters/Cabinetry within the Food Service Area: Food service counters are not considered a food contact surfaces and Table 1, page 11 outlines the finishes for food service counters and food contact surfaces.

- A. Custom fabricated cabinets used in the wait station, alcohol service area, or customer self-service area must be finished with plastic laminate that meets NSF Standard No. 35. All exposed surfaces of the cabinets(s), including the underside of the cabinet, must be finished with plastic laminate or

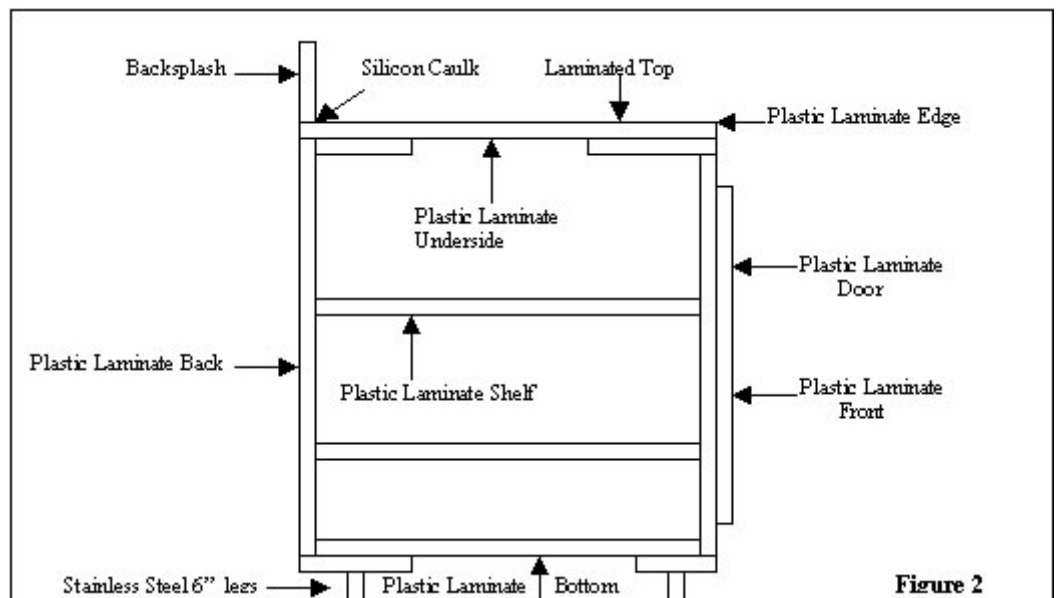


Figure 2

equivalent. If food is to be prepared directly on the work surface of the wait station (indicating a food preparation area), a stainless steel top or equivalent that meets NSF Standard No. 2 must be provided. **(FIGURE 2)**

- B. Cut outs in millwork shall be sealed by the fabricator.

- C. All counters shall be on six-inch NSF legs or on a solid masonry base at least 4” high with approved base cove installed. **Enclosed hollow bases are not permitted.**
- D. Ice bins shall be equipped with protective covers and shall be self-draining into an indirect waste.
- E. The inner cabinet bottom shall be removed below ice bins and hand sinks installed in a plastic laminate base.
- F. Food preparation sinks or three-compartment sinks shall not be installed in plastic laminated counters.

Counter Top/Base Cabinet Construction in Wait Stations and Customer Service Areas ONLY

Table 1

Equipment Type	Laminated Top Laminated Base	Stainless Top Laminated Base	Stainless Top Stainless Base
Coffee	Yes	Yes	Yes
Milk	Yes	Yes	Yes
Pop	Yes	Yes	Yes
Ice Bins	No	Yes	Yes
Hand Sink	No	Yes	Yes
Glass Racks	Yes	Yes	Yes
Cold Drop-In	No	Yes	Yes
Hot Drop-In	No	Yes	Yes
Display Merchandiser (Popcorn, Pizza)	Yes	Yes	Yes
Drawer Warmer	No	Yes	Yes
Counter Top Warmer (Soup, Sauces)	No	Yes	Yes
Slicers	No	Yes	Yes
Blenders	No	Yes	Yes
Cutting Boards	No	Yes	Yes
Cooking Equipment (Fryer, Grill, Hot Plate, Waffle Iron)	No	No	Yes
Food Processor, Mixer, Chopper	No	No	Yes
Pop-up Toaster	Yes	Yes	Yes
Food Preparation Sink	No	No	Yes
Microwave	Yes	Yes	Yes
Refrigerator/Freezer	Yes	Yes	Yes

ROOM AND AREA FINISHES

Areas of the operation conducting food preparation, dry goods storage, dishwashing areas, toilet rooms and janitorial rooms shall be finished in materials that are smooth, durable and easily cleanable for areas where food establishment operations are conducted and non-absorbent for walk-in refrigeration, ware washing areas, toilet rooms, servicing areas, hand wash areas, janitorial areas and other areas exposed to moisture (Minnesota Rules, Chapter 4626.1325, items A-B).

Floor, Basecoving, Walls and Ceilings Finish Schedule

Table 2

Area of Establishment	Floor			Basecoving			Walls					Ceilings				
	Stainless Steel	Quarry/Ceramic Tile	Epoxy Resin Flooring System	Vinyl	Coved Ceramic/Quarry	Stainless Steel	Stainless Steel	Ceramic Tile	Fiberglass Reinforced Panel	Epoxy Painted Drywall	Epoxy Painted Concrete Block	Metal Clad Tile	Semi-Gloss Painted Drywall	Vinyl Coated Acoustic Tiles	Acoustical Tiles	Open Joists & Rafters
Food Prep Area		X	■		X	X	X	X	X		X	X	X	X		
Cooking Area		X	■		X	X	X	X	X			X	X	X		
Dish-wash Area		X	■		X	X	X	X	X			X	X	X		
Walk-In Refrigeration	X	X	■		X	X	X									
Beer Cooler	X	X	■		X	X	X									
Toilet Room		X	■	X	X	X	X	X	X		X	X	X	X		
Janitorial Room		X	■		X	X	X	X	X		X	X	X	X		
Laundry Area		X	■	X	X	X	X	X	X	X	X	X	X	X		
Buffet		X			X	X	X	X	X		X	X	X	X		
Wait Station		X	■		X	X	X	X	X		X	X	X	X		
Hand-wash Area		X	■		X	X	X	X	X		X	X	X	X		
Bar Service		X	■		X	X	X	X	X		X	X	X	X		
Dry Storage Room		X	■		X	X	X	X	X		X	X	X	X		
Dressing Rooms		X	■	X	X	X	X	X	X	X	X	X	X	X	X	X

Shaded areas are not allowed.

X-approvable

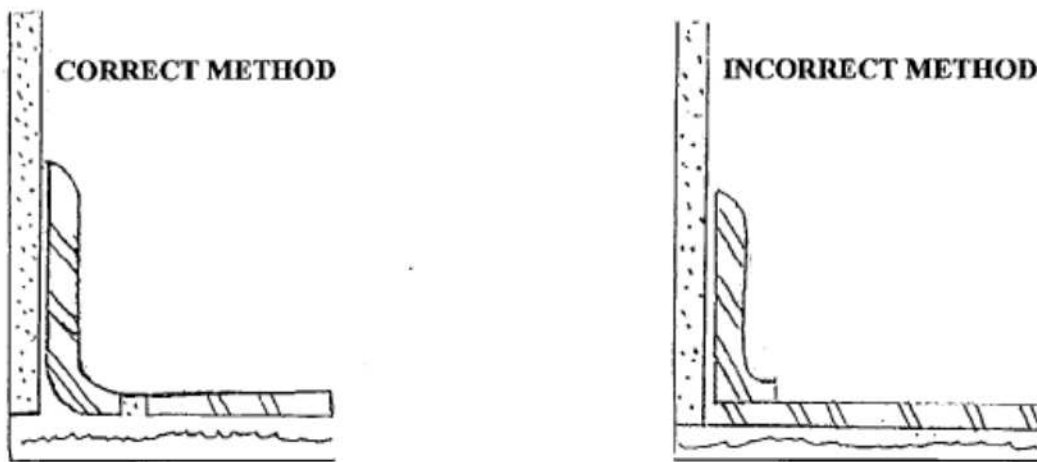
■-All epoxy resin flooring systems must be pre-approved by the health authority prior to installation. Any proposed for installation shall be capable of coving up to 6 inches.

*Fiber-glass re-enforced panels

****Specifications and samples of materials other than those listed in table 1 must be submitted for review.**

1. **Floors:** Floors shall be constructed of smooth, durable, nonabsorbent, grease-resistant, and easily cleanable material. Tile grout shall be a water-resistant material, polyurethane or epoxy based, not exceeding ¼ inch wide.
 - A. In food establishments using cleaning methods other than water flushing or pressure washing, the floor and wall junctures shall be coved and closed to no larger than one millimeter (1/32 inch).
 - B. Floors in food establishments in which water flushing or pressure washing cleaning methods are used shall be graded to drain with floor drains; the floor/wall junctures shall be coved and sealed.
2. **Basecoving:** Floor and wall junctures shall be coved and sealed with appropriate materials. Equipment installed on masonry base shall be coved at the junction of the platform and the floor with at least ¼” radius

Appendix #2 - Coved Base



3. **Walls:** Wall surfaces in dishwashing, storage and food preparation areas shall be smooth, light-colored, easily cleanable and nonabsorbent to the highest level of splash or spray.
 - A. Stainless steel or equivalent materials must be installed behind the cooking line.
 - B. Block walls must be smoothly troweled and finished with a minimum of epoxy or enamel paint to provide a smooth, nonabsorbent surface equivalent to an orange peel finish.
4. **Ceilings:** Ceilings should be smooth, nonabsorbent, light-colored, and capable of withstanding frequent cleaning. Fissured, perforated or rough acoustical tile is **not** permitted.

Walk-in Refrigeration

1. Walk-in refrigerators or freezers installed without prefabricated floors shall have a pre-approved floor and basecove installed on a smooth concrete surface. Galvanized materials are not permitted in walk-in refrigerators and freezers. In beer refrigerators with no food storage, diamond aluminum tread-plate, sealed concrete or an epoxy resin surface installed on a smooth concrete surface are acceptable finishes. An insulated floor is required for walk-in freezers.

2. A basecove is required which should be stainless steel, manufacturers pre-fabricated vinyl screed or a material matching the finish of the cooler floor. Vinyl bases are not acceptable. A quarry tile base may only be used when placed against a rigid foam-filled cooler wall with the screed securely fastened to the floor.
3. The basecove shall provide a ¼-inch radius at the floor juncture and should be sealed to the floor.

Wait Areas

1. **Floors:** The floor material underneath and extending outward a minimum of three feet from the counter at any food pick-up station, or station equipped with plumbing, shall be constructed of smooth, durable, non-absorbent and easily cleanable material.
2. **Walls:** Walls shall be smooth, nonabsorbent, easily cleanable, and durable.
3. **Ceiling:** Ceilings shall be smooth, nonabsorbent, light-colored, and washable, except wait stations within a dining room where the dining room ceiling finish may be used.

Alcohol (Bar) Service

1. **Floor and Base:** Floor and base materials shall meet the same requirements as a food preparation area.
2. **Walls:** See page 12 for additional information.
3. **Ceiling:** Ceilings are required over the preparation and service area of the bar. Ceilings shall be smooth, nonabsorbent, light-colored, and washable.

Dining Rooms

Floors may be covered by carpeting, provided it is commercial, closely woven construction.

Customer Self-Service Areas (Buffets and Salad Bars):

1. **Floors:** The floor underneath and extending three feet from any serving side of buffets and salad bars located in the dining area shall meet the same requirements as FOOD PREPARATION area.
2. **Base:** The base shall meet the same requirements as FOOD PREPARATION area.
3. **Walls:** When the buffet or salad bar is placed against a wall, the wall shall be smooth, nonabsorbent, durable and washable.

STORAGE FACILITIES

Food, Equipment, Utensils and Linen Storage

1. Separate storage areas are required for clean equipment and utensils on approved shelving at least six inches off the floor. Pegboard is not acceptable. Utensil racks may **not** be located in areas subject to contamination such as adjacent to or over sinks or preparation areas.

2. Food, beverages and single service shall be protected from contamination by storing the food:
 - a. in a clean, dry location; and
 - b. where it is not exposed to splash, dust, or other contamination.
3. Food, beverages and single service shall not be stored:
 - a. In a locker room;
 - b. in a toilet room;
 - c. in a dressing room;
 - d. in a garbage room;
 - e. in a mechanical room;
 - f. under a sewer line that is not shielded to intercept potential drips;
 - g. under a leaking water line, including a leaking automatic fire sprinkler head, or under a line on which water has condensed;
 - h. under an open stairwell;
 - i. under any other source of contamination.
4. An adequate area shall be provided for clean linen storage, where the linen will be protected from contamination. Clean linen shall be stored on shelving that is smooth and easily cleanable and at least six inches above the floor.
5. Soiled linens shall be kept in clean, nonabsorbent receptacles or clean, washable laundry bags and stored and transported to prevent contamination of food, clean equipment, clean utensils, and single-service and single-use articles.
6. Laundered linens and single-service and single-use articles that are packaged, in a cabinet or similar facility, may be stored in a locker room.

Food and Single-Service Dry Storage

1. Case Lots

- A. Food in packages and working containers may be stored less than six inches (15 cm) above the floor on case lot handling equipment.
- B. Pressurized beverage containers, cased food in waterproof containers (including bottles or cans), and milk containers in plastic crates may be stored on a floor that is clean and not exposed to floor moisture.
- C. Dollies, pallets, racks, skids, and other equipment used to store and transport large quantities of packaged foods received from a supplier in a cased or over-wrapped lot, shall be designed to be moved by hand trucks, forklifts, or other conveniently available equipment.

2. Open Case Storage

- A. Food shall be protected from contamination by storing the food at least 15 centimeters (six inches) above the floor.
- B. Shelving must meet NSF standard No. 2.

Toxic Supplies Storage

1. Poisonous or toxic materials shall be stored so they cannot contaminate food, equipment, utensils, linens, and single-service and single-use articles by:
 - A. separating the poisonous or toxic materials by spacing or partitioning; and

- B. locating the poisonous or toxic materials in an area that is not above food, equipment, utensils, linens, and single-service or single-use articles.

- 2. The janitorial station may be used for chemical storage.

HANDWASHING FACILITIES

- 1. A minimum of one hand washing sink that is easily accessible to all employees in food preparation, bar service, ware washing areas and toilet rooms shall be provided. The number of hand washing sinks required is determined by a number of factors, including size of facility and employee accessibility.
- 2. All hand washing sinks shall be conveniently located and used for no other purpose.
- 3. Each hand washing sink shall be provided with hot and cold water tempered by means of a mixing valve or combination faucet capable of providing a minimum temperature of 110° F. For daycares, the maximum hot water temperature for hand sinks is 120 ° F. Any self-closing or metering faucet used shall be designed to provide a flow of water for at least 15 seconds without the need to reactivate the faucet.
- 4. Each hand washing lavatory or group of two adjacent lavatories shall have available:
 - A. a supply of hand cleaning liquid, powder, or bar soap; and
 - B. a nailbrush at the hand washing lavatory used by employees.
- 5. Each hand washing lavatory or group of adjacent lavatories shall be provided with:
 - A. individual, disposable towels;
 - B. a continuous towel system that supplies the user with a clean towel (for restrooms only); or
 - C. a heated-air hand-drying device. A heated-air hand drying device shall not be the only device provided at a sink used by food employees in a food preparation or ware washing area;
 - D. A waste receptacle shall be provided for each hand washing lavatory or group of adjacent lavatories that is provided with individual, disposable towels.
- 6. If unpackaged food and/or clean equipment and utensils are in close proximity to a hand washing sink, the food and equipment must be protected from splash from the hand sink by use of splash shields.

TOILET ROOMS

- 1. **Floor, Base, Wall and Ceiling:** All room finishes shall meet the same requirements as FOOD PREPARATION area to a height of four feet. *See table 1 on page 13.*
- 2. At least one toilet, and not fewer than the number of toilets required by Minnesota Plumbing Code Chapter 4715, shall be provided. In accordance with Minnesota Plumbing Code Chapter 4715, urinals may be substituted for toilets if more than the required minimum number of toilets is provided.
- 3. At least one hand washing sink shall be conveniently located within all toilet rooms.
- 4. A toilet room located on the premises shall be completely enclosed and provided with a tight-fitting and self-closing door. This part does not apply to a toilet room that is located outside a food establishment and does not open directly into the food establishment, including a toilet room that is provided by the management of a shopping mall.

5. Each toilet room shall be equipped with an exhaust fan vented to the outside.
6. Women's toilet rooms shall have a minimum of one covered waste container for sanitary napkin disposal.
7. Refuse containers are required for the disposal of any hand towels, if provided for hand drying.

JANITORIAL STATION

1. Janitorial station room finishes shall meet the same requirements as stated for the FOOD PREPARATION area.
2. An area shall be designated for the proper storage of maintenance equipment and cleaning supplies. At least one janitorial station shall be provided. The janitorial station should be conveniently located for maintenance of food service areas, but shall be separated from food preparation and food storage areas.
3. At least one service sink or one curbed cleaning facility equipped with a floor drain must be provided and conveniently located for cleaning mops or similar wet floor cleaning tools and for disposal of mop water and similar liquid wastes. The service sink or cleaning facility must include a faucet accessible for supply of water.
4. The sink shall be connected with a drain to the sanitary sewer. Hot and cold water, under pressure, with a mixing faucet and necessary backflow protection is required.
5. Facilities shall be provided to allow mops to air-dry without soiling walls, equipment or supplies. A mop hanger and broom rack shall be provided to elevate items such as mops, brooms and dustpans off the floor.
6. When a chemical dispensation system is installed at the mop sink or the three-compartment sink, it shall be installed and inspected according to Minnesota Plumbing Code.

UTILITIES

Plumbing

All plumbing shall be installed in accordance with the Minnesota State Plumbing Code. In municipalities where no plumbing delegation agreement exists, a copy of the plumbing plans must be submitted for review. *See page 6 for contact information.*

Utility Service Lines

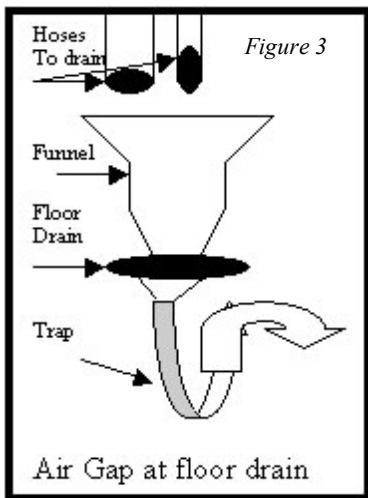
1. Utility service lines and pipes shall not be unnecessarily exposed.
2. Exposed utility service lines and pipes shall be installed so they do not obstruct or prevent cleaning of the floors, walls, or ceilings.
3. Exposed utility service lines and pipes shall not be installed directly on the walls or floor, except:

- A. quick disconnect gas hoses approved by the American Gas Association or NSF International; and
- B. flexible cords/caps for commercial cooking equipment on casters, listed by Underwriter's Laboratory.

Potable Water Backflow Protection

1. Water inlets shall have an air gap between the water inlet and the flood rim of the fixture. The air gap shall be two times the diameter of the water inlet or faucet. Any water inlet or faucet that does not meet this requirement shall be considered a submerged inlet. Any water inlet to which a hose can be attached shall be considered a submerged inlet.
2. Vacuum breakers shall be installed on any submerged inlet such as toilets, urinals, dishwashers, garbage grinders, and any threaded water outlets. Toilets must have anti-siphon ball cock assemblies.
3. Double check valves with atmospheric vents or reduced zone backflow preventers are required on any water outlet on which a vacuum breaker cannot be installed after the last shut-off valve or solenoid switch (e.g. pressure spray hoses).
4. Backflow prevention shall be located in the water line to the carbonator, preferably between the pump and the carbonator. (See page 9 for more information on beverage dispensing equipment.)
5. Chemical dispensing systems shall have approved backflow devices, such as Watts 800 series.

Indirect Waste Connections



1. An indirect waste connection discharges waste through a trap and an air gap into the sewer system. Refrigeration equipment (including walk-in refrigerators and freezers, ice machines, steam tables, steam cookers, ice bins, salad bars, dipper wells) and other similar fixtures shall be indirectly wasted to the sewer.
2. The air gap between the indirect waste and the building drainage system subject to negative pressure shall be at least twice the effective diameter of the drain served, but no less than one inch. All other air gaps shall be at least one inch. **(FIGURE 3)**
3. Indirect waste pipes shall not discharge into hand sinks, prep sinks or three-compartment sinks.

Water Supply

An adequate supply of potable water, to satisfy the needs of the food service establishment, shall be provided from a municipal water supply or non-community public water supply meeting the requirements of the Minnesota Well Code, Chapter 4725. A permit for constructing a well is required.

Water Heater

1. A water heater for food service meeting NSF standard No. 5 shall be provided and appropriately sized for the operation when located in the food preparation or ware washing area.
2. A water heater pressure relief valve is required and must end no more than 18 inches above the floor. The relief valve shall be directed to the sanitary sewer.

3. Water heaters over six gallons may not be installed elevated more than 6” above the floor. Water heaters shall be accessible at all times.

Water Softener

1. A water softener shall be installed with an appropriate air gap.
2. A water softener shall be installed at least six inches off the floor if located in an area of food preparation or ware washing.

Sewage Disposal

All water-carried sewage shall be dispensed to a municipal sewer system or to an on-site (septic) sewage treatment system meeting the requirements of the Minnesota Pollution Control Agency (MPCA), Chapter 7080. A permit for constructing an on-site system is required. Plans for large systems must be submitted to MPCA for review and permitting. <http://www.pca.state.mn.us/>

Grease Traps

Grease removal devices shall be installed in accordance with the Minnesota Plumbing Code, Chapter 4715. A grease trap shall be located to be easily accessible for cleaning.

Overhead Sewer Lines

1. Sewage and waste lines should not be located directly above food preparation, food display, food storage, or dishwashing and storage areas.
2. If sewer lines must be installed over the areas listed above, they shall be equipped with a functional seamless pan or gutter, which is open at the ends and pitched to carry any leakage away from the food or utensil areas.

DISHWASHING

Manual Dishwashing

1. A three-compartment sink with integral self-draining drain boards on each end is required. The sink shall meet NSF standards. Each compartment shall be large enough to allow complete immersion of the largest utensil or piece of equipment.
2. A scrapping area is required.
3. When hot water is used for sanitizing, the following facilities shall be provided:
 - A. An integral heating device or fixture that meets NSF standard No. 5 installed in, or under, the sanitizing (third) compartment of the three-compartment sink, capable of maintaining the water at a minimum temperature of 170° F;
 - B. A numerically scaled indicating thermometer accurate to plus or minus 2° F, integral to the sink, that can be used for frequent checks of water temperature; and

- C. Dish baskets of such size and design to permit complete immersion of utensils in hot water.
- D. When chemicals are used for sanitizing, a test kit is required.

Mechanical Dishwashing

A dish machine is recommended for reusable dishes, flatware or glassware. It may be required for a large operation. All spray-type dishwashing machines shall conform to NSF standard No. 3.

- 1. A scrapping area is required.
- 2. A soiled dish table of adequate size for the proper handling of soiled utensils prior to washing shall be provided. (The soiled dish table shall not drain into the washing compartment of the dish machine.)
- 3. Mechanical exhaust ventilation shall be provided over **all** dishwashing machines, except under-counter and glass washers, to effectively remove steam and vapors.
- 4. Chemical sanitizing machines:
 - A. A sanitizer alert system shall be installed, which automatically warns the user by a warning light in a visible location or an audible alarm that the sanitizer supply has been depleted. This includes under-counter dish machines and glass washers.
 - B. Chemical sanitizing machines shall have space for, and a minimum of, **five** racks for drying utensils.
 - C. A test kit for the appropriate sanitizer is required
- 5. Hot water sanitizing machines:
 - A. A booster heater, meeting the requirements of NSF standard No. 5, is required if an integral, high-temperature water heating system is not installed to heat warm water (120°-140° F) to higher temperatures in order to supply 180°-195° F for the final rinse of the dish machine. The heater size shall be determined by the demand rinse of the dish machine.
 - B. Hot water sanitizing machines shall have space for a minimum of **three** racks for drying utensils.
 - C. Pressure measuring devices that display the pressure in the water supply line for the fresh hot water sanitizing rinse must have increments of 1 pound per square inch (PSI) (7 kPa) and must be accurate to 2 PSI (14 kPa) in the 15 to 25 PSI (100-170 kPa) range.

EMPLOYEE AREA

Dressing Rooms, Lockers and Break Areas

- 1. Dressing rooms or areas shall be designated if employees routinely change clothes in the establishment.
- 2. Lockers or other suitable facilities shall be provided for the orderly storage of employees' clothing and other possessions.
- 3. Lockers or other suitable facilities shall be located in a designated area where contamination of food, equipment, utensils, linens, and single-service and single-use articles cannot occur.

4. Designated employee break areas shall be located so that food, equipment, linens, and single-service and single-use articles are protected from contamination.

LAUNDRY FACILITIES

Mechanical Clothes Laundering

1. A mechanical clothes washer shall be used for the exclusive purpose of laundering wiping cloths, if no mechanical dryer is available.
2. A suitable area where there is no exposed food, clean equipment, utensils, linens, or unwrapped single-service or single-use articles for air-drying wiping cloths must be provided or cloths must be returned to sanitizing solution.
3. If a mechanical dryer is provided, it shall be located so that the dryer is protected from contamination and only in an area where there is no exposed food, clean equipment, utensils, linens, or unwrapped single-service or single-use articles.

SOLID WASTE & RECYCLABLE MATERIALS

Storage Areas

1. A sufficient area shall be provided for the storage of solid waste and recyclable materials. The area shall be separated from food preparation and storage areas.
2. An outdoor storage surface for refuse, recyclables and returnables shall be constructed of concrete, asphalt or other nonabsorbent material and should be smooth, durable and sloped to drain to the sanitary sewer.
3. Liquid waste from compacting shall be disposed as sewage. The drain when installed shall be connected to the sanitary sewer and the local sanitary district consulted.
4. If a garbage enclosure is proposed for installation, it shall be constructed of durable, non-absorbent materials, and provided with a washable finish capable of withstanding frequent cleaning. Enclosures shall meet local zoning and building codes.
5. Interior garbage storage and refuse rooms, if utilized, shall meet the same room and area finish requirements as a splash zone (food preparation area), and shall be equipped with hot and cold running water and a floor drain connected to the sanitary sewer. (May require minimal heat and ventilation.)

Trash Containers

Sufficient containers, with tight-fitting covers, shall be provided.

LIGHTING

Lighting Capacity

1. Any room or area in which food or beverages (other than alcoholic beverages) are prepared, or in which utensils are washed, should be provided with at least 50 foot-candles measured 30 inches above the floor. This requirement includes hoods over cooking equipment.
2. The interior of walk-in refrigerators and freezers should be provided with at least 10-foot candles measured 30 inches above the floor. Compliance with this recommendation usually requires a minimum of two fixtures. Lighting in walk-in refrigerators shall be placed so it is not obstructed by the normal storage of food on the shelves.
3. All bar sinks should be provided with at least 20-foot candles of light directly over the sink units at all times during operating hours. In addition, at least 30-foot candles of available lighting should be provided in the general bar area.
4. Food and utensil storage rooms, toilets, and dressing rooms shall be provided with at least 20-foot candles of light measured 30 inches above the floor.
5. All other rooms or areas shall be sufficiently lighted throughout with not less than 20-foot candles, measured 30 inches above the floor.

Breakage Protection

1. All light fixtures in food preparation, food display, food service, food storage, dishwashing and utensil storage areas shall be shielded, coated or otherwise shatter resistant.
2. Infrared or other heat lamps shall be protected against breakage by a shield surrounding and extending beyond the bulb, leaving only the face of the bulb exposed.

INSECT AND RODENT CONTROL

1. Except in temporary food establishments, openings to a portion of a building that is not part of the food establishment or to the outdoors shall be protected against the entry of insects and rodents by:
 - A. filling or closing holes and other gaps along floors, walls, and ceilings;
 - B. closed, tight-fitting windows; and
 - C. solid self-closing, tight-fitting doors.
2. If windows or doors are kept open for ventilation or other purposes, or the food operation is conducted in a temporary food establishment that is not provided with windows and solid doors, the openings shall be protected against the entry of insects and rodents by:
 - A. 16 mesh to 25.4 millimeters (one inch) screens;
 - B. properly designed and installed air curtains; or
 - C. other effective means.

3. Item 2 does not apply if flying insects and other pests are absent due to the location of the establishment, the weather, or other limiting condition.
4. Devices that are used to electrocute flying insects and that impel insect parts or insect fragments or to trap insects by adherence must be installed so that the device is not located over a food preparation area and dead insects and insect fragments are prevented from being impelled onto or falling on exposed food, clean equipment, utensils, linens and unwrapped single-service and single-use articles.

MINNESOTA CLEAN INDOOR AIR ACT (MCIAA)

A food establishment shall meet the requirements of the Minnesota Clean Indoor Air Act, Minnesota Statutes, sections 144.411 to 144.417, and rules adopted under those sections.

All entrances must be posted with no smoking signs.

Refer to the “Freedom to Breathe in Bars and Restaurant” handout or visit www.health.state.mn.us/divs/eh/indoorair/mciaa/ftb/index.html for more information.

VENTILATION

All cooking equipment that produces excessive heat, grease vapor, steam, fumes, smoke, condensation or odor shall be located under a local exhaust ventilation system. Visit www.mda.state.mn.us/dairyfood/ventguide.pdf for additional ventilation guidelines. Contact the local building official for ventilation requirements.

A. Exhaust Hoods

1. All rooms must have sufficient, tempered make-up air and exhaust ventilation to keep them free of excessive heat, steam, condensation, vapors, obnoxious or disagreeable odors, smoke, and fumes.
2. Ventilation hood systems or equivalents must be sufficient in number and capacity to prevent grease or condensation from collecting on the walls and ceilings.
3. Ventilation hoods must be constructed and installed in accordance with Minnesota Building code, the 2000 MN Mechanical Code (MN Rules, Chapters 1305 & 1346), NSF Standard No. 2 and the National Fire Protection Association (NFPA 96-2001).
4. All open sides of the ventilation hood must overhang equipment by **at least 6 inches**.
5. Heat generating devices must be provided with a ventilation hood. The *Minnesota Commercial Kitchen Ventilation Guidelines*, written by the Ventilation Committee of the Inter-Agency Review Council, suggests that any device with a BTU output of 12,000 BTU/hour (3.7kW) generates enough heat to require a ventilation hood.
6. Grease filters or other grease extracting equipment, used in a ventilation hood, shall be designed to be readily removable for cleaning and replacing if not designed to be cleaned in place.

7. Exhaust ventilation hood systems in food preparation and ware washing areas, including hoods, fans, guards, ducting, and other components, must be designed to prevent grease or condensation from draining or dripping onto food, equipment, utensils, linens, and single-service and single-use articles.
8. Above-counter mechanical ware washing machines may require a Type II ventilation hood to exhaust condensate and humidity. Under-counter machines and glass washers do not require a ventilation hood.

B. Make-up Air

1. Make-up units must be electrically interlocked with ventilation exhaust hoods.
2. Make-up air is provided to replace air approximately equal to air exhausted. Air is provided so as to not place the room under too great a negative or positive pressure.
3. A test performed by a certified test and balance professional must be conducted on the building. This is done to demonstrate that the establishment has a well-balanced ventilation system throughout the entire building while the ventilation hood exhaust fan(s) is operating during closed building conditions. The balance test should show that the kitchen pressure is slightly negative.