PLANNING GUIDE
FOR
FOOD SERVICE
ESTABLISHMENTS

VILLAGE OF GLENVIEW
PUBLIC HEALTH DEPARTMENT
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The Following are referenced in this manual

*Illinois Department of Public Health
Food Service Sanitation Code
Retail Food Store Code
Plumbing Code

* National Sanitation Foundation Standards (NSF)

* BOCA Mechanical Code

* Village of Glenview Municipal Code

FOREWORD

This manual is made available to architects building contractors, food equipment dealers, consultants, and other related professionals for the purpose of developing plans and specifications that meet requirements and allow for individual freedom of design. The requirements follow the sanitation standards of the Glenview Public Health Department and the equipment and installation standards developed by the National Sanitation Foundation. For local building, mechanical and plumbing codes, the building and zoning department should be contacted.

OBJECTIVES:

To have a completed food establishment that is easily maintained, well designed, and equipped to serve a maximum number of people for an indefinite period of time.

To eliminate unnecessary complications during planning, design, or construction and prior to the final approval needed to open.

DESIGN:

Typical menus should be: planned before designing the facility. The type and variety of foods served will influence the type and quantity of equipment and the amount of storage space needed.

Food preparation, storage and dishwashing areas must be large enough to accommodate the number of customers being served, type of menu, and type of operation.

An orderly flow of food must be provided beginning with the purveyor through the storage, processing and preparation areas, and finally to the customers.

Equipment must be designed for cleanability. It should be located and installed so as not to create any cleaning or flow problems.

Table of Contents

I. PLANS AND INSPECTIONS

A. PLANS

One set of detailed plans, specifications, and a completed plan review form must be submitted to the Health Department prior to constructing, enlarging, altering or converting any building for use as a restaurant, tavern, retail food store, or food service facility.

The plans should include:

1. Complete structural, plumbing, and electrical layout.

2. Complete equipment layout and elevations of equipment.

3. Complete ventilation plans including air conditioning, make-up air, and kitchen exhaust.

4. Finish schedules for walls, floors, ceilings, and counter surfaces.

5. All food equipment specifications, including the manufacturers' name and model number.

6. Detailed information on water supply and sewage disposal.

Incomplete plans or plans requiring several changes will not receive approval.

Any changes desired on approved plans must be submitted in writing in order to have the changes approved by this Department.

Any construction method, material, equipment, or installation which is "equal to or better than" the requirements outlined herein may be substituted only after review and approval by this Department.

B. FIELD INSPECTIONS

During the course of construction, field inspections of the facility construction and installation of the equipment will be made by representatives of the Health Department. Plumbing rough-in, pre-opening, and opening inspections are required. Additional inspections or field consultations may be obtained by calling the Health Department.

A Health Permit will be issued only after plan approval, construction completion, installation of approved equipment, and passing a final Health Department inspection.

II. EQUIPMENT

A. MATERIALS AND DESIGN

All food service equipment shall be constructed to conform to National Sanitation Foundation Standards (NSFS) regarding design, materials, and workmanship.

B. INSTALLATION

1. Table-Mounted Equipment: Equipment that is placed on tables or counters, unless portable, shall be sealed to the surface or mounted on legs at least four inches high, and shall be installed to facilitate the cleaning of equipment and adjacent areas. Equipment is considered portable only when weighing 75 pounds or less and when there are no rigid utility connections (refer to Figures 1 and 2).

Figure # !

Figure # 2

2. Floor-Mounted Equipment: Floor-mounted equipment shall be installed as follows:

   a. On casters, (refer to Figure 3, page 3)

      1) with flexible utility connections, adequate in length to clean around and behind equipment,

   OR

      2) with flexible Utility connections and quick disconnects.

Figure # 3

b. Spaced from the floor, walls and adjacent equipment so that the following requirements are met (refer to Figure 4, page 4):

1) installed on a minimum of six (6) inch tall legs.

2) when the distance "A" to clean is less than two (2) feet in length, the width of the clear, unobstructed space "B" shall be at least six (6) inches.

3) when the distance "A" to clean is greater than two (2) feet but less than four feet in length, the width of the clear, unobstructed space "B" shall be at least eight (8)inches.

4) when the distance “A” to clean is greater than four (4) feet but less than six (6) feet-in length, the width of the clear, unobstructed space "B" shall be at least twelve (12) inches.

5) when the distance "A" to clean is greater than six (6) feet, the width of clear, unobstructed. space “B” shall be at least eighteen (18) inches.

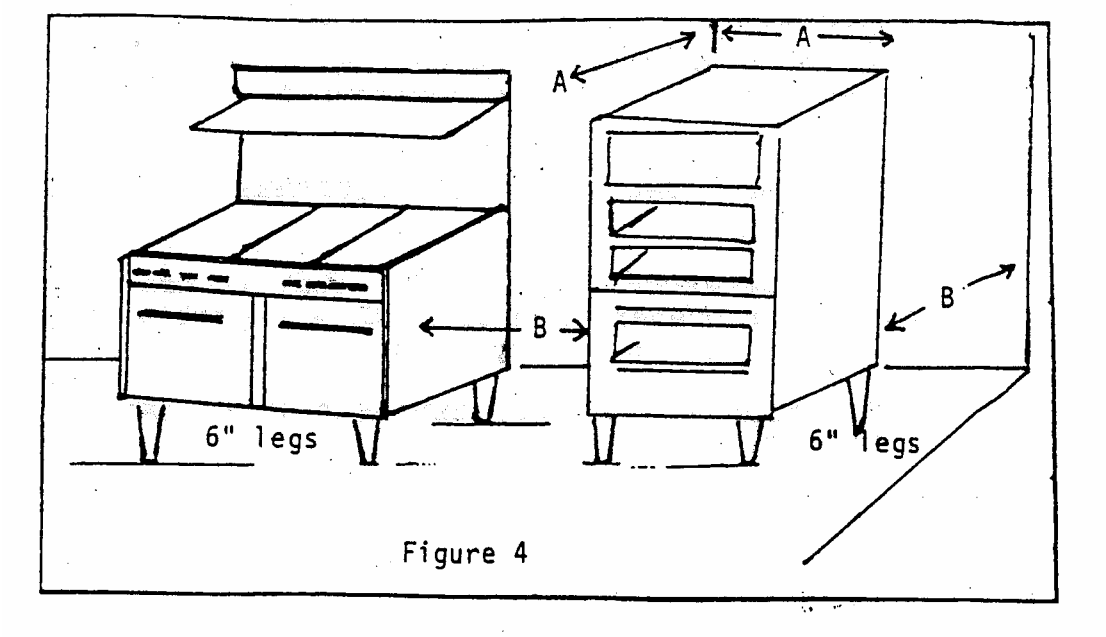


Figure 4

c. Considered portable (weighing less than 75 pounds with no rigid utility connections.

d. Raised floor platforms are not recommended where equipment is installed directly over waste connections: or where equipment cannot be adequately sealed in place.

3. All utility lines (plumbing, gas, electrical, refrigeration, etc.) shall be concealed to as great an extent as possible. Any exposed horizontal runs shall be kept to a minimum, elevated at least six (6) inches off the floor, and at least one-half (1/2) inch away from the walls.

4. The space between the top of the walk-in refrigerator or freezer and the ceiling shall be:

a. effectively closed with a panel, either fixed, removable, or,

b. an unobstructed open, space of at least two (2) feet shall be provided between the top of the unit and the ceiling to permit access for cleaning and maintenance, provided clean-up personnel do not have to reach more than eight (8) feet from any side of the unit. If the distance to reach to permit cleaning exceeds eight (8) feet, an unobstructed clearance of at least thirty (30) inches shall be provided between the top of the unit and ceiling to permit access for cleaning and maintenance.

C. SPECIAL EQUIPMENT

1. Cold Plates: Cold plates, when installed in ice bins, shall be constructed as integral parts of the bins.

2. Dipper Wells: Dipper Wells, with running water, are required when bulk ice cream is dispensed and may also be needed for storage of other bulk food dispensing utensils.

3. Dishwasher: See **SANITIZING EQUIPMENT AND FACILITIES** on page 18.

4. Food Preparation Sink: When a sink is needed for the washing or preparation of food, a separate sink shall be installed for that purpose only.

5. Handwashing Sinks: See **EMPLOYEE AREAS AND HANDWASHING FACILITIES** on pages 11-12.

6. Janitorial sink: See **PLUMBING** on page 13.

7. Refrigerated Work Tables: When potentially hazardous foods are in use on a continuous basis, a refrigerated table with storage compartments on top is required.

8. Shelving: See STORAGE FACILITIES on page 10.

9. Dispensing Equipment: Dispensers shall be installed for proper handling of single-service items (i.e. paper cups, straws).

10. Thermometers: Each cold food storage unit shall be provided with a thermometer scaled to at least five (5) degrees Fahrenheit increments, and accurate to plus (+) or minus (-) three (3) degrees Fahrenheit.

11. Display Equipment:

a. Food on display for self-service or otherwise shall be protected from consumer contamination by using easily cleanable counter protector devices, display cases, or similar equipment. These devices shall be designed and installed to intercept the direct line between the mouth of the customer and foods on display (refer to Figures 5 & 6). Sneeze guards properly designed. (Measure 54" to 60" from floor to represent customer mouth height. Guard must block line between mouth and food on display, including end plates) Scaled drawings of this equipment must be submitted to this Department for approval.

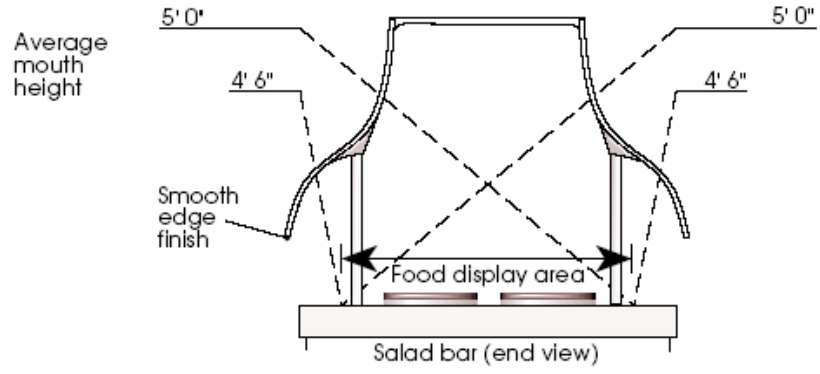
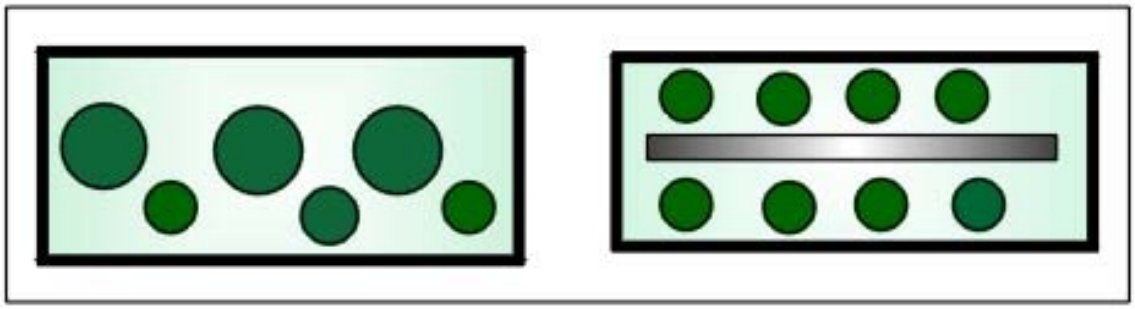


Figure 5

Figure 6

b. Foods displayed for self service shall be arranged in a single row or in a manner that customers may obtain food without reaching across other foods (refer to Figures 7 & 8 for approved arrangements). Other arrangements must be submitted to this Department for approval.

Attendant's Side



Customer Serving Line

Figure 7

Customer Serving Line

Customer Serving Line

Figure 8

c. The following factors must be incorporated into the design of the self-service food operation:

1) Serving utensils and containers: Service utensils (spoons, tongs, etc.) and food containers shall be of such size and configuration and designed so as to prevent the handle of the serving utensils from falling into the food. The utensils and containers shall be of such sanitary design and material as to be easily cleaned and sanitized.

2) Eating utensils: Eating utensils shall be located at the end of the service line with the food contact surfaces protected from contamination by customers.

3) Condiments: Almost all Condiments are available in prepackaged, single service containers. These require minimal protection. They may be displayed in containers at almost any location in the establishment. This is the recommended method as it gives maximum protection with minimum maintenance.

4) Dispensing devices: Sugar, salt, pepper, .mustard, catsup and other sauces may be dispensed from containers with protective covers such as flip lids for pouring, squeeze bottles, or pumping action devices. These devices provide sufficient protection for the condiments that further protection is not necessary.

5) Temperature control: The temperature of all readily perishable foods shall be maintained below 41 degrees Fahrenheit or above 140 degrees Fahrenheit.

12. Exhaust Hoods:

Cooking equipment capable of producing smoke or grease laden vapors must be equipped with an approved exhaust system. See **EXHAUST HOOD, VENTILATION FOR KITCHEN EQUIPMENT.**

13. Hand Washing & Utility Sink Splash Guards:

A splash guard must be installed when a hand washing or utility sink is within eighteen (18) inches horizontally of a food contact surface, vegetable prep sink or utensil washing sink. This distance does not apply when the utility sink is a floor-mounted basin not exceeding ten (10) inches in height from the floor.

The splash guard must be at least eight (8) inches high and constructed of a durable, easily cleanable material. It must be securely fastened to the wall and countertop or sink with a one-eighth (1/8) inch radius cove.

III. ROOM AND AREA FINISHES

A. FOOD PREPARATION

1. Floors: Floors shall be constructed of durable, non-absorbent, grease-resistant, and easily cleanable material, such as quarry tile, sheet vinyl, etc. The minimum grade material acceptable will be commercial grade vinyl composition.

   Floor drains shall be properly installed and provided in floors that are water-flushed for cleaning, or receive discharges of water or other liquid waste from equipment.

   Floors shall be graded to drain.

   Mats, duckboards, or other similar types of supplemental flooring, if used, shall be non-absorbent, grease resistant, constructed to facilitate cleaning. They shall be designed and sized to permit easy removal for cleaning.

2. Coving: The base coving (floor and wall juncture) shall be constructed with a three-eighths (3/8) inch radius cove; either with a base coving material or as an integral part of the flooring material.

3. Walls: Walls shall be constructed of a smooth, non- absorbent easily cleanable material with a light colored finish.

   Walls of food handling establishments which are constructed of concrete or cinder blocks must be treated with a finished .surface such as epoxy, polyester, torginol, etc., and be approved by the Health Department prior to starting construction. Acceptability of the finished surface of this type of construction depends a great deal on the effectiveness of filling the blocks sufficiently so that all pores, holes, indentations and crevices are

eliminated. Normally, two or three coats of some approved filter (sometimes more due to the variation of the block surfaces) are required to produce an acceptable surface prior to the application of the epoxy, polyester, torginol, etc.

4. Ceilings: Ceilings shall be smooth, non-absorbent, capable of withstanding frequent cleaning, and light colored.

B. UTENSIL WASHING

Utensil washing area room finishes shall meet the same requirements as the FOOD PREPARATION area. In addition, splash areas shall be finished with a durable water resistant material.

C. FOOD SOTRAGE AREAS

1. Floors: Floors shall be constructed of a durable, non-absorbent, easily cleanable material.

2. Coving: The base coving (floor and wall juncture) shall be constructed with a three-eighths (3/8) inch radius cove.

3. Walls: Walls shall be constructed with an easily cleanable, light colored finish.

4. Ceilings: Ceilings shall be constructed with an easily cleanable, light colored finish.

D. WALK-IN REFRIGERATORS/FREEZERS

Floor and base coving shall meet the same requirements as stated for the FOOD PREPARATION area.

E. JANITORIAL STATION

Janitorial station room finishes shall meet the same requirements as stated for the FOOD PREPARATION area. Splash areas shall be finished with a durable, water resistant material.

F. WAIT AREAS

1. Floors: Any food pick-up stations, or stations with water feeds, shall have floors constructed of durable, non-absorbent and easily cleanable material extending out a minimum of three (3) feet from the counter.

   Wait stations without plumbing connections may use the dining room finishes.

2. Coving: The base Coving (floor and wall or cabinet juncture) shall have a three-eighths (3/8) inch radius cove.

3. Walls: Walls shall be non-absorbent and easily cleanable.

4. Ceilings: The ceiling shall be smooth, non-absorbent, light-colored, and capable of withstanding frequent cleaning at any station where food is picked up.

   At wait stations within the dining room, the dining room ceiling finish may be used.

G. BAR

1. Floors: Floors shall meet the same requirements as FOOD PREPARATION areas.

2. Coving: Base coving shall meet the same requirements as FOOD PREPARATION areas.

3. Walls: Walls may be the same finish as the rest of the room. The back side of the bar shall be finished so it is smooth, non-absorbent and easily cleanable. Exposed studs are not permitted.

4. Ceilings: Ceilings may be the same finish as the rest of the room.

H. RESTROOMS

1. Floors: Floors shall meet the same requirements as the FOOD PREPARATION area.

2. Coving: Base coving shall meet the same requirements as FOOD PREPARATION area.

3. Walls: Walls shall meet the same requirements as FOOD PREPARATION area.

4. Ceilings: Ceilings shall have an easily cleanable finish.

I. DRESSING AND LOCKER ROOM

Dressing and locker room shall meet the same requirements as RESTROOMS.

J. DINING ROOMS

Floors maybe covered by carpeting, provided it is of tight-woven construction.

K. BUFFETS AND SALAD BARS

1. Floors: Buffets and salad bars located in dining areas must be provided with a floor construction three (3) feet in width from any serving side, which complies with the requirements as FOOD PREPARATION area.

2. Coving: The coving shall meet the same requirements as FOOD PREPARATION area.

3. Walls: When the buffet is placed against the wall, the wall shall be smooth and non-absorbent.

4. Ceiling: Ceilings may utilize the same finish as the rest of the room.

L. COMBINATION AREA

If any area is used for any combination of previously defined activities, this area must meet the more stringent requirements imposed on that area or activity.

Basement areas cannot be used for food preparation, serving or storage unless designed, constructed, and approved for this purpose prior to its use.

IV. STORAGE FACILI.TIES

A. DRY STORAGE AREA

Adequate and Suitable space shall be provided and designated on plans for "dry" storage purposes. The minimum area required shall be a minimum of 25% of all kitchen area based on wall-to-wall dimensions. This area shall be equipped with adequate and approved shelving for storage purposes. It shall not include floor area where desks, equipment, ladders, or other items may be placed. Several methods of determining the minimum space may be used:

1. 25%.of all kitchen areas (calculations of the percentage of kitchen area for food storage purposes shall be based on wall-to-wall dimensions of the food preparation areas), or

2. one (1) square foot per person seating capacity.

B. TYPE OF SHELVING

1. Kitchen: All shelving must meet National Sanitation Foundation standards.

2. Dry Storage: All shelves shall be constructed of metal or a material which has been finished so as to have smooth, .easily cleanable, non-absorbent surfaces. Shelves subject to heat or moisture shall be of rust-resistant metal.

   Non NSF approved shelving in dry storage areas may be used provided:

   a) the particular area used Shall be a separate room isolated from other food service operations.

   b) stored items shall not consist of open foods.

c) shelves shall be designed and fabricated in accordance with Rule 4.10 of the state of Illinois Food Service Sanitation Rules and Regulations.

d) final approval shall be reserved for on-site inspection by the field sanitarian.

3. Walk-in Refrigerator: All shelving must meet National Sanitation Foundation standards; in addition, shelving installed in walk-in refrigerators shall be made of rust-resistant metal, or other impervious material, and shall be designed for ease of cleaning.

4. Walk-in Freezer: Same as above.

5. Installation: All shelving shall be at least six (6) inches above the floor.

C. LOCATION OF STORAGE

1. Cooking Utensils: An adequate area shall be provided for the storage of all cooking utensils, above the floor, in a clean, dry location, where they will be protected from dust and splash.

2. Clean/Soiled Linen Storage: An area shall be provided for the storage of clean linen. Soiled linens shall be stored separately.

3. Chemical storage: .Poisonous or toxic materials shall be stored in cabinets that are used for no other purpose, or in a place other than an area where food is store, prepared, displayed, or served, and other than an area where clean equipment or utensils are stored. Bactericides and cleaning compounds shall not be stored in the same cabinet or area of a room with insecticides rodenticides, or other poisonous or toxic materials.

   They may be stored in an area separated from food within the food storage room, but shall not be intermingled with food products.

4. Maintenance Equipment: An area shall be provided for storage of maintenance and cleaning equipment. Hooks shall be provided over the janitorial sink so the wet mop may drip dry (refer to Figure 9 in Section VI PLUMBING.

V. EMPLOYEE AREAS AND HANDWASHING FACILITIES

A. EMPLOYEE AREA

1. A room or enclosure shall be provided where employees may change and store their outer garments. This area shall not be located in areas used for food preparation, storage, or service, or for utensil washing or storage, except that a storage room containing only completely packaged food may be so designated.

2. Enough lockers or other suitable facilities shall be provided and used for the storage of employee clothing and other personal belongings, if dressing areas are designated, the lockers, or other facilities shall be located within those areas.

B. WASHROOMS

1. Toilet facilities for employees shall be provided and installed according to law, conveniently located and accessible to employees at all times. If toilet facilities are provided for the public, they shall meet the requirements herein.

2. Toilet rooms shall be completely enclosed and shall have tight-fitting, self-closing doors.

3. Room finishes (floors, walls, and ceilings): See ROOM AND AREA FINISHES for these requirements.

4. Toilets: Flush tanks are to be equipped with anti-siphon ballcocks. Flush valves are to be equipped with vacuum breakers. Toilet seats are to be of the open front type. Toilet bowls shall be the elongated type.

5. Urinals are to be equipped with vacuum breakers on flush valves or anti-siphon ballcocks on flush tanks.

6. All washrooms shall be mechanically vented to the outside.

C. HANDWASHING FACILITIES ,

Handwashing sinks shall be located within, or immediately adjacent to, all toilet rooms or vestibules.

A sufficient number of handwashing sinks shall be located to permit convenient use by all employees in food preparation and utensil washing areas. In bar areas where manual wash, rinse and sanitizing of glassware is done, a separate handsink is not required. In bars where mechanical glasswashers are used, a handwashing sink shall be installed.

3. Each lavatory shall be provided with hot and cold water tempered by means of a mixing valve or combination faucet. Any self-closing, slow closing, or metered faucet must be designed to provide a flow of water for at least 15 seconds without the need to reactivate the faucet.

4. A supply of soap or detergent in a sanitary type dispenser shall be provided at each handsink.

5. Approved sanitary towels shall be provided in permanently installed, enclosed dispensing devices conveniently located at each hand sink. If disposable towels are used, waste receptacles shall be conveniently located near the handwashing facilities.

VI. PLUMBING

A. GENERAL GUIDELINES

All plumbing shall be installed in accordance with the Village of Glenview Plumbing Code. Following are plumbing guidelines for all food service establishments:

A complete reduced backflow preventer assembly with brass strainer must be installed after the water meter. The assembly must be tested and the results sent to the Glenview plumbing inspector at the time of occupancy.

All water lines running to any water receiving machine must have an in-line ASSE backflow protector between the shut-off valve and the machine. Approved protectors include Watts 9BD or N-L-F9 or N9.

Above ground water piping must be type L copper pipe.

Below ground water piping to be type K copper pipe.

Hose connections are to be 7'6" off a finished floor.

Underground drainage to be 4" SV cast iron pipe.

Underground re-vent soil pipe to be 2".

Wet venting is not allowed.

Single, double or triple compartment sinks must discharge through an approved ASSE grease trap that must retain 90% of all grease from that sink.

Compartment sinks as well as dishwasher and ice maker dischargers must discharge with an air gap into a porcelain finished floor drain or sink.

Open site floor drains or sinks must be porcelain finished, or brass or copper units. They must be a minimum of 4" on inside diameter and be individually trapped and vented.

A grease catch basin outside the building with MWRD (Metropolitan Water Reclamation District) approval is permitted. If an outside catch basin is used, inside grease traps are not required.

When inside grease traps are used, sinks must discharge directly into the trap by way of solid connection (NO P-traps) and then discharge open sited into the floor sink.

When outside catch basins are used, the sinks will discharge open sited, into the floor sink. Grease traps will not be used.

No PVC piping is allowed.

Above ground soil, drainage venting and waste piping is to be either regular SV cast iron, NO-HUB cast~ iron, or DWV copper or brass piping.

Full size cleanouts are required at 50 foot intervals of soil piping and at all turns.

Public and employee washrooms are required to have a 4" floor drain.

Employers are to provide an isolated toilet room with one water closet.

In summary, sinks listed below must have an approved grease trap or catch basin:

Single Compartment Sinks
Double Compartment sinks
Triple Compartment sinks
Vegetable Preparation sinks
Food Preparation sinks.

B. WATER SUPPLY

An adequate supply of potable water to satisfy the needs of the food service establishment shall be provided from the Glenview public water supply.

C. SEWAGE DISPOSAL

All water-carried sewage shall be disposed of by means of a public sewage system.

D. GREASE INTERCEPTORS

Grease traps, grease interceptors, or catch basins, if required by the local sanitary district, shall be installed in the following manner:

1. An outside grease catch basin shall be installed with access for maintenance purposes.

2. If an outside grease catch basin is not feasible, a recessed grease trap shall be installed in the following manner:

    a. The lid shall be mounted flush with the floor.

    b. The minimum inlet and outlet shall be three (3) inches in diameter.

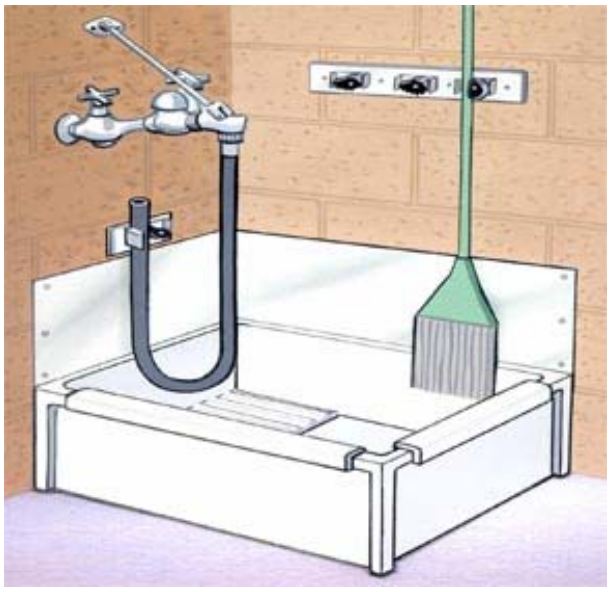
    c. It shall be constructed of durable, corrosion-resistant materials and shall have a water-tight lid securely fastened in place.

    d. Lid and baffles must be accessible for maintenance functions.

E. JANITORIAL SINKS

1. A single-compartment janitorial sink with hot and cold water under pressure shall be provided and installed for general clean-up activities in all food businesses.

2. A curb area, with a drain, provided with a hot and cold mixing faucet, is preferred in lieu of a Janitorial sink.



(Figure 9)

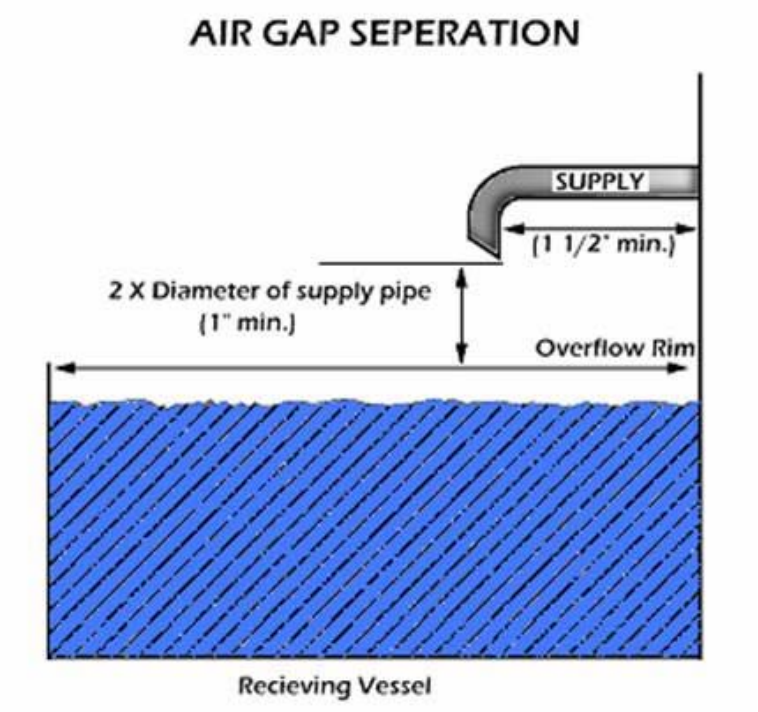
F. OVERHEAD SEWER LINES

1. Sewage and Waste lines shall not be located directly above such areas as food preparation, food display, food storage, and utensil washing areas.

2. If sewer lines must be installed over the afore-mentioned areas, they shall be guttered with a seamless safe pan or gutter which is functional and which will carry any leakage away from the food or utensil zone.

G. POTABLE WATER BACKFLOW PROTECTION

1. All water inlets shall have an air gap between the water inlet and the fixture it is serving. The air gap shall be two (2) times the diameter of the water inlet or faucet. Any water inlet, faucet, etc., 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 (Figure 10).



(FIGURE # 10)

2. Vacuum breakers are required on any submerged inlet such as toilets, urinals, dishwashers, garbage grinders, and any threaded water outlets.

3. Double check valves with atmospheric vents or reduced zone backflow preventors are required on any water outlet on which a vacuum breaker cannot be installed after the last shut-off valve or solenoid switch, and is considered a submerged inlet (i.e. pressure spray hoses).

4. Carbonators must be equipped with a minimum of a double check valve with an intermediate atmospheric vent preceded by a strainer with a screen of 100 mesh per square inch.

H. INDIRECT WASTE CONNECTIONS

1. Dishwashing machines, dishwashing sinks, pot washing sinks, pre-rinse sinks, silverware sinks, bar sinks, soda fountain sinks, potato peelers, ice machines, steam tables, steam cookers, ice bins, salad bars, dipperwells, and other similar fixtures shall b e indirectly connected.
   a. An indirect connection discharges waste through an air gap into the drainage system and is not connected directly to the drainage system (Figure 11).

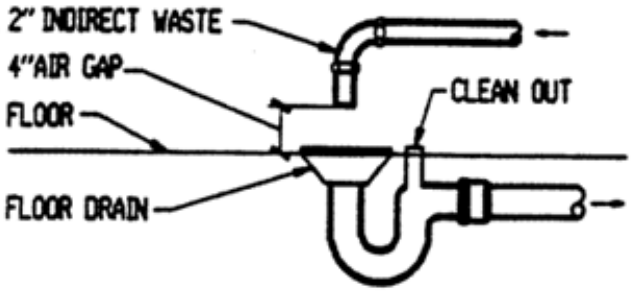


Figure # 11

b. The indirect piping from the fixture to the air gap shall not exceed five (5) feet.

c. Indirectly connected fixtures shall discharge to a vented trap located as close as possible to the fixture and in the same room.

d. 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 (1) inch.

e. Receptors receiving indirect waste shall be installed in accessible and ventilated areas and designed and sized to prevent overflow and splashing. When installed inside cabinets, the rain hub receiving waste must be extended through the base of the cabinet and the base sealed around the drain.

f. No plumbing fixture shall be used to receive the discharge of an indirect waste pipe.

2. The only exception to the indirect connection requirement shall be when the fixture is located adjacent to a floor drain, the waste may be directly connected to the sewer side of the floor drain trap provided:

   a. The floor drain is trapped and vented as required by the State of Illinois Plumbing Code.

   b. The floor drain is within four (4) feet horizontally of the fixture and in the same room.

   c. No other waste is connected between the floor drain trap and the fixture is protected (Figure 12).

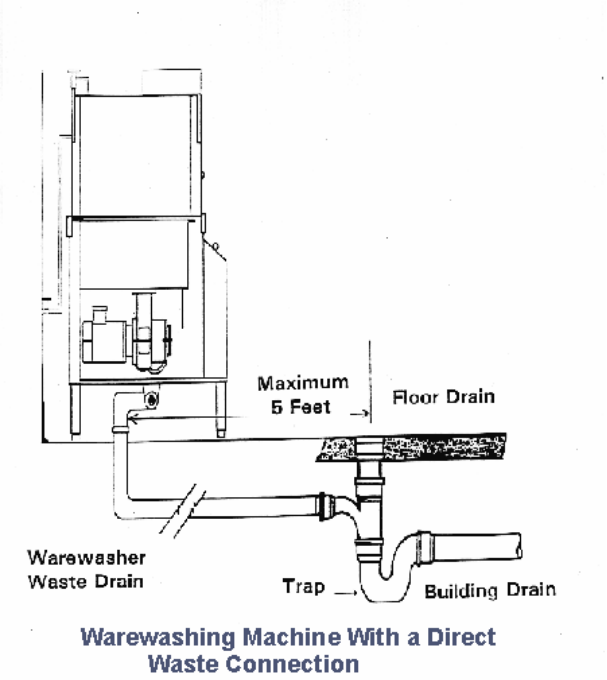


Figure 12

I. FLOOR DRAINS: WALK-IN REFRIGERATORS/FREEZERS

Floor drains are not allowed in walk-in refrigerators or freezers.

VII. SANITIZING EQUIPMENT AND FACILITIES

A. HOT WATER SYSTEM

A hot water system shall be capable of supplying water at 140 degrees Fahrenheit to all dishwashing facilities during periods of maximum demand.

B. UTENSIL SINKS

1. Where pots, pans, multi-use eating and drinking utensils are washed by hand, a three-compartment NSF approved, stainless steel sink with two (2) integral drainboards shall be provided. Each compartment shall be as large as the largest utensil, and at least twelve (12) inches by twelve (12) inches deep.

2. Each drainboard shall be at least as large as the largest sink.

3. When hot water is used for sanitizing, the following facilities shall be provided:

    a. An integral heating device or fixture installed in or under the sanitizing compartment of the sink, capable of maintaining the water at a temperature at least 170 degrees Fahrenheit.

    b. A numerically-scaled indicating thermometer accurate to plus (+) or minus (-) three (3) degrees Fahrenheit, integral, to the sink, that can be used for frequent checks of water temperature.

c. Dish baskets of such size and design to permit complete immersion of the tableware, kitchenware, and equipment in hot water.

d. When any of the above equipment is installed next to a wall, a "splash back" of at least six (6) inches shall be provided and shall be made of metal and shall be formed as part of the equipment.

C. UTENSIL STORAGE

Adequate storage shall be provided for both clean and soiled utensils.

D. MECHANICAL UTENSIL WASHING

1. General requirements:

   a. All spray-type dishwashing machines shall conform to standard #3 of' the NSF'S latest amendment.

   b. A "soiled dish table" of adequate size for the proper handling of soiled utensils, prior to washing, must be provided. The "soiled dish table" shall not drain into the washing compartment of the dish machine. A table scupper shall be across the entire flat section of the table to prevent soiled water and debris from draining into the wash tank.

   c. Every dishwashing installation shall be provided with. a "clean dish table". This installation shall provide room for the temporary storage of utensils and racks, immediately after being removed from dish machines. The "clean dish table" must be sloped to drain into the machine.

   d. Easily-Readable, numerically-scaled indicating thermometers, accurate to plus (+) or minus (-) three (3) degrees Fahrenheit shall be provided which will indicate the temperature of the water in each tank of the machine, and the temperature of the final rinse water as it enters the manifold.

   e. Mechanical exhaust ventilation shall be provided over all dishwashing machines when necessary to effectively remove steam and vapors.

2. Chemical sanitizing machines:

   a. Chemical sanitizing machines must meet all the criteria stated under General Requirements for Dish Machines.

   b. A sanitizer alert system must be installed which automatically warns the user that the sanitizer supply has been depleted by a red warning light and audible alarm.

3. Hot water sanitizing machines:

   a. Hot water sanitizing machines must meet all the criteria stated under General Requirements for Dish Machines on page 19.

   b. A booster heater is necessary if a special high-temperature water heating system is not installed to heat warm (140 degree Fahrenheit) water to higher temperatures in order to supply at least 180 degrees Fahrenheit final rinse for the dish machine. The heater size shall be determined by the demand rinse of the dish machine.

   c. A temperature gauge shall be installed on the service line just before the booster heater.

   d. Installation of the heater and the booster heater should be as close as possible to the machine so as to avoid heat loss in the lines.

   e. The hot water system must be designed so hot water is delivered to the final rinse almost the second the rinse valve opens. For machines designed for intermittent operation, this requires special arrangements. When the length of the line from the booster to this machine exceeds five (5) feet, the system must be so designed as to be recirculating.

   f. A pressure regulator, designed to withstand scalding temperatures, must be installed so the flow pressure is approximately twenty (20) pounds per square inch.

   g. A thermometer and pressure gauge are required on the final rinse line. The pressure gauge must be installed after the pressure regulator. The gauge cock is equipped with standard threads on which a pressure gauge may be attached to check flow pressure.

VIII. GARBAGE AND REFUSE DISPOSAL

A. GARBAGE CONTAINERS

1. Sufficient containers, with tight-fitting covers, shall be provided to contain any garbage or refuse in a nuisance-free manner until it can be picked up by a disposal company.

2. Compactors shall be of tight construction, and be able to contain any liquid deposited in them.

3. Incinerators: Where garbage or combustible rubbish is burned on the premises, an approved incinerator shall be provided, and shall be operated in such a manner as to comply with state and local regulations.

B. GARBAGE AREA

1. A concrete or asphalt platform shall be provided, large enough to contain all garbage containers and grease barrels.

2. The area must be pitched to a drain connected to a sanitary sewer. The local sanitary district must be consulted.

3. Enclosures (the vertical surfaces immediately adjacent to the garbage area) shall be constructed so they are smooth, grease-resistant, and easily cleanable.

4. Hot water for clean up of the enclosure and surrounding area must be provided and accessible.

5. Garbage rooms located inside the building:

   a. room and area finishes shall meet the same requirements as FOOD PREPARATION AREA (see Section III, ROOM AND AREA FINISHES).

   b. shall be maintained at a temperature of fifty (50) degrees Fahrenheit or less.

IX. LIGHTING

A. The working surfaces of any room, or area in which food or beverages, other than alcoholic beverages, are prepared, or in which utensils are washed, shall be provided with at least fifty (50) foot candles, measured thirty (30) inches above the floor.

B. All bar sinks shall be provided with at least thirty (30) foot candles of light directly over the sink units at all times during operating hours. In addition, at least thirty (30) foot candles of available lighting shall be provided in the .general bar area for cleaning.

C. All other rooms or areas shall be well lit throughout with a light intensity of not less than thirty (30) foot candles, measured thirty (30) inches above the floor.

D. Food and utensil storage rooms, toilets, and dressing rooms shall be provided with at least thirty (30) foot candles of light, measured thirty (30) inches above the floor. Lighting in walk-in refrigeration units shall be placed so it is not obstructed by the normal storage of food on the shelves.

E. Protective shielding for lighting fixtures is required over all preparation, display, food service, food storage, and utensil washing areas.

F. Infra-red 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.

X. INSECT AND RODENT CONTROL

A. OUTSIDE FOODSERVICE OPENINGS
(Drive-up, Drive-through; and Walk-up Windows)

1. Exterior food pass-thru drawers shall be constructed with a removable pan with seamless, coved corners.

2. Exterior food pass-thru windows:

   a. The counter surface of the pass-thru window shall be constructed so as to be smooth and easily cleanable.

   b. Window slide channels shall be open-ended to provide for easy cleanability.

   c. Fly protection must be provided by one or more of the following methods:

      1) Windows must be equipped with a self-closure device.

      2) Air curtain must be installed so that a curtain of air velocity is produced vertically downward, running parallel with the window opening, within one (1) inch (inside or outside) of the window opening, along the entire width of the window opening. The minimum velocity shall be seven hundred fifty (750) feet of air per minute along the entire horizontal width of the window opening.

      3) Fly Fan: one (1) mounted over each window, and installed within twelve (12) inches, from the wall. Each fan must provide a downward thrust of air at a minimum velocity of seven hundred-fifty (750) feet of air per minute along the entire horizontal width of the window opening.

B. DELIVERY DOORS

1. All delivery doors leading to the outside shall be self-closing and tight-fitting.

2. All delivery doors shall be provided with an overhead curtain of air with a minimum velocity of seven-hundred-fifty (750) feet of air per minute over the entire opening, down to three (3) feet above the floors.

C. ENTRANCE DOORS

All customer doors shall be self-closing and tight-fitting.

D. WINDOWS

All openable windows, except food pass-through windows, shall be screened with at least 16-mesh to the inch screening.

E. BUILDING - INSECT AND RODENT CONTROL

1. All masonry or cement foundations shall be rodent proof.

2. All building vents shall be covered with minimum of sixteen (16) mesh per square inch wire screen.

3. Openings into the foundations and exterior walls for pipes, wires, or conduits shall be sealed.

4. Where conduits or pipelines enter a wall, ceiling, or floor, the opening around the line shall be tightly sealed.

XI. LAUNDRY FACILITIES

A. A solid, tight fitting, self-closing door shall separate food service operations from any laundry area except that laundry operations may be conducted in a storage room containing only packaged foods.

B. If a washing machine is provided, a dryer must be installed.

C. Clean and soiled linen storage: see LOCATION OF STORAGE.

XII. EXHAUST HOOD VENTILATION FOR KITCHEN EQUIPMENT

A. PLAN REQUIREMENTS

This standard covers the sanitation and ventilation performance requirements for commercial hoods and other devices used to provide ventilation for cooking equipment. Such ventilation equipment includes exhaust hoods, slot and ventilator units, plenum chambers, grease filters and/or extractors exhaust fans, and all other elements that make up the ventilation system, as well as the requirements for the make-up air.

Any questions regarding specific ventilation problems shall be directed to the Glenview Departments of Health, Fire and Building.

It is extremely important that all plans and specifications governing the installations of new exhaust systems or the repair to existing systems be submitted directly to the Glenview Departments of Health, Fire and Building, and approval be obtained prior to starting construction of any portion of the installation. In this way, confusion, costly delays, and expensive changes may be avoided.

1. Plans submitted to this office for new exhaust system installations or major modifications must contain the following information:

   a. Size of hood(s)

   b. Type of hood (s)

   c. Total CFM removal for each hood

   d. Total static pressure

   e. Type of filter used

   f. Air flow characteristics per filter (CFM per filter in relation to static pressure)

   g. Size of individual filter(s), net

   h. Duct size(s) and explanation, or drawing of ductwork to fan

   i. Duct velocity

   j. Type of fan (include manufacturer's name and model number) and CFM removal capability (range)

   k. Make-up air details

2. Plan drawing(s) shall be drawn to scale and show type Of equipment to be served and installation (spacing) of that equipment.

B. DEFINITIONS

1. Readily accessible: shall mean exposed or capable of being exposed for cleaning and/or inspections without the use of tools.
2. Canopy hoods: shall mean an overhead hood which completely covers the equipment it is designed to serve.

3. Capture velocity: shall mean the velocity of air required to entrain vapors, mists, particulate matter, grease, steam heat, and smoke.

4. Cleaning: shall mean the removal of food residues and other soiling materials in a sanitary manner.

5. Easily cleanable: shall mean readily accessible of such material and finish, and so fabricated that cleaning can be accomplished by normal methods.

6. Closed: shall mean having an opening of not more than one-thirty second (1/32) of an inch.

7. Commercial cooking and/or dishwashing equipment: shall mean equipment used in a food service establishment which in the course of its use may produce smoke, steam, grease, mists, particulate matter, or odors.

8. Grease filter: shall mean a device containing a non- flammable filtering agent through which exhausted air is passed for the ·purpose of filtering grease and contaminants before the cooking vapors enter the exhaust duct system.

9. Grease extractor: shall mean a device other than a "Conventional grease filter" intended to remove grease and other contaminants, before cooking vapors enter the exhaust duct system.

10. Hood: shall mean a device intended f6r cooling vapors, mists, Particulate matter, grease, steam, heat, and smoke before entering the exhaust duct, and in which ere located the grease filters or extractors.

11. Low side wall hood: shall mean a wall hood that has a maximum height of three (3) feet above the cooking surface. This hood is synonymous with most of the proprietary devices known as ventilators.

12. Sealed: shall mean having no openings that will permit the entry of seeping liquids.

13. Static pressure: shall mean the potential pressure on the fan by the resistance of air movement within the exhaust ventilation system and component parts thereof.

C. MATERIALS

All hoods and components thereof shall be fabricated or otherwise constructed of materials which will comply with the applicable requirements of NSF Basic criteria C-2. Hood surfaces must be constructed of smooth, easily cleanable, durable, and corrosion- resistant metal. The hood and other parts of the primary collection system shall be constructed of aluminized steel (No.18 MSG) or stainless steel (No. 20 MSG)

D. DESIGN AND CONSTRUCTION

1. Hoods:

   a. General: Commercial cooking and/or dishwashing equipment exhaust units shall be so designed, fabricated; and reinforced so as to withstand the forces and actions to which they would be exposed without buckling, cracking, or significantly distorting.

   b. Hoods shall be so designed as to not interfere with normal combustion processes and/or exhaust of the products of combustion from commercial cooking equipment or heating equipment.

c. Joints and seams: All joints must be structurally sound without the use of solder. Joints and seams which are exposed on surfaces of the plenum, hood, or other portions of the system containing exhaust air shall be sealed.

d. Reinforcing and framing: the design of the exhaust system shall be such as to minimize exposed bracing, channels, crevices, or other areas in which grease, dirt, and similar materials may accumulate.

e. Gutters are not required around the lower edge of the hood. Gutters, if provided, shall be designed and constructed to be easily cleanable. Drip pans, when used; shall be located outside of the plenum and shall be so arranged that grease or condensate accumulations can be easily cleanable.

f. Fire-resistant, artificial lights may be installed on the inside of the hood.

g. Kitchen exhaust systems using grease extractors must follow the manufacturer's recommendations in the design and construction of new systems so as to have optimum grease removal, air movement, and air velocity.

2. Filters and extractors:

a. All exhausted air, before entering the ductwork, must pass through easily removable, washable grease filters or approved extractors.

b. Permanent, easily cleanable metal filter racks, holders, or frames must be installed.

c. Where grease extractors are used, the grease extractor holders must be so designed and constructed as to transport the extracted grease in a safe and nuisance-free manner to a collecting device outside the hood cavity. The collecting device shall be constructed of metal and be located at lease eight (8) inches off the floor. The collecting device must be easily removable for cleaning purposes.

d. Grease filters or extractors shall be constructed of non-combustible materials and shall be installed in frames, racks, or holders of such design as to minimize air bypass,: such as accomplished by a continuous surface-to-surface contact between filter frames and mounting frames. Grease filters or extractors must be so installed as to be easily removable for cleaning purposes without the use of tools.

e. Filters or extractors must be sized so they may pass through a dishwashing machine or be cleaned in a pot sink.

f. Grease filters or extractors shall be installed at a forty-five (45) degree to sixty (60) degree angle to horizontal.

g. Grease filters must have a two (2) inch thickness and be sized for a maximum exhaust of two (2) CFM for each square inch of net filter area.

h. Grease extractors must be sized according to the manufacturer's recommendations for optimum total grease removal efficiency, optimum air movement, total CFM's to be exhausted and air velocity.

3. Ducts:

a. All exhaust systems and portions thereof must be so designed and constructed as to exhaust the air through ducts directly to the outside atmosphere in a safe and nuisance-free manner.

b. All ducts shall be constructed with a minimum of bends.

c. All ducts must be smooth, easily cleanable, durable, and made of a corrosion-resistant metal.

d. Multiple take-off ducts are required for all hoods ten (10) feet or more in length. When required, they shall be equally spaced, but at no greater interval than eight (8) feet, as measured from the center line of each duct. On all hoods having multiple take-off ducts, each duct would have a maximum radius of influence of four (4) feet or less.

e. Cleanouts shall be provided every twenty (20) feet in a horizontal exhaust duct, and at every change in direction. Openings shall be at the sides and large enough to permit cleaning. In horizontal sections, the lower edge of the opening shall not be less than one and one-half (1-1/2) inches from the bottom of the duct. Covers shall be made of the same material, and be grease-tight when in place.

4. Fans:

a. The fan(s) must be designed and sized to remove the total CFM’s, of exhausted air as determined by the type of hood installation and based upon the minimum CFM requirements as outlined in the Performance Requirements of this Standard.

b. All fans must: be designed and sized to remove the required CFM’S at a specified static pressure based upon each individual installation.

c. The minimum static pressure shall be one-half (1/2) inch.

d. All fans must be designed, sized, and placed in such a manner as to prevent ill effects by the wind.

E. PERFORMANCE REQUIREMENTS

1. The area of the open-faced portion of the hood shall determine the CFM's required to be removed by the entire system.

2. Wall-hung hoods shall have a minimum air removal based on one hundred fifty (150) CFM per square foot of open-faced portions of the hood.

3. Island-type hoods shall have a minimum air removal based on one hundred fifty (150) CFM per square foot of open- faced portions of the hood.

4. Partial or no-overhang hoods (slotted vent, low side wall, ventilator systems) shall have a minimum air removal based on three hundred (300) CFM's per lineal foot of length of hood with at least one-half (1/2) inch static pressure.

5. On wall-hung hoods six (6) feet in length or less, with only one side exposed, a minimum air removal of fifty (50) CFM per square foot of open-faced portion of the hood will be required.

6. Duct air velocity must be a minimum of one thousand five hundred (1,500 feet per minute with a maximum of two thousand two hundred (2,200) feet per minute.

7. A minimum of fifty (50) FPM capture velocity at the cooking surface (level) shall be maintained no matter what type of exhaust system is used.

F. INSTALLATION REQUIREMENTS

1. The maximum distance between the bottom edge of the hood and the floor shall be seven (7) feet.

2. The maximum height of the bottom edge of the hood above the cooking surface shall be four (4) feet.

3. The minimum depth (height) of the hood shall be twenty-four (.24) inches.

4. All open sides of the hood must overhand all cooking units by at least twelve (12) inches (refer to Figure 14 for details).

5. Hoods less than eighteen (18) inches from the ceiling or wall shall be closed (flashed) solid with approved metal to the ceiling or wall.

6. The minimum distance between the lowest edge of a grease filter or extractor and the cooking or heating surface shall be:

   a. three (3) feet or more for exposed and unexposed flame units, and

b. at least four (4) feet for charcoal and char-broiler units.

7. All piping and/or electrical conduit shall be spaced one-half (1/2) inch to one (1) inch away from all interior or exterior hood surfaces.

8. There shall be no horizontal piping or fusible links below the filter area in the hood. Horizontal Piping used for fire protection purposes must be placed above the hood or in the plenum area.

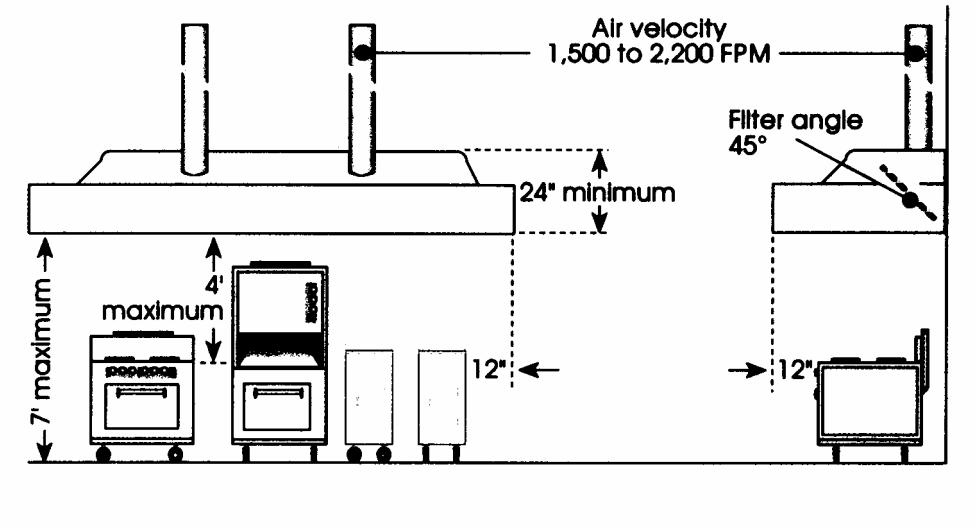


Figure # 14

G. MAKE-UP AIR REQUIREMENTS

1. All exhaust systems with air removal of over one-thousand-five-hundred (1,500) CFM must be provided with sufficient make-up air equal to or slightly less than the total CFM's to be exhausted.

2. The make-up air is to be introduced into the kitchen area in a manner which will not interfere with the capture characteristics of the exhaust system nor create discomfort to the employees.

3. Make-up air must be evenly distributed along the hood periphery if the make-up air is directly adjacent to the exhaust hood.

4. Make-up air that is gravity fed and untempered must be designed with extreme care for proper functioning and minimal discomfort to the employees. (For suggested method see Figure 15)

5. The air supplied to the kitchen and food preparation area shall be free from contamination by dust, vapors, or gasses. A bird screen and filter must be provided to prevent ingress of foreign matter.

6. Air intakes shall be located at least ten (10) feet from any exhaust outlet or vent.

7. Air exhausting devices shall be interlocked with make-up air controls so they cannot be operated independently.

8. Insulation applied on the interior: of duct work is prohibited. All insulation is to be applied to the exterior with a smooth, easily cleanable surface.

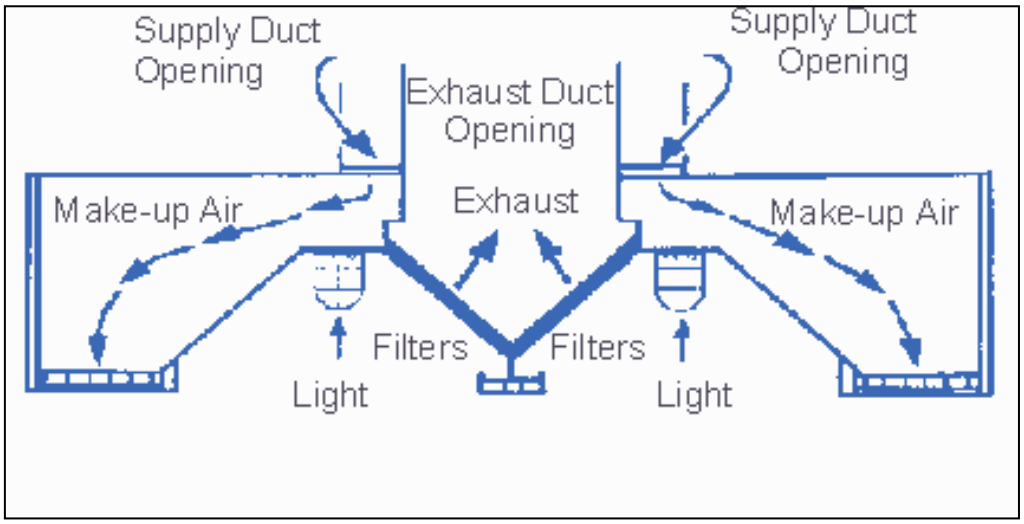


Figure # 15

H. ADDITIONAL REQUIREMENTS

1. All installations must be installed in complete accordance and as specified by all municipal, county, State, fire and building department's requirements and recommendations. NOTE: Glenview Fire Department requires compliance with National Fire Protection Association (NFPA) pamphlet 96.

2. For all proposed installations that are not conventional design, a detailed review and conference with designing or construction personnel will be required to show and determine the system's adequacy.

3. A field approval must be obtained before the ventilation Contractor leaves the job site.