Elk Grove Village Community Development Department
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PART 2:

FOOD SERVICE ESTABLISHMENT PLANNING GUIDE

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1. PLANS AND INSPECTIONS

A. PLANS

One set of detailed plans, specifications, and a completed plan review form including the exhaust plan review form must be submitted before constructing, enlarging, altering, or converting any building for use as a restaurant, tavern, or food service facility.

The plans are to include:

1. Complete architectural, plumbing, and floor plan layouts.
2. Complete food service equipment layout.
3. Elevations of equipment should be included.
4. Room and area finish schedules for walls, floors, ceilings, and covered surfaces.
5. All food service equipment, specifications and manufacturers name and model numbers. **Include equipment cut sheets/schematics.**

Plans that are incomplete and plans that have several changes **will not** receive approval.

If any changes are desired after the plans have been approved by this Department, changes must be submitted in writing to receive approval.

Any construction methods, 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 conducted by representatives of the Health Services Department.

Plumbing rough-in, pre-opening, and opening inspections are required. Additional inspections or field consultations may be obtained by calling the Elk Grove Engineering & Community Development Department or the Health Services Department.

When the plans have been approved, the construction has been completed, and approved equipment has been installed, a pre-final inspection will be conducted. For this inspection turn on all coolers and freezers and ensure proper temperatures are maintained. DO NOT STORE ANY FOOD PRODUCT IN THE FACILITY UNTIL APPROVAL IS GRANTED BY THE DEPARTMENT.

2. EQUIPMENT

A. MATERIALS AND DESIGN

All food service equipment shall be constructed to conform to National Sanitation Foundation (NSF) Standards regarding design, materials, and workmanship. An aisle space of thirty-six inches (36") minimum shall be provided within all work and storage areas.

B. INSTALLATION

1. Table-Mounted Equipment: Equipment that is placed on tables or counters, unless portable shall be sealed to the table or counter (using a 100% silicone sealant) 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 & 2).

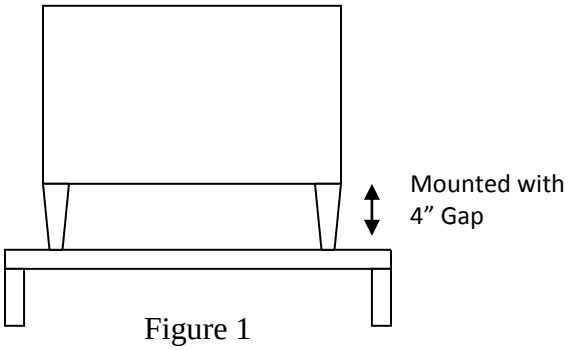

Figure 1

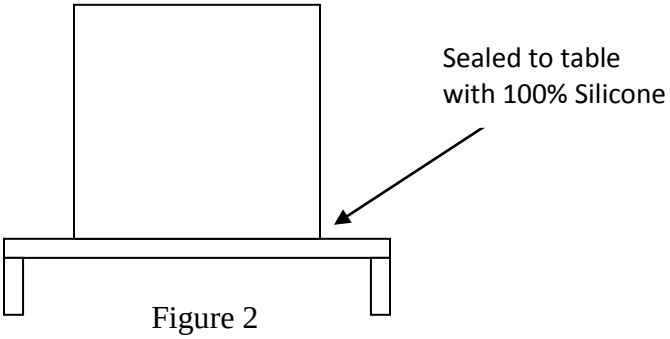

Figure 2

2. Floor-Mounted Equipment: Floor-mounted equipment shall be installed in one or more of the following ways:

   a. On casters (refer to Figure 3)

      1. With smooth and flexible utility connections, adequate in length to clean around and behind the equipment or

      2. With smooth and 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):

      1. Installed on a minimum of six (6″) inch 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 not be less than six (6″) inches.

3. When the distance “A” to clean is greater than two (2′) feet, but less than four (4′) 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.

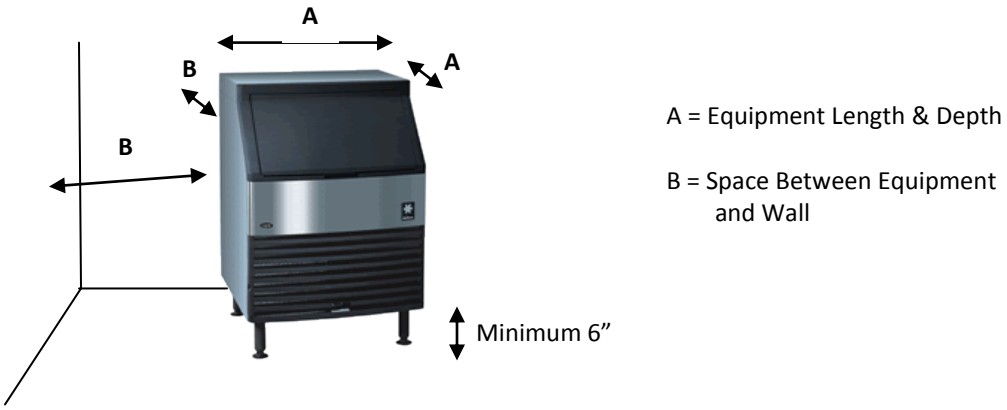

Figure 4

c. Sealed to walls, floors, or adjacent equipment using a 100% silicone sealant (refer to Figure 5).

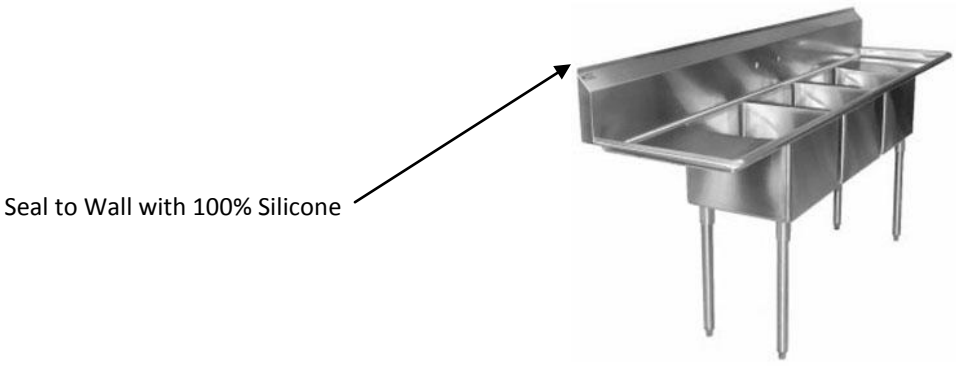

Figure 5

d. Considered portable (weighting less than 75 pounds with no rigid utility connections).

e. Raised floor platforms are not approved where equipment is installed directly over waste connections or where equipment cannot be adequately sealed in place as stated above.

3. All utility lines (plumbing, gas, electrical, refrigeration, etc.) shall be kept to a minimum, elevated at least six inches off the floor, and at least one-half inch away from the walls.

4. The space between the top of the walk-in refrigerator or freezer and 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 inches should 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 e needed for storage of other bulk food dispensing utensils.

3. Dishwasher: See MECHANICAL UTENSIL WASHING on page 17.

4. Food Preparation Sink: When a sink is needed for the washing or preparation of food, a separate sink (consisting of a single basin with attached drain board) shall be installed for that purpose only.

5. Hand Washing Sinks: See EMPLOYEE AREAS AND HAND WASHING on page 11.

6. Janitorial Sink: See Plumbing on page 12.

7. Refrigerated Work Tables: When potentially hazardous foods are in use on a continuous basis, a refrigerated table with storage compartments on top shall be installed. Metal pan inserts are highly recommended.

8. Shelving: See STORAGE FACILITIES on page 9.

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

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

11. Stainless steel work surfaces or the equivalent shall be installed where food is prepared.

12. Cheese melters are to be installed under an exhaust system and are to be located over noncooking equipment or low heat producing equipment. If the cheese melter must be installed over cooking equipment, an angled or coved deflector must be installed which completely encloses the bottom of the cheese melter (refer to Figure 15). The deflector will direct vapor and hot gases toward the front of the cheese melter and prevent condensation from dripping onto food contact surfaces. The deflector must be constructed of stainless steel with all seams welded liquid tight.

13. 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, and 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 6 & 7). Scaled drawings of this equipment must be submitted to this Department for approval.

Figure 6

Figure 7

    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.

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

        1. Serving utensils and containers: Serving utensils (spoons, tongs, etc.) and food containers shall be of such size and configuration and matched 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 serving line with the food contact surfaces protected from contamination by customers.

3. Temperature control: The temperature of all readily perishable foods shall be maintained below 41ºF or above 135°F. **Metal pans and inserts are recommended for top loaded preparation coolers**.

14. 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 on page 21.

Equipment capable of producing excessive heat or steam also needs to be equipped with an adequate exhaust system.

15. Hand Washing & Utility Sink Splash Guards:

A splash guard must be installed when a hand washing or utility sink is within 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 10 inches in height from the floor.

The splash guard must be at least 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 1/8 inch radius cove.

3. 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. (Commercial grade vinyl composition being the minimum grade material that is acceptable). A two part epoxy flooring system may be considered for high moisture areas.

   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. Floor drain grate covers must be made easily removable. Drains must be located accessible for cleaning. The floor shall be graded to drain.

   Mats, or other similar types of supplemental flooring, if used, shall be 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 and have a light colored finish. The installation of special wall paneling (i.e., FRP) requires 100% back surface of each panel to be coated in adhesive.

4. Ceilings: Ceilings shall be smooth, non-absorbent, capable of withstanding frequent cleaning, and light colored. Vinyl clad gypsum board tiles are recommended for drop ceiling systems.

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 STORAGE 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 REFRIGERATION/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. WAITRESS 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 of a minimum of three feet from the counter.

   Waitress 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: At any station where food is picked up, the ceiling shall be smooth, non-absorbent, light-colored, and capable of with-standing frequent cleaning. At waitress stations within the dining room, the dining room ceiling finish may be used.

G. BAR

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

2. Coving: The base coving shall meet the same requirement as stated for the FOOD PREPARATION area.

3. Walls: Exterior walls may have the same finish as the rest of the room. Interior walls and underside of bar top shall meet the same requirements as stated for the FOOD PREPARATION area.

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

H. RESTROOMS

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

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

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

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

5. Covered waste receptacles are required in the restrooms.

I. DRESSING AND LOCKER ROOM

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

J. DINING ROOMS

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

K. BUFFET 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 stated for the FOOD PREPARATION area.

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

3. Walls: When the buffet is placed against a 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 AREAS

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

4. STORAGE FACILITIES

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 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.

B. TYPE OF SHELVING

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

2. Dry Storage: All shelves should be constructed of metal or 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 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 (Section 3-5A-1 of the Elk Grove Village Food Service Sanitation Rules and Regulations).

   d. final approval shall be reserved for on-site inspection by the Elk Grove Health Inspectors.

3. Walk-in Refrigerator and Freezer: 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. **Open wire rack shelving is required.**

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

C. LOCATION OF STORAGE

1. Adequate area shall be provided for the storage of liquor and beverages. This shall be in addition to the space required for DRY STORAGE AREA, see page 9.

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

3. Clean/Soiled Linen Storage:

    a. An adequate area must be provided for clean linen storage where the clean linen will be protected from contamination.

    b. An area must be provided for the location of a covered, non-absorbent container or washable laundry bag, for holding damp or soiled linen and clothes.

4. Chemical Storage: At least two cabinets or similar physically separated compartments shall be installed for storing chemicals in each of the two following categories:

    a. Insecticides & rodenticides (if approved for use)

    b. Detergents, sanitizers, related cleaning or drying agents, and caustics, acids, polishes and other chemicals.

5. Maintenance Equipment: An area shall be designated for the proper storage of maintenance equipment and cleaning supplies:

    a. A broom rack is to be provided to elevate items such as; brooms, dust pans, etc., off the floor.

    b. Hooks capable of supporting wet mops shall be installed over the janitorial sink so that wet mops may effectively drip-dry into the sink basin.

    c. Open wire or solid metal shelving are to be provided in the area of the janitorial station for the storage of cleaning supplies.

    d. Use of a peg board will be prohibited (refer to Figure 8).

5. EMPLOYEE AREA AND HANDWASHING

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. **Smoking in or adjacent to food preparation or utensil washing areas is prohibited. In addition, new IL State laws prohibit any smoking in the establishment or within 15 feet of any exterior door or entrance.**

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, shall be conveniently located, and shall be accessible to employees at all times. If toilet facilities are provided for the public, they shall meet the same requirements.

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 on page 6 for these requirements.

4. Toilets: Flush tanks are to be equipped with anti-siphon ball cocks. Flush valves are to be equipped with vacuum breakers.

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

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

C. HANDWASHING FACILITIES

1. Hand washing sinks shall be conveniently located within, or immediately adjacent to, all toilet rooms or vestibules.

2. A sufficient number of hand washing sinks shall be located to permit convenient use by all employees in food preparation, utensil washing, and service areas.

3. Each lavatory shall be provided with hot and cold water tempered by means of a mixing valve or combination faucets. **Wrist blade faucet handles, self closing faucets (i.e., motion detecting faucets) or metered faucets are required.** Metered faucets shall 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 shall be provided at each and sink.

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 hand washing facilities.

6. PLUMBING

All plumbing shall be installed in accordance with the current Illinois State Plumbing Code.

A. WATER SUPPLY

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

B. SEWAGE DISPOSAL

All water-carried sewage shall be disposed to a public sewage system.

C. GREASE INTERCEPTORS

Grease traps, grease interceptors, or catch basins, if required by the Health Department and the municipal sanitary district, shall be approximately sized and 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. Grease interceptors must not receive waste from garbage grinders/disposals.

D. JANITORIAL SINKS

1. A janitorial station(s) shall be provided and installed for general cleanup activities in all food handling businesses. The station is to include either a floor basin sink (shower stall design, refer to Figure 8) or a janitorial sink. Installation of a tiled, curbed area will not be accepted. The basin/sink is to be connected with a drain to the grease interceptor. Hot and cold water, under pressure, with a mixing faucet and necessary back flow protection will be required.

2. The janitorial station(s) should be conveniently located for maintenance of food service areas, but should be separate from food preparation and food storage areas. The janitorial basin/sink must be accessible for use during food service operations. More than one janitorial station may be necessary. The basin/sink must not be obstructed by other stationary equipment such as; water heaters, water softeners, or water filter systems.

SUGGESTED INSTALLATION

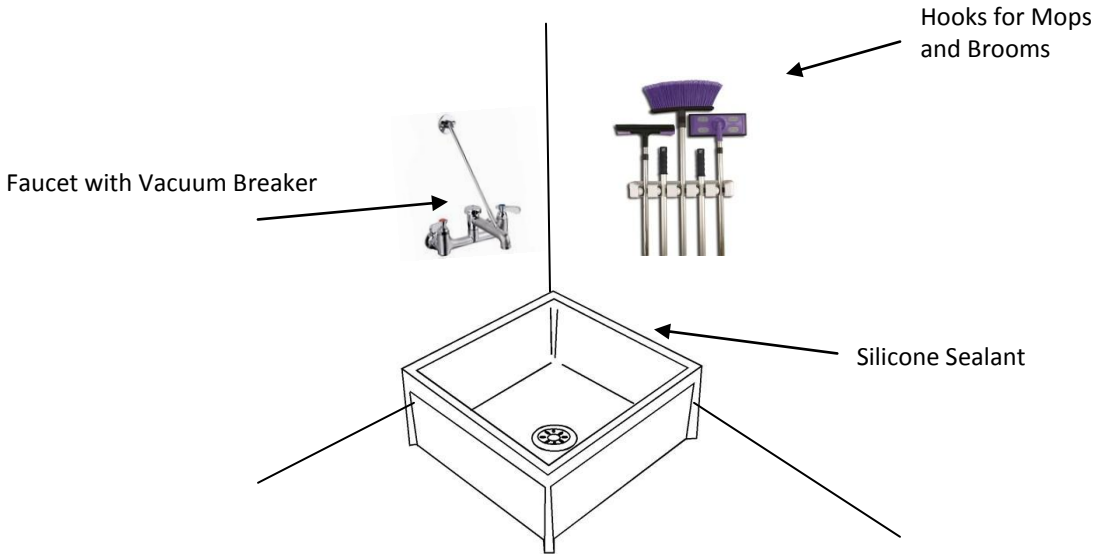

Figure 8

E. OVERHEAD SEWER LINES

1. Sewage and waste lines should 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 that is functional and will carry any leakage away from the food or utensil zone.

F. 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 (refer to Figure 9).

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 preventers 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)

(Air Gap shall be 2x the diameter of faucet inlet)

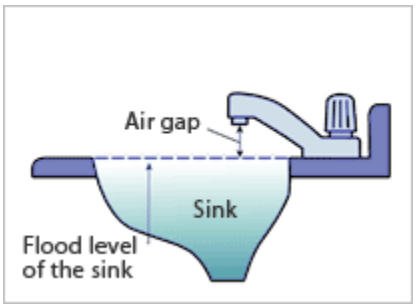

Figure 9

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.

G. INDIRECT WASTE CONNECTIONS

1. Dishwashing machines, dishwashing sinks, pot washing sinks, silverware sinks, bar sinks, soda fountain sinks, potato peelers, ice machines, steam tables, steam cookers, ice bins, salad bars, dipper wells, and other similar fixtures shall be indirectly connected**. (Note: Garbage grinders/disposals must be installed with a <u>direct</u> waste line connection).**

   a. An indirect connection discharges waste through an air gap into the drainage system and is not connected directly with the drainage system (refer to Figure 10).

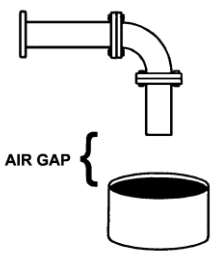

Figure 10

b. The indirect piping from the fixture to the air gap shall not exceed (5') five 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 inch. All other air gaps shall be at least one 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 drain hub receiving waste must be extended through the base of the cabinet and the base sealed around the drain.

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

2. The only exception to the indirect connection requirement may be when a utensil and/or dishwashing 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 feet horizontally of the fixture and in the same room.

c. No other fixture waste is connected between the floor drain trap and the fixture protected (refer to Figure 11).

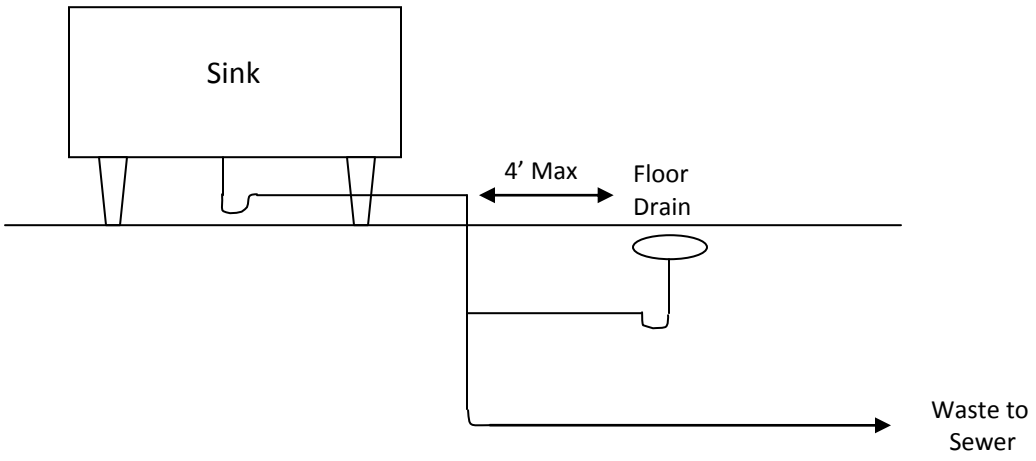

Figure 11

H. FLOOR DRAINS: WALK-IN REFRIGERATORS/FREEZERS

Floor drains in walk-in refrigerators and freezers are not recommended.

7. SANITIZING EQUIPMENT AND FACILITIES

A. HOT WATER SYSTEM

1. A minimum of a 40 gallon capacity hot water heater is necessary for those facilities with a 3 compartment sink, hand washing and utility sink.

2. For limited facilities hot water capacity will be based on reasonable need depending on the type of fixtures provided.

3. Any facilities using a commercial dish machine must provide enough hot water (temperature and volume) to meet the maximum (demand) for that type of machine (make and model number) with adequate reserve for other fixtures.

B. UTENSIL SINKS

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

2. Each drain board shall be at least as large as the largest sink basin.

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 of at least 170 degrees Fahrenheit.

    b. A numerically-scale 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.

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 National Sanitation Foundation'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-sealed indicating thermometers, accurate to plus (+) or minus (-) three (3) degrees Fahrenheit shall be provided that 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 on page 17.

    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 17.

    b. A booster heater is necessary if a special high-temperature water heating system is not installed to heat warm (140 degrees 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 (refer to item 1, in Figure 12).

    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 will require special arrangements. When the length of the line from the booster to this type machine exceeds five (5) feet, the system must be so designed as to be re-circulating.

f. A pressure regulator, designed to withstand the scalding temperatures, must be installed so the flow pressure is approximately twenty (20) pounds per square inch (refer to item 3, in Figure 12).

g. A thermometer and pressure gauge are required on the final rinse line (refer to items 5 and 6, in Figure 12). The pressure gauge must be installed after the pressure regulator. The gauge cock (refer to item 6, in Figure 12) is equipped with standard threads on which a pressure gauge may be attached to check flow pressure.

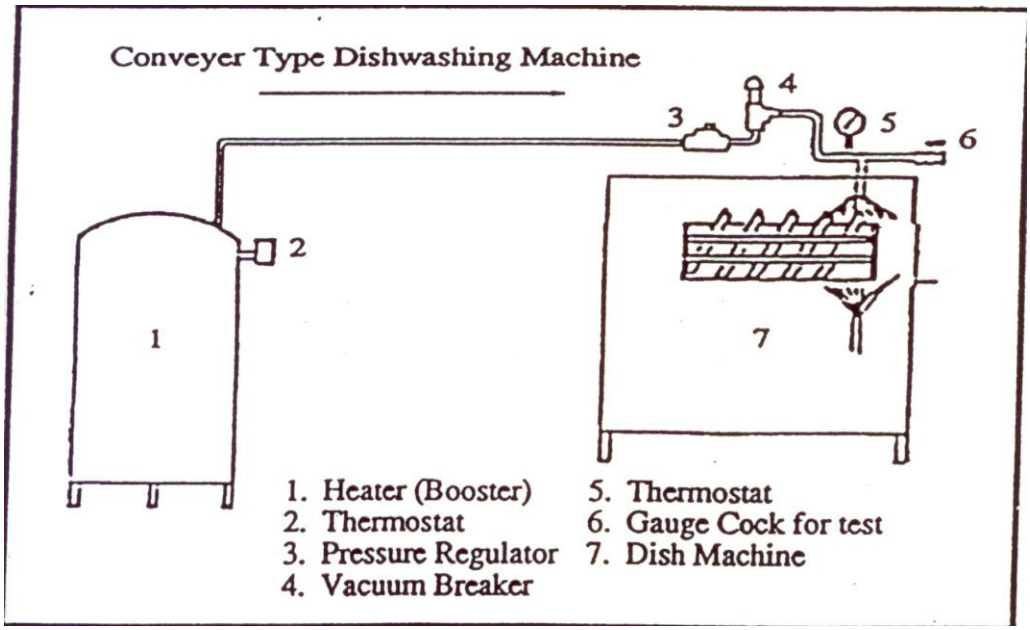

Figure 12

8. 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. Garbage and refuse containers and compactor systems located outside shall be located on a smooth surface of non-absorbent material such as concrete or machine laid asphalt. A concrete pad is recommended for the storage of grease containers or barrels.

2. Liquid waste from compacting shall be disposed of as sewage. The drain when installed must be connected to the sanitary sewer and the local sanitary district consulted. A special permit may be required.

3. If a garbage enclosure is proposed for installation, it shall be constructed of durable, non-absorbent materials and provided with a washable finish capable of withstanding frequent cleaning.

4. Interior garbage storage and refuse rooms:

   a. If utilized, room and area finishes shall meet the same requirements as the food preparation area (see ROOM AREA AND FINISHES).

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

9. 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, should be provided with at least fifty (50) foot candles, measure thirty (30″) inches above the floor.

B. All bar sinks should 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 should be provided in the general bar area for cleaning.

C. All other rooms or areas should 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 should be provided with at least (30) foot candles or light, measured thirty (30”) inches above the floor. Lighting, in walk-in refrigeration units should 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 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.

10. INSECT AND RODENT CONTROL

A. OUTSIDE FOOD SERVICE 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 clean ability.

    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 pr 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 should 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 are to be self-closing and tight-fitting**.**

D. WINDOWS

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

E. BUILDINGS- 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, wire, 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.

11. LAUNDRY FACILITIES

A. A solid, tight fitting, self-closing door shall separate food service operations from any laundry area, except 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 STORAGE FACILITIES).

12. EXHAUST HOOD VENTILATION FOR KITCHEN EQUIPMENT

A. PLAN REQUIREMENTS

1. Plans submitted 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 drawings(s) should be drawn to scale and show type of equipment to be served and installation (spacing) of that equipment.

B. DEFINITIONS

1. Canopy hoods: shall mean an overhead hood which completely covers the equipment it is designed to serve.

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

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

4. 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.

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

6. 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.

7. 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 e 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.

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. A sufficient number of fire-resistant, artificial lights must be installed on the inside of the hood. Lights must be shielded for shatter-proof protection.

    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 least 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 cleaned in a pot sink.

f. Grease filters or extractor 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 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 should 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 ½″) 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. For burning of solid fuels (i.e., charcoal or wood), CFM's, as outlined below, must be doubled (CFM x 2).

2. Wall-hung hood shall have a minimum air removal based on one hundred (100) 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 per lineal foot of length of hood with at least one-half (1/2″) inch pressure.

5. On wall-hung hoods that are 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 five hundred (2,500) 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 (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 overhang all cooking units by at least twelve (12″) inches (refer to Figure 13).

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 on-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.

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. Tempered make-up air is required when make-up air introduced is a 10 F degrees difference from indoor air temperatures.

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 (refer to Figure 14).

5. The air supplied to the kitchen and food preparation areas 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 unapproved. All insulation is to be applied to the exterior with a smooth, easily cleanable surface.

H. ADDITIONAL REQUIREMENTS

1. All equipment must be installed in complete accordance with any additional requirements set forth by the Fire Department and/or the Engineering & Community Development Department. (In order to obtain these requirements, please contact each Department directly).

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 performance test must be conducted and field approval must be obtained before that ventilation contractor leaves the job site.

13. THE ILLINOIS CLEAN INDOOR AIR ACT

Any Food Service Facility, which is by definition a public place that may choose to provide designated smoking areas within that facility, "must utilize existing physical elements of the premises to minimize the intrusion of smoke into the non-smoking areas." (10-A - Illinois' Clean Indoor Air Law-Questions and Answers).

"Typical Hood Installation"

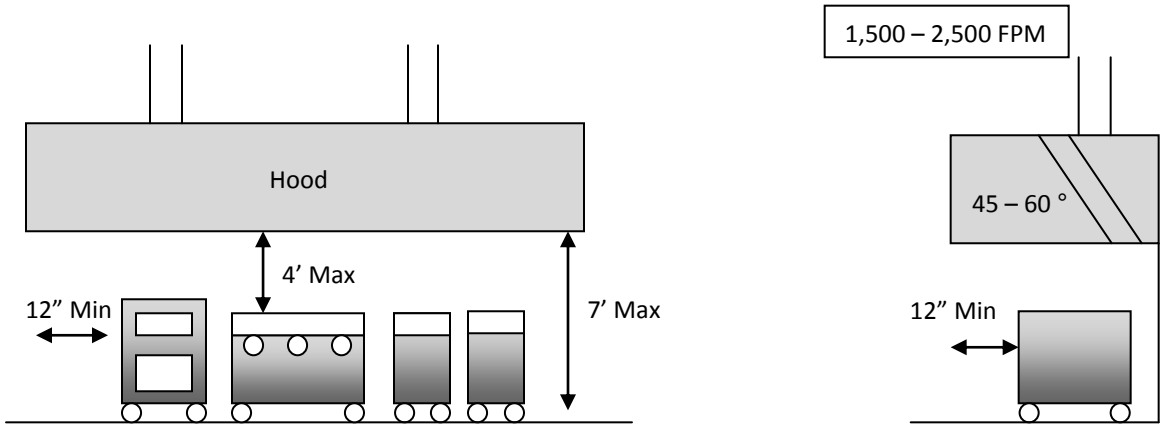

Figure 13

"Suggested Method for the Introduction of Untempered Gravity Fed Make-Up Air"

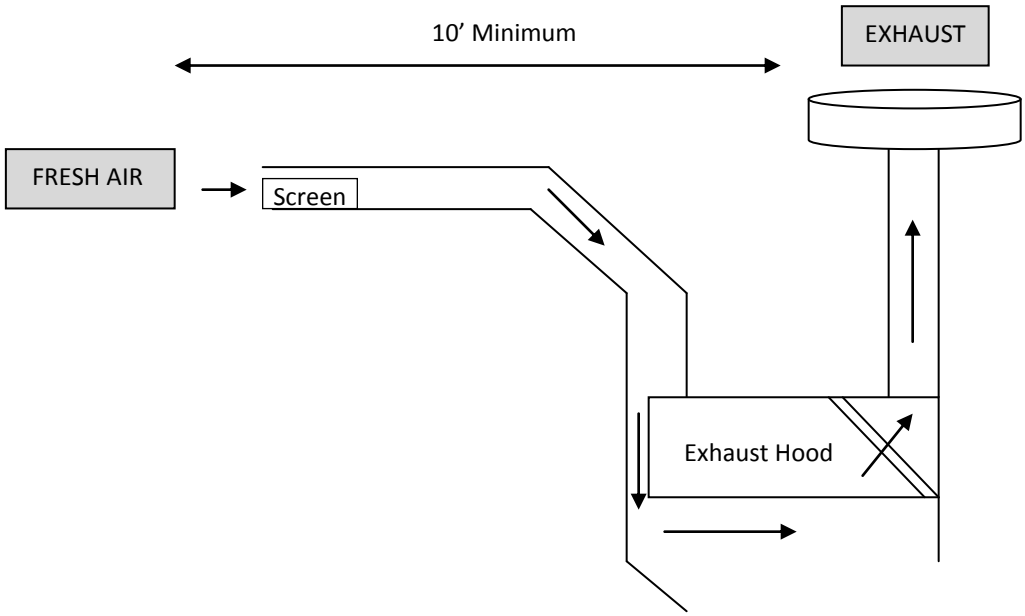

Figure 14

"Angled Deflector at Cheese-Melter"

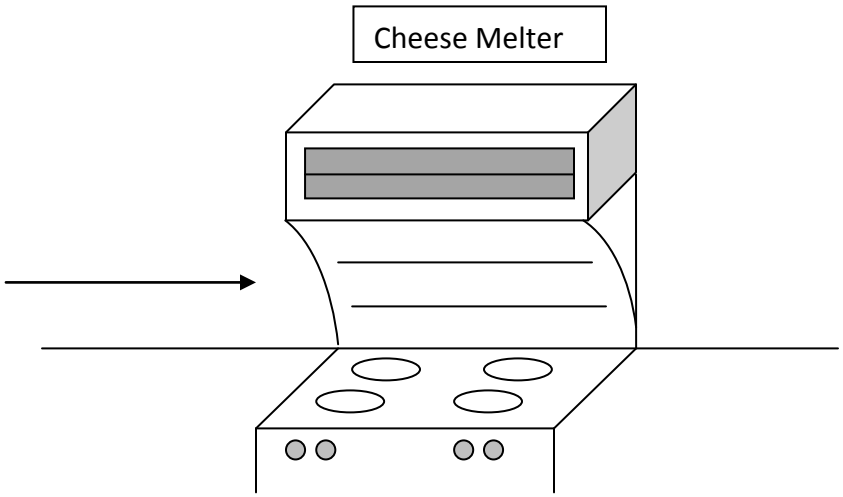

Figure 15

Note the angled deflector which completely encloses bottom of the cheese-melter to direct vapor and gases around to the cheese-melter and prevents condensation from dripping on cooking surface or product.

Important Phone Numbers:

EGV Environmental Health Division 847-357-4240
EGV Engineering & Community Development Department 847-357-4220
EGV Fire Department - Inspectional Services 847-734-8020
EGV Finance Department (Licensing) 847-357-4055
Illinois Department of Public Health (Bellwood Office) 708-544-5300