Types of Commercial Kitchen Ventilation

General Requirements

This handout is intended to be used to identify the types of ventilation required in commercial kitchens, depending on the type of cooking operations being performed. The information is based on the *International Building Code*, *International Mechanical Code*, and *International Fire Code*; but it does not supersede them.

In other than new installations or tenant improvements where permits are clearly required, there are scenarios where a permit may be required to change or upgrade the ventilation system. Common scenarios that may trigger a change or upgrade are change in menu, style of cooking, and/or equipment changes. Where the City of Burien deems it necessary *and* prior to issuance of the mechanical permit, a letter from both the mechanical engineer and the owner may be required to confirm that the proposal complies with one of the types of cooking operations described below.

Where there is any change to mechanical equipment located on the exterior of a building, those changes may need to be reviewed by the Planning Division for compliance with the *Zoning Code*.

Type 1 Cooking Operation

A Type 1 cooking operation is defined as one that produces significant amounts of smoke and grease or any appliances (medium duty, heavy duty, extra heavy duty) that have been designed by the manufacturer to be able to produce significant amounts of smoke or grease, except where specifically approved under another type. A Type 1 cooking operation requires a Type 1 hood.

Examples of Type 1 cooking operations include the following commercial equipment or domestic equipment used for commercial-like cooking:

> Deep fat fryers, griddles (flat or grooved), tilting skillets or woks, brazing, or frying pans, char broilers, salamander and upright broilers, infrared broilers, open burner stoves and ranges, barbecue equipment, conveyer-type pizza ovens and any equipment recommended to have fire suppression by the manufacturer, and any equipment which produces or has been designed by the manufacturer to have the potential to produce comparable amounts of smoke and grease.

Extra heavy duty cooking appliances using solid fuel, barbecue pits, and grease-burning char broilers require a separate hood and grease duct.

In sprinklered buildings, grease ducts over 75 feet in length require an internal fire sprinkler system.

Where located in the Downtown Commercial Zone, the zoning code includes additional requirements to screen exterior mechanical equipment.

Type 2 Cooking Operation and/or Dishwasher

Type 2 cooking operations and appliances (light duty) are defined as operations that produce significant steam or heat but do not produce grease or smoke. Heat and moisture load from such appliances require a Type 2 hood or may be incorporated into the HVAC system.

Type 2 hoods may require a plaque stating **"***Cooking causing grease-laden vapors is not allowed. This hood is designed for steam and heat removal only.***"**

A chemical dishwasher not producing significant steam or heat does not require a hood (unless determined otherwise).

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Examples of Type 2 cooking operations include the following:

> Convection bread and microwave ovens, toasters, steam tables, closed type pizza ovens if used only for pizza or bread, baking ovens, coffee makers, coffee roasters, hot dog display heaters, pastry ovens, popcorn makers, warming ovens, and dishwashers.
>
> Domestic ranges, hot plates, or induction cookers in a commercial cooking establishment used only for non-grease applications such as boiling water (i.e., potatoes, pasta, and rice) and reheating pre-made soups.

Domestic Type of Cooking Operation

This type of cooking operation is defined as any cooking equipment or process where limited smoke and limited grease-laden vapors are produced in normal usage comparable to what would be found in a single-family home and where the use is noncommercial, and the food cooked is not for sale. This class of cooking typically utilizes a domestic range.

The following requirements apply to this type of cooking (See IMC Table 507.1.2):

- A domestic hood with a grease filter is required at a minimum.
- Make-up air requirements need to be met.
- Except within dwelling units, fire extinguishers are required in the kitchen area.

Examples of domestic type of cooking operations include:

> Single four-to-five-burner domestic ranges as in a fire station, home economics classrooms where only domestic cooking is taught, and daycare facilities or in activity rooms in residential buildings, care homes, employee break rooms, or churches.

Hoodless Cooking Operation

A hoodless cooking operation is defined as one where a hood is not provided. Products from the cooking operation may be removed by the room ventilation. Hoodless cooking operations do not include cooking operations that produce significant amounts of grease-laden vapors, steam, and heat. Should significant amounts of grease or smoke or steam be evident where the appliance is located, a hood will be required.

Examples of hoodless cooking operations include the following when they are under 6 KW (20,478 BTU/h):

> Small countertop appliances, coffee makers, coffee roasters, hot dog displays, hot dog cookers, pastry ovens, closed pizza ovens, baking ovens, warming ovens, popcorn makers, roll warmers, toasters, Panini grills, microwave ovens, and crock pots.

Where can I get additional information?

- City Hall: 206-241-4647
- www.burienwa.gov
- www.mybuildingpermit.com

This document is intended to provide guidance in applying certain regulations and is for informational use only. It cannot be used as a substitute for the Construction Codes or for other city codes. This checklist is intended for use to prepare for an inspection. This is only a general list and is not intended to address all possible conditions.