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Food Service Construction Guide

A quick food service guide for architects, builders, and restaurant owners to address the more common and/or new remodeling questions.

Washington County Locations

North Service Center
Washington County
Public Health & Environment
19955 Forest Road North
Forest Lake, MN 55025
Phone 651-275-7270

Government Center
Washington County
Public Health & Environment
14949 62nd Street North
PO Box 6
Stillwater, MN 55082
Phone 651-430-6655

South Service Center
Washington County
Public Health & Environment
13000 Ravine Parkway South
Cottage Grove, MN 55016
Phone 651-430-4036

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OVERVIEW

Purpose

The purpose of this guide is to provide assistance to owners, contractors, and architects in designing food service establishments to meet construction requirements of the Minnesota Food Code, MN Rules Chapter 4626.

This guidance document is designed to assist in facilitating the plan review process. Variations from the following may result in delays of approvals. Unique circumstances may require an additional variance application.

The licensee shall not begin operations until the Health Authority has conducted a final inspection and approved issuance of the food license. A food establishment found operating without a valid license may be assessed additional fees as determined by the fee schedule.

Plans

Submit Food Establishment plans to:

Washington County
Department of Public Health & Environment
14949-62nd Street N.
Stillwater, MN 55082

Allow at least 30 calendar days for plan review approval. Please send plans certified mail or equivalent if you need assurance they were received. **Plans must be approved before** constructing, enlarging, altering, or converting any building for use as a food service establishment. A city shall **not** issue a building permit until the plans have been approved by Washington County Public Health & Environment. Plans are reviewed in the order received. Plan submittal shall include:

- A completed plan review application with the required fee.
- One complete set of plans (drawn to scale) including site, building, floor, plumbing, lighting and mechanical schematics. Seating capacity must also be indicated. Include well (unique well number) and septic system (current certificate of compliance) information, if applicable.
- Room and/or area finish schedules for walls, ceilings, floors, and floor base.
- 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 a NSF- listed fabricator.
- Used equipment must be noted in the plan. Each piece must be individually evaluated and approved by the plan reviewer.
- One complete set of equipment specifications indicating manufacturer and model number.
- A proposed menu.
- A copy of the zoning approval from the local unit of government.
- HACCP submittal – if required based on food process. Additional fees for this review are required.

Incomplete plans will not be reviewed. The 30 day review period does not begin until the complete plan and fee are received. If any changes are proposed after this department approves the plans, a written description of the changes or revised plans are required and must be approved before construction.

The applicant must obtain all necessary plan reviews, permits and licenses for the establishment from the city with a delegated plumbing inspection program. These forms 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://workplace.doli.state.mn.us/jurisdiction/

Certified Food Protection Manager

All food establishments are required to employ a Certified Food Protection Manager (CFPM), except for those listed under the exemptions.

https://www.health.state.mn.us/communities/environment/food/cfpm/index.html

Pre-opening Inspections

The Health Authority shall inspect the food establishment as frequently as necessary during construction to ensure that construction occurs in conformance with MN Food Code 4626. The licensee shall not begin operations until the Health Authority has conducted a final inspection and approved issuance of the food license.

EQUIPMENT

All food service equipment must be approved by the regulatory authority prior to installation. Some equipment must be certified or classified for sanitation by an American National Standards Institute (ANSI) accredited certification program for food service equipment and include:

- Manual warewashing sinks
- Mechanical warewashing equipment
- Mechanical refrigeration units except for reach in or chest freezers
- Walk-in freezers
- Food hot holding equipment
- Cooking equipment, except for microwave ovens and toasters.
- Ice machines
- Mechanical slicers
- Mechanical tenderizers and grinders
- Food preparation surfaces including sinks used for food preparation
- Custom fabricated equipment

Beverage dispensing equipment must meet NSF standard #18.

Exhaust hoods must meet the requirements in the Minnesota Mechanical Code, Minnesota Rules, Chapter 1346.

Examples of ANSI accredited certification programs include BISSC, NSF, ETL-Sanitation, UL-Sanitation, CSA Sanitation or IAPMO R&T, Sanitation listed equipment that bear one of the following marks:

ANSI Accredited Certification Programs

NSF:	http://www.nsf.org/Certified/Food/
ETL:	http://etlwhidirectory.etlsemko.com/WebClients/ITS/DLP/products.nsf/$$Search
UL:	http://ulstandards.ul.com
CSA:	https://www.csagroup.org/testing-certification/product-listing/
IAPMO R&T:	http://www.iapmort.org/

If there is no certification or classification for sanitation by an ANSI accredited certification program for a piece of equipment, the equipment must:

- Be designed for commercial use
- Be durable, smooth, and easily cleanable
- Be readily accessible for cleaning
- Have food-contact surfaces that are non-toxic

Installation

1. **Table-mounted Equipment:** Table-mounted equipment shall be installed in one of the following methods:

   1.1 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:

   a. 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
   b. 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 forcleaning.

   1.2 Designed to be portable and equipped with:

   a. Flexible utility connections, adequate in length to clean around and behind the equipment.
   b. Flexible utility connections and quick disconnects.

   1.3 Sealed to the counter or shelf.

2. **Floor-Mounted Equipment:** (For example: reach-in refrigerators, free-standing mixers, undercounter dish machines, ovens.) Floor-mounted equipment shall be installed in one of the followingmethods:

   2.1 Installed with casters, rollers, or gliders and equipped with:

   a. Flexible utility connections, adequate in length to clean around and behind the equipment or,
   b. Flexible utility connections and quick disconnects.

   2.2 Mounted on legs with a sanitary design of sufficient height to ensure a minimum six inches of unobstructed clearance beneath the unit.

   2.3 If no part of the floor under the floor-mounted equipment is more than six inches (15 centimeters) from the point of cleaning access, the clearance space may be four inches (10 centimeters).

   2.4 Sealed to the floor or placed on a raised masonry or concrete base with approved base coving installed.

   a. If a solid masonry base is used, the cabinet must overhang the base by at least 1 inch, but not more than 4 inches.
   b. The appropriate base cove of the same flooring material must be installed.
   c. Floor drains under such bases must be located near the front of the base and be accessible by cutout extending to the front of the base. The cutout, like the base must have a curved base cove.

3. **Food Preparation Sinks:** A separate food preparation sink is required if food product will be washed or thawed using a sink. When water is added as an ingredient for food such as making juice, oroatmeal, water must not be obtained from a warewash sink, a handsink, a dumpsink, or a mopsink.

   3.1 An integral drain board is recommended on the food preparation sink.

   3.2 Every food preparation sink shall be equipped with a tell-tale floor drain to indicate a sewer back-up in the sanitary sewer line.

   3.3 Food preparation sinks shall not be installed in plastic-laminated counters.

4. **Refrigeration:** Mechanical refrigeration certified for sanitation by an ANSI accredited program is required for the storage of TCS food (Time/Temperature Control for Safety food).

EQUIPMENT

4.1 All refrigeration units, including prep tables and salad bar units, shall maintain TCS food at the required temperature of 41°F or below.

4.2 Integrally mounted thermometers shall be accurate to plus/minus 2°F. An additional free-standing thermometer is recommended inside the unit for verification.

4.3 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.

Walk-In Refrigerators/Beer Coolers/Freezers

4.4 Walk-in refrigerators or freezers shall be certified for sanitation by an ANSI accredited program.

4.5 Walk-in refrigerators or freezers installed without prefabricated floors shall have a pre-approved floor and base cove installed on a smooth concrete surface. Galvanized materials should not be used in walk-in refrigerators.

4.6 Quarry tile, diamond aluminum or stainless-steel tread-plate, and when approved, a poured resinous type flooring system, installed on a smooth concrete surface are acceptable finishes. Reference Table 2.

4.7 A coved 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.

4.8 The base shall provide a ¼-inch radius at the floor juncture and should be sealed to the floor and wall.

4.9 Shelving in walk-in coolers and walk-in freezers shall be corrosion resistant, nonabsorbent, and smooth.

Special Equipment

4.10 **Dipper wells:** If installed, 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.

4.11 **Single-service articles:** Articles that are intended for food or lip contact shall be furnished for consumer self-service with the original individual wrapper intact or from an approved dispenser.

Customer Self-Service Equipment

4.12 Hot and cold holding units within buffet equipment must be certified for sanitation by an ANSI accredited program.

4.13 Salad bars and buffets shall utilize mechanical refrigeration/hot-holding, approved food shields (sneeze guards or equivalent), and waste and water runoff shall be indirectly wasted to a floor drain. Salad bars and buffets shall be located on a smooth, durable, easily cleanable floor which extends three feet beyond the edge of the salad bars and buffets.

4.14 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 (see Figure 1).

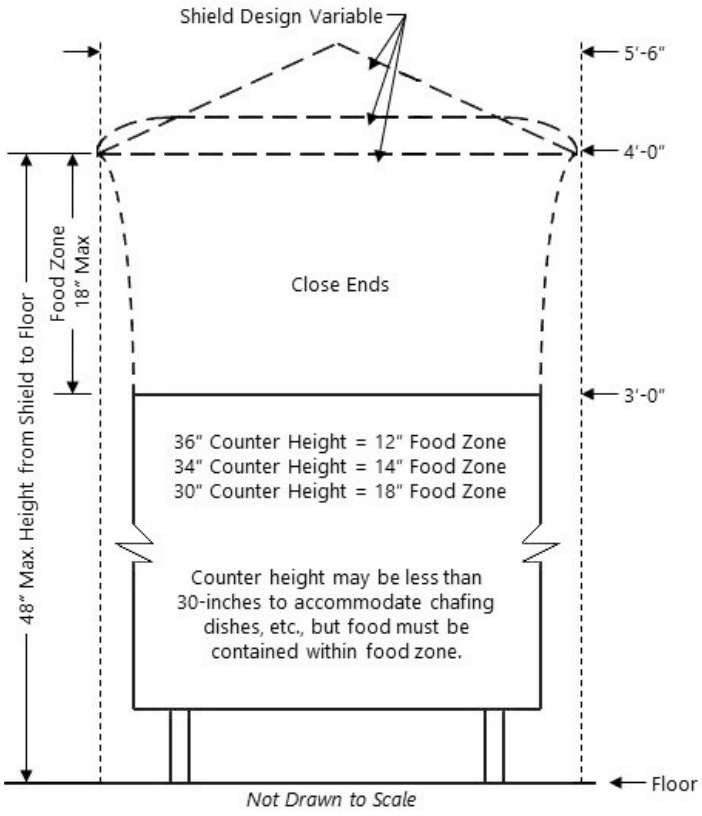


Figure 1. Adult Self-Service Salad Bar/Buffet (NSF Standard 2 Sneeze Guard).

5. **Beverage Dispensing Equipment**

5.1 Self-service beverage dispensers must conform to the requirements for this equipment as specified in NSF 18-2016 (Manual Food and Beverage Dispensing Equipment).

5.2 Beverage lines should be run inside the walls of the bar counter, when possible.

5.3 Beverage lines extending through a floor or wall shall be installed so they do not obstruct the cleaning of floors and walls. Conduit pipes should be provided.

5.4 Where conduit pipes for soda lines come through the floor, they must extend at least three to four inches above the finished floor elevation at both ends, and the annular opening between the beverage lines and the conduit pipe sealed with a hard material and provided with a cleanable finish (foam and cap).

5.5 Beverage dispensing guns and drains shall not be installed directly over food, ice, or clean glassware.

Millwork—Wait Stations/Service Counters/Cabinetry within the Food Service Area:

Service counters are not considered food contact surfaces, see Table 1, page 8, for types of finishes for food service counters and food contact surfaces.

5.6 Custom fabricated cabinets used in the wait station, alcohol service area, or customer self-service area must be finished with plastic laminate. All exposed surfaces of the cabinets(s), including the underside of the cabinet, must be finished with plastic laminate or 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 must be provided. Melamine is allowed on the interior vertical surfaces (see Figure 2).

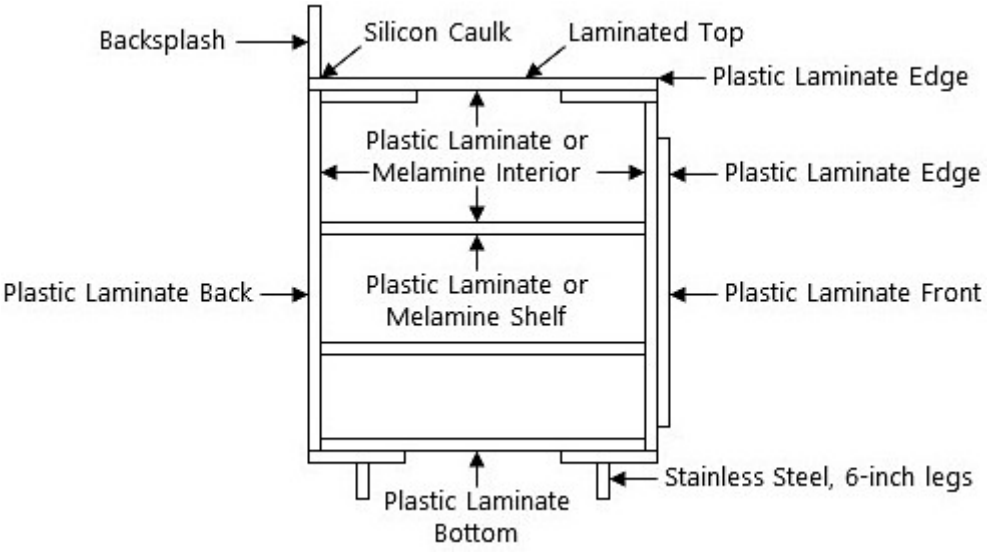


Figure 2. Counter Top/Base Cabinet Construction

5.7 Cutouts in millwork must be sealed. If cutouts are not prefabricated, plastic grommets sealed in place should be used. Paint or silicone caulk does not provide a durable seal.

5.8 All cabinets shall be installed on six-inch stainless-steel legs that provide a 6-inch clearance from the bottom of the equipment to the floor, or on a solid masonry base with approved base cove installed. **Enclosed hollow bases are not permitted.**

5.9 Kickplates, if installed, shall be removable to provide access for cleaning.

5.10 Ice bins shall be equipped with protective covers and shall be self-draining, with an indirect waste to a floor drain.

TABLE 1. Counter Top/Base Cabinet Construction

Equipment Type	Laminated Top Laminated Base	Stainless Top Laminated Base	Stainless Top Stainless Base
Coffee	Yes†	Yes	Yes
Milk	Yes†	Yes	Yes
Soda	Yes†	Yes	Yes
Ice Bins	Yes*	Yes*	Yes
Hand Sink	Yes*,†	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	No	Yes
Counter Top Warmer (Soup, Sauces)	Yes	Yes	Yes
Slicers	No	Yes	Yes
Blenders	No	Yes	Yes
Cutting Boards	No	Yes	Yes
Heavy Cooking Equipment (Fryer, Grill, Hot Plate, Waffle Iron)	No	No	Yes
Light cooking equipment	No	Yes	Yes
Food Processor, Mixer, Chopper	No	Yes	Yes
Pop-up Toaster	Yes†	Yes	Yes
Food Preparation Sink	No	No	Yes
Microwave	Yes	Yes	Yes
Refrigerator/Freezer	Yes	Yes	Yes
Dipper Well	No	Yes*	Yes

*Omit Cabinet Floor
†Customer Service Area Only

ROOM AND AREA FINISHES

Materials for indoor floor, wall and ceiling surfaces under conditions of **normal use** must be smooth durable, and easily cleanable for areas where food establishment operations are conducted.

Materials for indoor floor, wall, and ceiling surfaces must be **nonabsorbent for areas subject to moisture** such as food preparation, walk-in refrigerators, warewashing areas, toilet rooms, all servicing areas, and areas subject to flushing or spray cleaning methods.

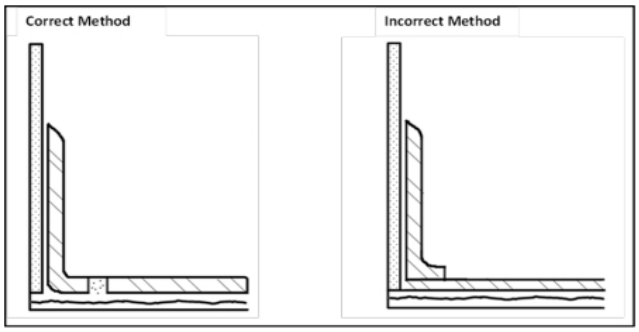
Food Service Areas

1. **Floors:** Floors shall be constructed of smooth, durable, nonabsorbent, and easily cleanable material. Tile grout shall be a water-resistant material, polyurethane or epoxy based, not exceeding ¼ inch wide (see Table 2, page 10).

   1.1 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 thirty-second inch (1 mm).

   1.2 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. **Base coving:** 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 inch radius.



3. **Walls:** Wall surfaces in dishwashing, storage and food preparation areas shall be smooth, easily cleanable, and nonabsorbent to the highest level of splash or spray.

   3.1 Sheetrock with an enamel paint finish meets the minimum standards for non-splash zones and dry storage areas.

   3.2 Wall surfaces in splash zones or high moisture areas such as dishwashing, hand and janitorial sink areas, etc., and walls in primary preparation areas must be finished with smooth, cleanable, durable, nonabsorbent materials, such as ceramic tile or Fiberglass Reinforced Plastic (FRP) panels.

   3.3 Stainless-steel or equivalent materials must be installed behind the cooking line. Stainless-steel must extend from the lower surface of the hood to the base cove.

   3.4 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, and capable of withstanding frequent cleaning. Fissured, perforated or rough acoustical tile is not permitted.

Dry Storage Room

1. **Floors:** Floors shall be constructed of smooth, durable, easily cleanable material. VCT with a commercial-grade rubber base is acceptable if there is no water or floor drain or handling of open food.
2. **Walls:** Walls shall be finished smooth, and capable of being scrubbed. Semi-gloss painted sheetrock (water or oil-based) may be utilized at a minimum.
3. **Ceiling:** Ceilings shall be smooth, non-absorbent, and easily cleanable.
4. Sealed concrete floors, studs, joints and rafters may be exposed only in areas used exclusively as a warehouse for the storage of food, beverages and single-use articles in **unopened** (case lot) packages.

Server Areas

1. **Floors:** The floor material underneath at any food pick-up station, or station equipped with plumbing, shall be constructed of smooth, durable, non-absorbent and easily cleanable material and base cove of a similar 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 will be individually evaluated.

Bar Service

1. **Floor and Base:** Floor and base materials shall meet the same requirements as a food preparation area. Smooth, easily cleanable and be a non-absorbent floor.
2. **Walls:** Moisture-resistant surfaces required within 18 inches of wet areas. In other areas decorative finishes will be considered, if they are cleanable.
3. **Ceiling:** Ceilings are required over the preparation and service area of the bar. Ceilings shall be smooth, nonabsorbent, and washable. See #10 on page 12 for more information.

TABLE 2. Chart of Floor, Base Coving, Wall, and Ceiling Coverings.

AREA	FLOOR						BASE COVING				WALLS							CEILING				
	Stainless-steel	Diamond-Aluminum Treads	Sealed Concrete	Quarry/Ceramic Tile	Vinyl Composition Tile (VCT)	Poured Flooring System	Vinyl (Peel and Stick)	Coved Ceramic/Quarry	Aluminum	Stainless-Steel	Stainless-steel (16 gauge min.)	Ceramic Tile	Fiberglass Reinformed Plastic (FRP)	Epoxy Painted Drywall	Epoxy Painted Concrete Block	Semi-Gloss Painted Drywall	Open Studs	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			x	x	X		
Cooking Area	X			X		X		X	X	X	X	X	X					x	x	X		
High Heat Cooking Area	X			X		X		X	X	X	X	X						x		X		
Dish-wash Area	X			X		X		X	X	X	X	X	X					x	x	X		
Walk-in Refrigeration	X			X		X		X	X	X	X											
Beer Cooler	X	X	X	X		X			X	X	X											
Toilet Room	X			X		X		X	X	X	X	X	X	X	X	X (2)		X	X	X		
Janitorial Room	X			X		X		X	X	X	X	X	X		X			X	X	X		
Laundry Area	X			X	X	X	X	X	X	X	X	X	X	X	X			X	X	X		
Wait Station	X			X		X		X	X	X	X	X	X	3	X	3		X	X	X		
Self-service Beverage/Buffet	X			X		X		X	X	X	X	X	X	X	X	X		X	X	X		
Hand-wash Area	X			X		X		X	X	X	X	X	X		X			X	X	X		
Bar Service	X			X		X		X	X	X	X	X	X	X (1)	X			X	X	X		X
Dry Storage Room	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
Other Storage	X		X	X	X	X	X	X	X	X	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	X	X	X	X	X	X	

1. Drywall may be used in bars only in areas that are greater than 18-inches from the moisture source.
2. Not acceptable near plumbing.
3. Depends on location and service provided.

Items indicated with an "X" are approvable

Indoor Bar Service Facilities

1. At least one handwashing sink is required and shall be equipped with soap, single service towel dispenser or heated hand drying device. A handwash sink must be accessible for wait staff.
2. All refrigeration units shall be ANSI certified for sanitation.
3. A glass washer, or three-compartment sink with integral drain boards on each end, 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.
4. Ice bins shall be self-draining into a floor drain with 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.
5. 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.
6. 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.
7. All interior surfaces of the bar shall be smooth and accessible for cleaning (See Table 1, page 8). The surfaces behind a bar, including the underside of the bar top, must be finished with durable, nonabsorbent materials, such a plastic laminate or FRP.
8. If wood is 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.
9. Stone or tile finished bar tops shall have an approved sealer applied to render the surface impervious to liquids and grease.
10. Open rafters above an indoor bar may be allowed when:
    - 10.1 Ceiling above bar is high enough to not be subject to moisture from splash.
    - 10.2 Most condiment prep shall be done in kitchen or underneath the counter in bar.
    - 10.3 Establishment shall have an approved cleaning plan detailing how rafters will be cleaned and how often they will be cleaned.

Outdoor Bar Service Facilities

1. Outdoor bars must have permanent overhead protection (roof) with a smooth ceiling, and no rafters. It must be able to be fully enclosed on the sides when not in use (e.g.: use of garage doors or durable panels).

STORAGE FACILITIES

Food, Equipment, Utensils Storage

1. Separate storage areas are required for clean equipment and utensils on approved shelving at least six inches off the floor. Utensil racks may not be located in areas subject to contamination.
2. Food, beverages and single service articles shall be protected from contamination by storing the food:
   2.1 In a clean, dry location; and
   2.2 Where it is not exposed to splash, dust, or other contamination.
3. Food, beverages and single-service articles shall **not** be stored:
   3.1 In a locker room;
   3.2 In a toilet room;
   3.3 In a dressing room;
   3.4 In a garbage room;
   3.5 In a mechanical room;
   3.6 Under a sewer line that is not shielded to intercept potential drips;
   3.7 Under a leaking water line, including a leaking automatic fire sprinkler head, or under a line on which water has condensed;
   3.8 Under an open stairwell;
   3.9 Under any other source of contamination.

Linen Storage

1. 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 smoothand easily cleanable and at least six inches above the floor.
2. 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.
3. 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.

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:
   1.1 Separating the poisonous or toxic materials by spacing or partitioning and
   1.2 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 handwashing sink shall be located in each workstation:

   1.1 To allow convenient use by employees in food preparation, food dispensing, and warewashing areas; and

   1.2 In toilet rooms.

2. The number of handwashing sinks required is determined by a number of factors, including size of facility, number of workstations, and employee accessibility.

3. All handwashing sinks shall be conveniently located and used for no other purpose.

   3.1 For daycares, the maximum hot water temperature for hand sinks is 120° F.

   3.2 An automatic handwashing facility must be installed according to the manufacturer's instructions and specifications.

4. Each handwashing sink or group of two adjacent sinks shall have available:

   4.1 A supply of soap; and

   4.2 Individual, disposable towels; or

   4.3 A continuous towel system that supplies the user with a clean towel; or

   4.4 Heated-air, hand-drying device

   4.5 Hand drying device that employs an air-knife system that delivers high velocity, pressurized air at ambient temperatures.

   4.6 A waste receptacle shall be provided for each handwashing lavatory or group of adjacent lavatories that is provided with individual, disposable towels.

5. If unpackaged food and/or clean equipment and utensils are in close proximity to a handwashing sink, the food and equipment must be protected from splash from the hand sink by use of splash shields.

TOILET ROOMS

1. The number of toilets is determined by the Minnesota Plumbing Code Chapter 4714. Contact your city of this requirement.
2. At least one handwashing sink shall be conveniently located in or immediately adjacent to toiletrooms.
3. 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.
4. Mechanical ventilation should be supplied according to requirements of the MN Mechanical Code.
5. Each toilet room shall have a minimum of one covered waste container.

JANITORIAL STATION

1. Janitorial station room finishes shall meet the same requirements as stated for theFOOD PREPARATION area when the janitorial station is within the kitchen prep area (see Table 2, page 10).
2. Floor, Base, Wall and Ceiling: All room finishes must have 3 feet of approved flooring and walls surrounding janitorial sink if not located in the kitchen.
3. 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.
4. 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.
5. 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.
6. 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.
7. When a chemical dispensing system is installed at the mop sink or the three-compartment sink, it shall be installed and inspected according to Minnesota Plumbing Code.
8. Poisonous or toxic materials shall be stored so they cannot contaminate food equipment, utensils, lines, and single-service and single-use articles.

UTILITIES

Utility Service Lines

1. Utility service lines and pipes shall not be unnecessarily exposed.
2. Where exposed utility service lines and pipes are necessary, they shall be installed so they do not obstruct or prevent cleaning of the floors, walls, or ceilings by using brackets to secure them away from wall and floor surfaces. Allow adequate space for cleaning.
3. Exposed utility service lines and pipes shall not be installed directly on the walls or floor, except:

   3.1 Quick disconnect gas hoses approved by the American Gas Association or NSF International; and

   3.2 Flexible cords/caps for commercial cooking equipment on casters, listed by Underwriter's Laboratory.

Plumbing

1. A plumbing system must be designed, constructed, installed, and repaired with approved materials, equipment, and devised according to Chapter 4714 and Minnesota Statutes, sections 326B.43 to 326.49.

   1.1 A plumbing system must be maintained in good repair.

   1.2 A water filter must be made of safe materials.

2. 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 to the Minnesota Department of Labor and Industry for review. *See page 2 for contact information.*

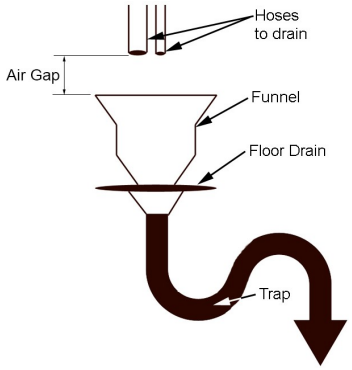
Water Supply

1. The water source and system must be of sufficient capacity to meet the peak water demands of the food establishment.
2. 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 4720. A permit for constructing a well is required.

Potable Water Backflow Protection

1. A plumbing system must be installed to preclude backflow of a solids, liquid, or gas contaminant into the water supply system at each point of use at the food establishment according to Chapter 4714.
2. A backflow prevention device must be located so that it may be serviced and maintained.
3. A person shall not create a cross-connection by connecting a pipe or conduit between the drinking water system and a non-drinking water system, or a water system of unknown quality.

4. Food prep sink, pot sinks, scullery sinks, commercial kitchen sinks, beverage service sinks, dishwashing sinks, and commercial dishwashing machines, shall be connected directly to the drainage system. A floor drain constructed without a backwater valve (tell-tale floor drain-TTFD) shall be provided adjacent to the fixture.
5. An indirect waste connection discharges waste through a trap and an air gap into the sewer system. 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.
6. 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 (see Figure 3).



Air gap at floor drain

Figure 3. Indirect Waste Connections

7. Indirect waste pipes shall not exceed 15 feet.
8. Indirect waste pipes shall not discharge into hand sinks, prep sinks or three compartment sinks.
9. Chemical dispensers connected to mop sink faucets and three compartment sinks must be listed and stamped as meeting ASSE 1055.
10. No shutoffs are permitted downstream of an atmospheric vacuum breaker.
11. An atmospheric vacuum breaker integrally mounted on a faucet that is connected to a chemical dispenser shall be protected against back pressure by the installation of a pressure bleeding device.
12. Potable water to beverage dispensers, carbonated beverage dispensers, or coffee machines shall be protected by an air gap or vented backflow preventer meeting ASSE 1022.
13. Floor drains must be located so as to be accessible for cleaning.

Water Heater

A water heater shall be provided and appropriately sized for the operation and must be sufficient to meet the peak hot water demands throughout the food establishment.

Water Softener

1. A water filter, screen, or other water conditioning device installed on water lines must be designed and located to facilitate disassembly for periodic servicing and cleaning.
2. A water filter element must be a replaceable type.
3. A water softener shall be installed with an appropriate air gap.
4. A water softener shall be installed at least six inches off the floor if located in an area of food preparation or warewashing.

DISHWASHING

Manual Dishwashing

1. A three-compartment sink with integral self-draining drain boards on each end is required. Each compartment shall be large enough to allow complete immersion of the largest utensil or piece of equipment.
2. A scrapping/prewash area is required.
3. When chemicals are used for sanitizing, a test kit is required
4. When hot water is used for sanitizing, the following facilities shall be provided:

   4.1 An integral heating device capable of maintaining the water at a minimum temperature of 171° F;

   4.2 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

   4.3 Dish baskets of such size and design to permit complete immersion of equipment and utensils in hot water.

Mechanical Dishwashing

A dish machine is recommended for reusable dishes, flatware or glassware. All spray-type dishwashing machines shall be certified for sanitation as meeting ANSI.

1. A scrapping area is required.
2. A soiled dish table of adequate size for the proper handling of soiled utensils priorto 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 to effectively remove steam and vapors, **except** under-counter dishmachines and glass washers.
4. Chemical sanitizing machines:

   4.1 A warewashing machine installed after September 8, 1998 must be equipped to automatically dispense detergents and sanitizers and incorporate a visual means to verify that detergents and sanitizers are delivered. It must also issue a visual or audible alarm to signal if detergents and sanitizers are not delivered to the respective washing and sanitizing cycles.

   4.2 Chemical sanitizing machines shall have space for, and a minimum of, five racks for drying utensils.

   4.3 A test kit for the appropriate sanitizer is required.

5. Hot water sanitizing machines:

   5.1 Hot water sanitizing machines shall have space for a minimum of three racks for drying utensils.

   5.2 Pressure measuring devices that display the pressure in the water supply line for the fresh hot water sanitizing rinse must be in the range of the manufacturers' data plate and must not be less than 5 pounds per square inch (35 kilopascals) or more than 30 pounds per square inch (200 kilopascals).

6. An irreversible registering temperature indicator must be provided for mechanical warewashing operations to measure the utensil surface temperature.

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. In addition, they shall be located in an area separated from food equipment, utensils, linens and single-service articles.
3. 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

LAUNDRY FACILITIES

Mechanical Clothes Laundering

1. Except as specified in item 2, if work clothes or linens are laundered on the premises, a mechanical clothes washer and dryer must be provided and used.
2. If on-premises laundering is limited to wiping cloths intended to be used moist, or wiping cloths are air- dried then a mechanical clothes washer and dryer need not be provided.
3. Linens must be mechanically washed.
4. In food establishments in which only wiping cloths are laundered, the wiping cloths may be laundered in a mechanical washer, a sink designated only for laundering wiping cloths, or a warewashing sink that is cleaned and sanitized.
5. 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.
6. 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.

WASTEWATER

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 4714. A grease trap shall be installed so the cover is flush with the floor and located so it is easily accessible for cleaning.

Overhead Sewer Lines

1. Sewage and waste lines should not be located directly abovefood 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.

SOLID WASTE AND 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. Sufficient containers, with tight-fitting covers, shall be provided.
3. An outdoor storage surface for refuse, recyclables and returnables shall be constructed of concrete, asphalt, or other nonabsorbent material; it should be smooth, durable and sloped to drain to the sanitary sewer.
4. Liquid waste from compacting shall be disposed of as sewage. The drain when installed shall be connected to the sanitary sewer and the local sanitary district consulted.
5. If an outdoor garbage enclosure is proposed for installation, it shall be constructed of durable, non-absorbent materials, and provided with a washable finish capable of withstanding frequentcleaning. Enclosures shall meet local zoning and building codes.
6. 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 sloped to drain and connected to the sanitary sewer. (May require minimal heat and ventilation.)

LIGHTING

Lighting Capacity

Install a sufficient number of light fixtures.

Food Service Areas:

1. At least 10 foot-candles (108 lux) at a distance of 30 inches (75 cm) above the floor, in walk-in refrigeration units and dry food storage areas, and in other areas and rooms during periods of cleaning.

2. At least 20 foot-candles (215 lux).

   2.1 At a surface where food is provided for consumer self-service, such as buffets and salad bars, or where fresh produce or packaged foods are sold or offered for consumption;

   2.2 Inside equipment such as reach-in and under-counter refrigerators; and

   2.3 At a distance of 30 inches (75 cm) above the floor in areas used for handwashing, warewashing, and equipment and utensil storage, and in toilet rooms; and

3. At least 50 foot-candles (540 lux) at a surface where a food employee is working with food or working with utensils or equipment, such as knives, slicers, grinders, or saws where employee safety is a factor.

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, or areas used for beverage service such as alcohol bar service, 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:
    1.1 Filling or closing holes and other gaps along floors, walls, and ceilings;
    1.2 Closed, tight-fitting windows; and
    1.3 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 rodentsby:
    2.1 16 mesh to 25.4 millimeters (one inch) screens;
    2.2 Properly designed and installed air curtains; or
    2.3 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.

VENTILATION

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 and devices must be sufficient in number and capacity to prevent grease or condensation from collecting on walls and ceilings.
3. Adequate ventilation and make-up air is required for equipment that produces excessive steam, condensation, vapors, obnoxious or disagreeable odors, smoke and fumes.
4. Grease filters used in an exhaust ventilation hood or other grease extracting equipment must be designed to be readily removable for cleaning and or replacing if not designed to be cleaned in place.
5. Ventilation hoods must be constructed and installed in accordance with 2015 Minnesota Building Code, the 2015 MN Mechanical Code (MN Rules, Chapters 1305 & 1346), and the National Fire Protection Association (NFPA 96-2001).

Exhaust Hoods

1. All cooking equipment that produces excessive heat, grease, vapors, steam, fumes, smoke, condensation or odor shall be located under an exhaust ventilation system. Contact the local building official for ventilation requirements.
2. The menu and proposed cooking appliances drive the requirements for exhaust ventilation.
3. A Type I exhaust hood is required over appliances that generate grease or smoke as a result of the cooking process.
4. Type I hoods for use over extra heavy cooking appliances (such as a smoker) shall not cover other appliances, but rather such hoods shall discharge to an exhaust system that is independent of other exhaust systems.
5. A Type II exhaust hood shall be installed above dishwashers and appliances that produce heat or moisture and do not produce grease or smoke as a result of the cooking process.
6. A Type I hood shall not be required for an electric cooking appliance where an approved testing agency provides documentation that the appliance effluent contains 5 mg/m3 or less of grease when tested at an exhaust flow rate of 500 cfm (0.236 m3/s) in accordance with Section 17 of UL 710B. No cooking of greasy foods are permitted to be cooked in such appliance.
7. Undercounter dishmachines and glass washers do not require a Type II exhaust hood.
8. Potwashers equipped with a heat and vapor exhaust or recovery systems do not require a Type II hood.
9. Ventless dishmachines meeting UL710B are required to be installed with the locking device that prevents the door from opening before the evaporation cycle is complete. This must be purchased as an option from the manufacturer and will be verified during inspections.
10. Where ventless appliances meeting UL710B are installed, the sensible and latent heat from the systems shall be included in the HVAC design calculations of the kitchen. A mechanical HVAC system shall be provided to maintain maximum relative humidity of 65 percent in the space.

11. Refer to the Minnesota Mechanical Code for requirements on exhaust hood overhangs.
12. 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. Use baffle style filters, not mesh screens, in grease extracting hoods.

Make-up Air

1. Make-up air 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 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.

MINNESOTA FREEDOM TO BREATHE 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. Smoking and electronic cigarette use are not permitted in indoor areas. All entrances must be posted: NO SMOKING.

Visit: www.health.state.mn.us/communities/environment/air/mciaa/index.html for more information.

WASHINGTON COUNTY TERRITORY MAP