Permit #_____

City of Edmonds
Commercial Kitchen Hood Worksheet

Project Address:_____
Business Name:_____

Two copies of this worksheet/checklist must accompany plan sets submitted for permit applications involving the installation of a commercial kitchen range hood. Applicant shall provide plan and elevation views showing ductwork, duct enclosure, hood, cooking surface air supply, exhaust system, and equipment support system including structural framing detail (see attached typical construction views) and type of cooking appliances below the hood. This worksheet is based on the IMC 506, 507 & 508.

Is this an existing restaurant, food processing area, or food service area? ☐ Yes ☐ No
If no, a separate tenant improvement permit and/or change of use permit is required.

1) Type of Material/Gage

Type I Hood Installed for grease and smoke removal (i.e.: deep fat fryer, charbroilers, grill and roasting ovens).				**Type II Hood** For steam, vapor, heat or odor removal (i.e.: steamer, pastry and pizza ovens) All Type II hoods shall have a permanent, visible label identifying it as a Type II Hood.	
	Type of Material	Gage		Gage	
		Min	Proposed	Min	Proposed
Duct and Plenum	Stainless Steel	18		24 (Up to 12" diameter)	
				22 (Up to 30" diameter)	
	Galvanized Steel	16		24 (Up to 12" diameter)	
				22 (Up to 30" diameter)	
Hood	Stainless Steel	20		22	
	Galvanized Steel	18		24	
Flashing	Stainless Steel	22		**NOT REQUIRED**	
	Galvanized Steel	22			

2) Quantity of air exhausted through the hood

Hoods shall extend beyond the cooking surface a minimum of 6" on all open sides and the distance between the lip of the hood and the edge of the cooking surface shall not exceed 4'. In the formulas below the following values apply:

N = number of hood sides exposed
Q = quantity of air
A = area of hood in ft2
L = lineal feet of the front cooking equipment surface

Cooking surface area = _____x _____ = _____ ft2
Hooded area (A) = _____ x _____ = _____ft2

	Canopy Hood	**Non-Canopy Hood**
N=4	Q= 150 x _____(A) = _____cfm	
N=3 or less	Q= 100 x _____(A) = _____cfm	
Type II Hood		
N=4	Q= 75 x _____(A) = _____cfm	Q= 150 x _____(L) = _____cfm
N=3 or less	Q= 50 x _____(A) = _____cfm	

3) Exhaust duct systems

- Provide size of duct in square feet _____

Type of Hood	**Air Velocity (FPM) Required**	**CFM/Duct Area (ft2)**	**Proposed Air Velocity (FPM)**
I	1500 to 2500 (minimum)	_____/_____	
II	500 to 2500 (recommended)	_____/_____	

- Static Pressure Loss
  Duct ____in. + grease filters/extractor _____in. + other_____in = Total _____in. of H20.

- Fan and motor shall be of sufficient capacity to provide the required air movement. Fan motor shall not be installed within ducts or under hood.

Fan make and model_____ HP _____

Static pressure _____in. at _____cfm.

4) Exhaust outlet location

Exhaust outlets shall terminate above the roof. If exhaust outlet terminates at exterior wall, provide cleaning equipment.

Table of Clearances		
Location/Situation	*Minimum Required*	*Proposed*
Extend above roof	40 inches (Type I), 24" (Type II)	
Distance from same or adjacent building	10 feet	
Distance above adjoining grade	10 feet	
Distance from property line	10 feet	
Distance from windows and doors	10 feet	

Distance from mechanical air intake	10 feet	
Distance of duct above adjoining grade at alley	16 feet	

5) Make-Up Air

- The amount of make up air supplied shall be equal to the amount of exhaust air: _____cfm.
- Makeup air system shall be electrically interlocked to insure that the makeup air is provided when the exhaust system is in operation.
- Makeup air shall be provided by a fan or motorized damper of sufficient capacity. Windows and door openings shall not be used for the purpose of providing makeup air.
- The temperature difference between the make up air and air in the conditioned space shall not exceed 10°F.

Fan	Motorized Damper
Make and model_____ Static Pressure_____in. at cfm. Duct Dimension, _____, area _____ft2 Air velocity = cfm/area _____/_____ = _____fpm	Recommended air velocity, 500 fpm Duct area req. = cfm/500 fmp _____/500 = _____ft2 Duct dimension req. = _____ Eff. Damper opening _____x_____ = _____ft2

6) Slope of Duct and Cleanout access

Horizontal ducts less than 75' feet in length are required to be sloped a minimum ¼" inch per foot. Horizontal ducts that exceed 75' feet in length are required to be sloped 1" inch per foot. Note: tight-fitting cleanout doors shall be provided at every change in ductwork direction.

7) Duct Enclosure

- Ducts penetrating a ceiling, wall, or floor shall be enclosed in a duct enclosure from the point of penetration to the outside air. A duct may only penetrate exterior walls at locations where unprotected openings are permitted by the International Building Code (or current adopted edition).
- On the plans, detail how the duct enclosure will be constructed to meet the minimum fire protection rating.
- Clearance from the duct to the interior surface of enclosures of combustible construction shall be 18" minimum. Clearance from the duct to the interior surface of enclosures of noncombustible (i.e. metal studs), or gypsum wall board attached to metal studs shall be 6" minimum.
- Duct enclosures shall be sealed around the duct at the point of penetration and vented to the exterior through a weather-protected opening.
- Duct enclosures shall serve only one kitchen exhaust duct.
- Tight-fitting access openings shall be provided at each cleanout door. Access enclosure doors shall have a fire resistance rating equal to the enclosure.

8) Multiple Hood Venting

- A single duct system may serve more than one hood located in the same story of the building, provided that the interconnecting ducts do not penetrate any fire resistive construction.
- A hood outlet shall serve not more than a 12-foot section of hood.

9) Additional Information for Type I Hoods only

- Grease filters shall be installed at minimum 45-degree angle and equipped with drip tray and gutter beneath lower edge of filters.
- Distance between the lowest edge of grease filters and cooking surface shall be:

- Grill, fryer, exposed flame: not less than 2 feet
- Exposed charcoal, charbroil shall not be less than 3 ½ feet

- Type I Hood and ducts shall have clearances from combustible construction per table below:

	Unprotected		**Protected 1-HR Fire resistive Material**	
Hood	Min Required 18”	Proposed_____”	Minimum Required 3”	Proposed _____”
Duct	Min Required 18”	Proposed_____”	Minimum Required 3”	Proposed_____”

- Hoods less than 12 inches from the ceilings or walls shall be flashed solidly.
- All joints and seams shall be made with continuous liquid-tight weld or braze made on the external surface of the duct system. Vibration insulation connector may be used provided it consists of noncombustible packing in a metal sleeve joint.
- Centrifugal fans used for discharging grease exhaust shall be positioned in a bottom horizontal discharge position only. A duct that diverts the fan discharge shall not exceed 3 times the diameter of the fan outlets connected to the fan outlet. The duct shall be provided with an adequate drain opening at the lowest point to permit drainage of grease to a suitable collection device.
- A fire suppression system and portable fire extinguishers shall be installed per the international fire code (IFC).