

Food Establishment Construction Guide

MINNESOTA DEPARTMENT OF HEALTH
ENVIRONMENTAL HEALTH DIVISION
FOOD, POOLS, AND LODGING SERVICES SECTION



FOOD ESTABLISHMENT CONSTRUCTION GUIDE

Minnesota Department of Health

Environmental Health Division

Food, Pools, and Lodging Services Section

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Website: www.health.state.mn.us/divs/eh/food/license/planreview.html

If you require this document in another format contact 651-201-4500.

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Purpose

This document is intended to assist individuals or groups in submitting plans to the Minnesota Department of Health (MDH) for food establishments. Construction, equipment, and operational standards outlined in this guide are minimum requirements per the Minnesota food code.

Food establishments in Minnesota are licensed by a variety of different agencies. The menu and location of operation will be used to determine which agency is responsible for plan review, licensing, and inspection.

To determine whether your license will be issued by MDH, your local jurisdiction, Minnesota Department of Agriculture (MDA), or Indian Health Services, see the Food, Pools, and Lodging Services' website at www.health.state.mn.us/divs/eh/food/license/index.html or call MDH at 651-201-4500.

Definitions

Minnesota Statutes, section 157.15 defines food and beverage service establishment and HACCP plan as:

Food and beverage service establishment

“Food and beverage service establishment” means a building, structure, enclosure, or any part of a building, structure, or enclosure used as, maintained as, advertised as, or held out to be an operation that prepares, serves, or otherwise provides food or beverages, or both for human consumption.

HACCP plan

“Hazard analysis critical control point (HACCP) plan” means a written document that delineates formal procedures for following the HACCP principles developed by the National Advisory Committee on Microbiological Criteria for Foods.

Restrictions

Menu and process determine the type of equipment required and whether the operation can be approved. Complex food items usually require additional or specialized equipment, and will not be approved unless necessary equipment is provided.

Food and beverage service establishments may not store or prepare food in a private home.

The challenges of safely preparing, storing, and transporting large volumes of food typically associated with catered events present increased food safety risks. Catering operations are included in medium and large food establishment fee category definitions, and must be considered during the plan review process.

([Minnesota Statutes, sections 157.15](#) and [157.16](#))
([Minnesota Rules, parts 4626.0130; 4626.1425; 4626.1720, item D](#))

Plan Submittal and Review

Plans must be submitted to MDH at least 30 days before beginning construction, extensive remodeling or conversion of an existing structure to a food establishment.

Plan Review Process

The MDH plan review process follows these steps:

1. Submit your plan review application, all required information and appropriate fee. Plan review applications are available at www.health.state.mn.us/divs/eh/food/license/planreview.html.
2. MDH plan review staff reviews plans in the order they are received. In order to provide timely and accurate review of your application, all required information listed in [“Plan Submittal”](#) must be received before MDH staff can complete your plan review.
3. MDH plan review staff calls or emails you when review starts, and to request any needed additional information.
4. When review is complete, you will receive a letter reporting the findings of the review (approval or denial).
5. Wait to begin construction until after plans are approved.

Plans may take up to **30 days** to review. Incomplete plans may take longer.

Projects that Require Plan Review

Following are examples of situations that require a plan review:

- **New construction:** Building that is newly constructed or existing building that has never been licensed as a food establishment by MDH. Use the [New Construction Plan Review Application](#).
- **Extensive remodeling:** Addition or change to the building, a major equipment addition, or the addition of equipment due to a menu change of a food establishment. Extensive remodeling does not include redecorating, cosmetic refurbishing, altering seating design or reducing seating capacity. Use the [Remodel or Addition Plan Review Application](#).

Please contact MDH at 651-201-4500 if you have questions about whether a plan review is needed for your food establishment or which application to use.

Plan Submittal

Submit plans with the completed application, all the required information and correct fee to:

Mailing Address	Street Address
Minnesota Department of Health Food, Pools, and Lodging Services - Plan Review P.O.Box 64975 St. Paul, MN 55164-0975	Minnesota Department of Health Orville L. Freeman Building 625 Robert Street North St. Paul, MN 55155

Your plan review will not be completed until all information has been received. Make sure to include all of the following when you submit your completed plan review application and the required fees.

- A brief description of the proposed project.
- Intended menu including a description of how, when, and where food will be received, stored, prepared, and served.
- Easily readable layout to scale indicating the location of all equipment (e.g., cooking equipment, ventilation hood, refrigerators, food prep counters, handwashing sink(s), three-compartment sink, and food prep sink).
- Intended materials for floors, base coving, walls and ceilings.
- Manufacturer's equipment specifications sheets for all equipment, including sinks.
- Intended materials for counters and cabinetry.
- Information on well (unique well number) and septic system (certificate of compliance) for private systems.
- A copy of the zoning approval or building permit from the local unit of government.

In addition to the items listed above, other information may be requested during the plan review process. For further information and applications, please refer to the website below or contact MDH at 651-201-4500. MDH Plan Review: www.health.state.mn.us/divs/eh/food/license/planreview.html.

Minnesota Department of Labor and Industry (DLI)

All plumbing must be installed and maintained according to [Minnesota Rules, chapter 4715](#), Minnesota plumbing code.

DLI reviews proposed plumbing projects to ensure compliance with code. Contact a licensed plumbing contractor for assistance with preparing and submitting plumbing plans for your establishment. DLI oversees plumbing plan review, enforcement and inspection. After the plumbing system is installed, DLI will conduct an inspection of the system.

For further information and applications, refer to the website below or contact DLI at 651-284-5005 or 1-800-342-5354. DLI Local Code Lookup at workplace.doli.state.mn.us/jurisdiction/ includes directory information for:

- Building codes
- Electrical
- Plumbing

DLI's Checklists and Information Sheets at www.doli.state.mn.us/CCLD/checklists.asp include Plumbing handouts.

Licensing and Preoperational Inspection

During construction, remodeling or equipment installation, it is frequently necessary for MDH staff to make one or more site visits. Once plans are approved and construction is completed, follow these steps to get your establishment license:

1. Apply for a license.

Contact MDH to request a license application. **The license fee is separate from the plan review fee.** Submit the completed license application and required license fee before contacting MDH to request a preoperational inspection.

2. Have your establishment inspected.

Contact MDH 14 days before the intended opening date to schedule a preoperational inspection. The inspection will cover all aspects of your approved project, including:

- Equipment is present, correctly installed and operational.
- Floor, wall and ceiling finishes are installed as approved.
- Mechanical and plumbing installations are approved by the appropriate authority.

3. Post the license in the establishment.

MDH will issue a license after approval. Post the original license in the establishment at all times. The license is valid for one year and must be renewed annually.

[\(Minnesota Statutes, section 157.16\)](#)

[\(Minnesota Rules, parts 4626.0020, 4626.0980, 4626.1215, 4626.1720, 4626.1725, 4626.1745, 4626.1750, 4626.1755, 4626.1765, 4626.1770\)](#)

General Equipment Information

Include specifications, proposed locations and intended uses for all equipment in submitted plans.

Equipment Design and Construction

The most common certifying groups for equipment 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."	

Equipment may not be changed or altered from its original design.

All custom fabricated equipment must be made by an NSF custom fabricator and bear a sticker indicating the equipment meets the standard. Equipment must be designed for its intended use. Equipment (e.g., heating elements for hot holding units, sinks, smokers, walk-in coolers or freezers or any other equipment) cannot be homemade.

Used equipment may be approved as part of your plan if it:

- Met existing applicable standards when it was manufactured.
- Is in good repair.
- Is easy to clean.
- Has non-toxic food-contact surfaces.
- Does not pose a health hazard.

Equipment Numbers and Capacities

Provide mechanical equipment that meets the cooking, heating, ventilation and hot and cold holding needs of the establishment. Install and use equipment as intended by the manufacturer.

Some common circumstances with special equipment requirements include:

- Walk-in refrigeration units installed outside must be designed for extra structural loads from snow and ice.
- Display coolers may only be used for canned or bottled beverages or prepackaged foods.
- Food guards or display cases must be provided to protect unpackaged food from contamination while on display.
- Food grade containers capable of maintaining food at safe temperatures in a sanitary manner are required for delivery or catering.

Equipment Location and Installation

Locate or install equipment so food, ice and food-contact surfaces are not exposed to contamination and the areas around and beneath every unit are accessible for cleaning.

Examples of equipment and storage locations that are frequently submitted but ***not approved*** include:

- Under an open stairwell
- In a mechanical room
- In a garbage room
- Under sewer line that is not shielded
- In a toilet room
- Under a line on which water has condensed
- Above unprotected food, such as beverage dispensing equipment above an ice bin

If equipment is not easily moveable, seal it to the surface or mount it on legs. Four (4)-inch legs are required for table-mounted equipment; six (6)-inch legs are required for floor-mounted equipment.

Unapproved Equipment

Examples of equipment that is frequently submitted but ***not approved*** include:

- Unfinished wood
- Household crock pots
- Galvanized hoods and containers
- Enamelware
- Paintbrushes
- Plastic tables
- Household roasters
- Drills
- Non-food grade plastic containers
- Tubing or beverage cold plates in contact with stored ice

([Minnesota Rules, parts 4626.0020, 4626.0320, 4626.0450, 4626.0495, 4626.0505, 4626.0540, 4626.0590, 4626.0595, 4626.0675, 4626.0690, 4626.0720, 4626.0725, 4626.0730](#))

Sinks

Include specifications, proposed locations and intended uses for all sinks in submitted plans.

Handwashing Sinks

Provide enough handwashing sinks to meet the needs of the establishment. Install handwashing sinks to provide easy access for all employees who are preparing food, dispensing food and beverages, conducting warewashing, and using the restroom.

Each handwashing sink must be provided with hot and cold water under pressure through a mixing valve or combination faucet. MDH may require splash guards at handwashing sinks to limit contamination of food, beverages, clean equipment or single-use items.

Manual Warewashing Sink

If your plans do not include a warewashing machine, provide a sink with at least three compartments and drainboards on each end. All compartments and the drainboards must be part of the same piece of equipment. Additional drainboards, utensil racks, or tables may also be required for storing dirty and clean equipment and utensils.

Each compartment must be large enough to allow immersion of the largest utensil or piece of equipment used in the operation. The warewashing sink must be supplied with water under pressure with a mixing valve.

Food Preparation Sink

If the proposed menu calls for a food preparation process requiring washing or thawing of food in a sink, include a food preparation sink in submitted plans. The sink must be designed for use as a food preparation sink.

Service Sink

Provide at least one service sink or curbed floor drain with a faucet. Install service sink to provide easy access for all employees who are cleaning mops or disposing of mop water. Your plan should include a way to store mops between uses so that they do not soil or damage walls, equipment, or supplies.

Other Sinks

The sinks listed above have use limitations. Other common sinks used in a food establishment may include:

- Dump sink—for bars, blender drinks or espresso areas
- Dipper well sink—for in-use utensils such as ice cream scoops

([Minnesota Rules, parts 4626.0275, 4626.0300, 4626.0315, 4626.0320, 4626.0505, 4626.0680, 4626.0685, 4626.0780, 4626.0955, 4626.1080, 4626.1095, 4626.1110, 4626.1540, 4626.1860](#))

Warewashing Machines

Include specifications and proposed locations for all warewashing machines in submitted plans. Drainboards, utensil racks, or tables are required for storing dirty and clean equipment and utensils.

Requirements	Chemical Sanitizing	Hot Water Sanitizing
Sanitizer alarm	Audible or visual indicator of low sanitizer level	Not required
Minimum space for drying	Five racks	Three racks
Pre-cleaning area	Spray sink, garbage disposal or other means for disposal of garbage	
Internal dividers (conveyer-type machines)	Baffles, curtains or other internal dividers to keep wash and rinse water separate	
Interlocking door device (ventless dishmachines)	Prevents the door from opening until the vent cycle operation is complete May be an additional accessory for the machine	

([Minnesota Rules, parts 4626.0563, 4626.0625, 4626.0630, 4626.0635, 4626.0643, 4626.0645, 4626.0650, 4626.0685, 4626.0755, 4626.0785, 4626.0795, 4626.0800, 4626.0865](#))

Ventilation Systems

Include specifications and proposed locations for ventilation hoods in submitted plans. Design and install ventilation systems according to [Minnesota Rules, chapter 1346](#), Minnesota mechanical and fuel gas codes. [Part 1346.0507](#) provides commercial kitchen hood requirements for some equipment.

Adequate ventilation and make-up air is required for equipment that produces excessive steam, condensation, vapors, obnoxious or disagreeable odors, smoke and fumes.

Design ventilation systems to prevent grease or condensation from draining or dripping onto food, equipment, utensils, walls, ceiling, linens and single-service articles. 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.

([Minnesota Rules, parts 4626.0495, 4626.0505, 4626.0550, 4626.0690, 4626.1380, 4626.1475](#))

Tables, Counters and Cabinetry

Include specifications, proposed locations and intended uses for all tables, counters, cabinetry and customer self-service areas in submitted plans.

Examples of approvable finishes for non-food-contact surfaces (e.g., point of sale counter, dry goods storage cabinets) and the underside and interior of cabinets include: plastic laminate, high gloss paint or polyurethane. Unfinished wood is not allowed.

Hollow enclosed base cabinets are prohibited. Base cabinets must be provided with six (6)-inch stainless steel legs or a solid masonry base.

Food-contact Surfaces and Warewashing

Provide enough approved food-contact surfaces to meet the food preparation and warewashing needs of your establishment.

Examples of activities requiring approved food-contact surfaces include:

- Chopping, cutting or mixing raw foods
- Cooking foods using equipment such as grills, deep fryers, flat tops, or ovens
- Assembling foods such as sandwiches or salads
- Storing equipment before and after warewashing
- Other activities creating splash, food soiling or requiring frequent cleaning

Common food-contact surfaces include: stainless steel, hard maple or approved cutting boards.

Non-food-contact Surfaces

Provide enough approved non-food-contact surfaces to meet the needs of your establishment.

Examples of activities permitted for non-food-contact surfaces include:

- Beverage dispensing such as espresso or coffee machines, pop or milk dispenser
- Customer self-service buffets such as continental breakfast, food on display
- Display merchandiser such as popcorn machine, pizza display, hot dog roller
- Countertop warmer such as soup warmer
- Point of sale such as bars or wait stations
- Storage of single-service items such as cups, napkins, straws

Common non-food-contact surfaces include: stainless steel or solid surface such as granite or quartz.

([Minnesota Rules, parts 4626.0450, 4626.0470, 4626.0490, 4626.0495, 4626.0505, 4626.0515, 4626.0540, 4626.0545](#))

Floors, Walls and Ceilings

Include proposed finishes for all floor, wall and ceiling surfaces in submitted plans. Provide smooth, non-absorbent, durable and easily cleanable floors, walls and ceilings in areas where food is stored, prepared or washed; customer self-service areas; toilet and janitorial rooms.

Prior to selecting floor, wall and ceiling surfaces, owners, design professionals, and others involved in preparing the plans should consider the following factors:

- Type and amount of traffic
- Type of soil and cleaning methods
- Life span of the surface

Floors

Select and install flooring surfaces that meet the needs of your establishment. Follow all manufacturer's recommendations.

Some specific restrictions are:

- Vinyl flooring is not allowed in walk-in coolers or freezers.
- Sealed concrete is not allowed except in garbage rooms, or areas used for closed case lot storage.
- Carpeting is not allowed within three feet of permanently installed bars and salad bars and other food service equipment.
- Mats and duckboards must be constructed of nonabsorbent, nonwood, grease-resistant material.

Common flooring surfaces include: quarry, ceramic or porcelain tile; commercial vinyl or epoxy floor systems.

Install a coved base at all floor-wall junctions. Select and install coved base according to manufacturer's specifications. Figure 1 shows correct and incorrect positioning of coved base relative to flooring surface.

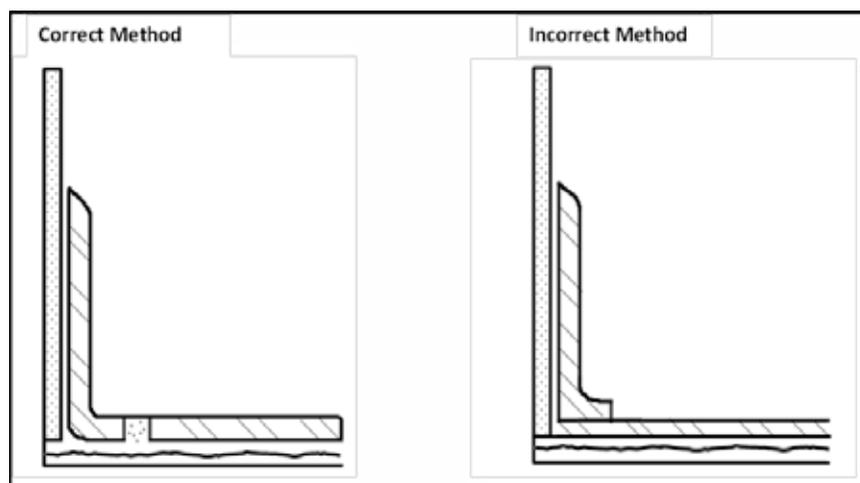


Figure 1

Walls and Ceilings

Select and install wall and ceiling surfaces that meet the needs of your establishment. Follow all manufacturer's recommendations.

Some specific restrictions are:

- Unfinished, porous concrete blocks or bricks are not allowed except in dry storage areas.
- Light fixtures, vent covers, fans or other wall and ceiling attachments must be easily cleanable.
- Exposed studs, joists, and rafters are not allowed except in areas used only for the storage of unopened packages.

Common wall surfaces include: fiberglass-reinforced panel (FRP), ceramic tile or stainless steel behind cooking equipment.

Common ceiling surfaces include: painted drywall or smooth metal or vinyl tile.

([Minnesota Rules, parts 4626.1325](#), [4626.1335](#), [4626.1345](#), [4626.1350](#), [4626.1355](#), [4626.1360](#), [4626.1365](#), [4626.1370](#))

Non-Food Areas

Include proposed locations for non-food areas such as restrooms, storage of employee personal items, garbage and recyclables, and laundry facilities. Provide non-food areas to meet the needs of your establishment.

Restrooms

If public restrooms are not available, provide at least one toilet and handwashing sink for employee use. Refer to [Minnesota Rules, chapter 4715](#), plumbing code, for minimum number of toilets required for your establishment. Completely enclose the restrooms.

Garbage and Recyclables

Provide an area separate from food preparation and storage areas for collection and storage of garbage and recyclable materials.

Use concrete, asphalt, or other nonabsorbent material for outdoor areas such as garbage or recyclables storage. The pad must be curbed and graded to drain.

Personal Items

Provide an area separate from food preparation and storage areas for employee personal items such as jackets and bags.

Laundry Facilities

If laundry facilities are provided on-site, locate the washer and dryer to prevent contamination of food, clean equipment, utensils, linens, or unwrapped single-service or single-use articles.

([Minnesota Rules, parts 4626.0720, 4626.1075, 4626.1095, 4626.1230, 4626.1255, 4626.1270, 4626.1390, 4626.1420, 4626.1500](#))

Utilities

Include specific information for water supply, water heaters, sewage disposal system, and other utilities in submitted plans. Provide utilities to meet the needs of your food establishment.

Enclose utility service lines and pipes, including beverage lines, when possible. Install utilities so they do not obstruct or prevent cleaning of the floors, walls and ceilings.

Water Supply

Identify the source of water for your establishment in submitted plans. Provide an adequate supply of water to meet the needs of your establishment.

Several different terms (e.g., drinking water, potable water, and fresh water) are used to describe water that is approved and safe for use in a food establishment. Use only drinking water from an approved source according to [Minnesota Rules, chapter 4715](#), plumbing code; [chapter 4720](#), public water supplies; and [chapter 4725](#), wells and borings.

Water Heaters

Include specifications and proposed locations for water heaters in submitted plans. Select and install commercial water heaters (traditional or tankless) that are adequately sized to meet the peak hot water demands of the foodservice facility.

Sewage Disposal

Identify the method of sewage disposal (public or private) for your establishment in submitted plans. Provide a sewage disposal system that meets the peak sewage needs of your establishment.

Approved septic systems must be designed, installed and maintained according to [Minnesota Rules, chapter 7080](#), individual subsurface sewage treatment systems (SSTS) and [Minnesota Rules, chapter 7081](#), mid-sized SSTS. Individual and mid-sized SSTS requirements are adopted and enforced locally. For assistance contact your local unit of government (county, city, or township).

Lighting

Include locations of all light fixtures in submitted plans. Provide adequate lighting to meet the needs of your establishment. Use either shatter-resistant bulbs or shielded light fixtures.

Light intensity is measured 30 inches above the floor. Requirements vary depending on food activities:

- 10 foot candles—walk-in cooler, walk-in freezer, or dry storage area
- 20 foot candles—inside reach-in equipment, customer self-service area, or behind a bar
- 50 foot candles—food preparation area, warewashing area, or where employee safety is a factor

[\(Minnesota Rules, parts 4626.0980, 4626.0995, 4626.1015, 4626.1025, 4626.1200, 4626.1215, 4626.1220, 4626.1340\)](#)