

THE CORPORATION OF THE DISTRICT OF BURNABY

BY-LAW NO. 3162

A BY-LAW to amend the "Burnaby Building By-law 1926."

THE MUNICIPAL COUNCIL of The Corporation of the District of Burnaby ENACTS as follows:-

1. Sections 134 to 156, inclusive, and Section 225 of the Burnaby Building By-law 1926 are hereby repealed, and the following are substituted therefor:

CHIMNEYS, VENTS, AND FIREPLACES

GENERAL

134. (a) Scope. Chimneys, fireplaces, flues and vents carrying products of combustion and their connections shall conform to the requirements of this Part. Chimneys known as "Bracket chimneys", "Yukon chimneys", "Selkirk chimneys", or "Stove-pipe chimneys" commonly known as "Roofjack chimneys" are prohibited; except that with special permission Selkirk chimneys may be used in temporary construction buildings.

(b) Appliances. Appliances shall conform to requirements of By-law No. 3097 of the Corporation.

CHIMNEYS

135. (a) Design. Every chimney shall be constructed of masonry, reinforced concrete, or metal, and shall carry its entire weight. No part of the weight of any chimney shall be carried on wood.

(b) Materials. Flue linings used in connection with solid and liquid fuel, and bricks used in lieu of such flue linings shall have a softening point not lower than two thousand (2000) degrees Fahrenheit.

(c) Flue Area. No flue used in connection with solid or liquid fuel shall be smaller in area than the flue connection on the appliance attached thereto and in no case shall be less than that set forth in Table 1:

TABLE I

TYPE OF EQUIPMENT	MINIMUM AREA OF FLUE	
	LINED RECTANGULAR	UNLINED
RANGES & ROOM HEATERS	50 SQ. IN.	85 SQ. IN.
FIREPLACES	1/10 OPENING 80 SQ. IN.	1/8 OPENING 112 SQ. IN.
WARM AIR FURNACES & BOILERS	80 SQ. IN.	112 SQ. IN.

Where the flue area of a chimney is more than 112 square inches but less than 729 square inches the wall thickness shall be eight (8) inches. Where the flue area of a chimney exceeds 730 square inches the wall thickness shall be twelve (12) inches.

(d) Height. Every chimney shall extend to a point at least two (2) feet above the highest elevation of any portion of the building within twenty (20) feet of the chimney, and in no case shall extend less than three (3) feet above the highest point at which it comes in contact with the roof.

(e) Inlets. Every inlet to any chimney shall enter the side thereof and shall be of not less than twenty (20) gauge metal or three-quarter ( $\frac{3}{4}$ ) inch thick refractory material. Every inlet shall be at least eighteen (18) inches from any combustible material. There shall be only one inlet connection to a flue of area less than 80 square inches. In the case of flues having an area greater than 80 square inches but less than 112 square inches there shall be no more than two inlet connections. Inlet openings shall not be permitted opposite each other.

(f) Construction. No chimney shall support any load other than its own weight. Chimneys shall be built upon solid masonry or reinforced concrete foundations properly proportioned to carry the weight imposed without settlement or cracking. In case the nature of the ground is such that a solid foundation cannot be obtained, an officer may permit, with the consent of

the Fire Marshal, a chimney to be placed on a foundation of wood composed of four posts four (4) inches by four (4) inches square, securely braced and carried on the floor joists and capped with a shelf of wood not less than two (2) inches in thickness. All masonry units shall be laid with full mortar joints. Chimneys shall, whenever practicable, be perpendicular and in no case shall the total offset be more than thirty (30) degrees from the perpendicular. Corbelling of more than nine (9) inches from the wall shall not be permitted, and no single corbel shall project more than one and one-half ( $1\frac{1}{2}$ ) inches over the edge of the brick below it.

(g) Special Designs. Chimneys may be built of other materials than as specified in this chapter provided they meet all requirements of the National Board of Fire Underwriters and the approval of the Provincial Fire Marshal.

#### MASONRY CHIMNEYS

136. (a) Flue lining. Masonry chimneys shall be lined with fire-clay flue lining not less than three-quarter ( $\frac{3}{4}$ ) inches thick, or with firebrick lining not less than four (4) inches thick, or with other approved material. The lining shall extend from twelve (12) inches below the lowest inlet to the top of the enclosing walls.

(b) Wall Thickness. Walls shall not be less than eight (8) inches in thickness, except that where flue lining is used, the thickness of brick may be reduced to four (4) inches. Division walls separating flues shall be at least four (4) inches in thickness excluding flue lining.

(c) Chimneys of Concrete or Pumice Blocks. Approved masonry blocks commonly known as concrete or pumice chimney blocks are permissible for use where the height of the chimney does not extend thirty-five (35) feet. Tile units shall meet all requirements as specified in Section 135 (g) above. Chimneys occurring in brick walls or walls of concrete or pumice blocks shall be thoroughly and continuously bonded thereto from the bottom to the top.

(d) Support. Masonry chimneys shall be supported on foundations as required in Section 135 (f).

(e) Protection. No combustible materials shall be placed within two (2) inches of masonry chimneys. The space between such combustible material and the chimney shall be stopped with metal flashing filled with lime mortar or asbestos at each floor level.

(f) Cleanouts. Cleanouts shall be provided at the bottom of all flues. There shall be not less than sixteen (16) inches between the bottom of the lowest smokepipe inlet and the top of the cleanout opening. Cleanout openings shall be equipped with covers made of cast-iron, which shall project into the opening not less than one (1) inch and shall overlap the brick not less than one (1) inch on all sides.

#### METAL SMOKESTACKS

137. (a) Thickness. Metal smokestacks shall be constructed of not less than twelve (12) gauge material.

(b) Location. Metal smokestacks shall be not less than thirty-six (36) inches from any combustible materials, provided that such clearances may be reduced one-half ( $\frac{1}{2}$ ) when such smokepipes or breechings are protected with not less than one (1) inch of asbestos, or such combustible material or construction is protected by sheet metal or equivalent covering placed at least one (1) inch from the surface to be protected and extending the full length of the smokepipe and not less than twelve (12) inches beyond it on both sides; provided, however, that in the case of smokepipes used on ordinary heating or cooking stoves in private dwellings, such clearance shall be permitted to be not less than nine (9) inches.

(c) Height. Metal smokestacks shall extend at least ten (10) feet above the highest point of any roof within a radius of sixty (60) feet of such stack and shall be adequately anchored and guyed. All foundry cupolas shall extend at least ten (10) feet above the highest point of any roof within a radius of sixty (60) feet of such cupolas. No unprotected wood-

work shall be placed within three (3) feet of such cupola.

(d) Interior Smokestacks. Interior metal smokestacks extending through any storey or roof space shall be enclosed in a vertical shaft of two-hour fire-resistive construction. The shaft shall provide at least six (6) inches of clearance on all sides of the stack. Every opening into the shaft other than openings for inlet thimbles and for ventilation at top and bottom, shall be protected with an incombustible one-hour fire-resistive door. The shaft shall have ventilating openings at top and bottom.

(e) Support. Metal smokestacks shall be supported directly on their own foundation, or may be supported upon boilers which are designed to support them.

(f) Flue Linings. When flue gas chambers exceed one thousand (1000) degrees Fahrenheit flue linings shall be used.

#### SMOKEPIPES

138. (a) General. Smokepipes are pipes used in connection with solid and liquid fuel connecting fire boxes or combustion chambers with chimneys or smokestacks.

(b) Materials. Every smokepipe connecting a fire box or combustion chamber with a chimney or smokestack shall be of metal.

(c) Location. Combustible material within eighteen (18) inches of any smokepipe shall be protected by an incombustible material of at least one-hour fire-resistive rating. This distance shall be measured at right angles to the smokepipe.

(d) Domestic Smokepipes. Smokepipes having a diameter not exceeding seven (7) inches connecting a portable apparatus such as heaters, stoves, or ranges shall be made of iron of not less than twenty-six (26) gauge or of what is known as Stovepipe Stock. All smokepipes having a diameter exceeding seven (7) inches shall be made of iron of not less than twenty-two (22) gauge.

(e) Direction. Smokepipes extending vertically or horizontally ten (10) feet or over shall be riveted together in lengths not exceeding ten (10) feet and these lengths shall be

securely fastened by hooks and wire links.

Smokepipes having a horizontal length of four (4) feet or over shall be securely hung from the ceiling joists by strong wire supports spaced not more than four (4) feet apart.

(f) Partitions. Smokepipes passing through partitions shall do so through a metal thimble set in brickwork in such a manner that there shall be not less than eight (8) inches of brick between the thimble and the nearest woodwork.

(g) Concealed Spaces. Smokepipes shall not pass through any floor, ceiling, cupboard, clothes-closet, locker, attic or any other concealed space. Smokepipes shall not pass through any window or doorway or through any outside wall unless through an approved corbelled breeching into a chimney built in full conformity with these regulations.

#### FIREPLACES

139. (a) Walls. Fireplaces and smoke chambers constructed in a chimney, if of brick, shall have walls of not less than eight (8) inches in thickness including the lining of firebrick or soapstone, which shall be not less than four (4) inches in thickness, and if of reinforced concrete shall have walls of not less than ten (10) inches in thickness including the lining of firebrick or soapstone as above; and if of stone, shall have walls of not less than twelve (12) inches in thickness including the lining of firebrick or soapstone as above.

Exception. Approved metal heat circulators may be installed in fireplaces in lieu of the lining required by this sub-section.

(b) Lintels. Masonry over the fireplace opening shall be supported by an incombustible lintel of not less than three-eighths (3/8) inch by three (3) inches flat iron.

(c) Hearths. Every fireplace shall be provided with an incombustible hearth slab at least twelve (12) inches wider on each side than the fireplace opening and projecting at least eighteen (18) inches therefrom. This slab shall be not less than four (4) inches thick at the trimmer joists and not less than six (6) inches thick at the chimney breast, and the chimney

shall be corbelled at least two and one-half ( $2\frac{1}{2}$ ) inches to support the hearth. Construction forms and centering shall be removed after the masonry has thoroughly set.

(d) Combustible Materials. No wood or other combustible materials shall be placed within eight (8) inches of the fireplace opening.

(e) Imitation Fireplaces. The maximum depth of the recess of any imitation fireplace or recess for heating equipment shall be six (6) inches unless such recess meets the requirements for fireplaces. The surface of the recess shall be of fire-resistive plaster or masonry. The location of combustible materials shall be as required for fireplaces in sub-section (d). No flue, other than a gas vent, shall be installed within the recess opening.

(f) Ash-Dump. Ash-dump walls shall not be less than four (4) inches in thickness, and such walls shall be situated and constructed as to the distance from any woodwork as hereinbefore prescribed in respect of flues. Cleanouts shall comply with Section 136 (f).

#### FURNACE CHAMBERS

140. (a) General. All heating plants in public buildings as defined in the "Fire Marshal Act", excepting one (1) storey business premises not exceeding four thousand (4000) square feet and unoccupied by night by other than the owner and occupier, shall be installed in furnace chambers constructed in accordance with the provisions of the following sections:

(b) Construction. The floor of every furnace chamber shall be of masonry or concrete construction. The walls and ceiling of every furnace chamber shall be of masonry, concrete, or laminated-wood construction. The walls, if of masonry or concrete construction, shall be not less than eight (8) inches in thickness, and the ceiling, if of masonry or concrete construction, shall be not less than five (5) inches in thickness. If the walls and ceiling are of laminated-wood construction, they shall be not less than four (4) inches in thickness, (two-ply two-inch planks

with all joints broken) covered with expanded metal lath and hard plaster or with one-half ( $\frac{1}{2}$ ) inch of gypsum or some equally fire-resistive material. In case of laminated-wood construction, the wall shall be not less than four (4) feet distant from the furnace of the heating plant at the back and two sides, and not less than six (6) feet distant from the front of the furnace; and the ceiling shall be not less than twenty (20) inches above the top of the furnace.

(c) Sprinklers. Where there is a waterworks system available, there shall be installed a sprinkler system of not less than two sprinkler-heads so arranged as to protect the furnace chamber.

(d) Doors. Standard Class "A" fire-doors with standard fire-door hardware shall be installed in all masonry or concrete furnace chambers, and Class "B" fire-doors with standard fire-door hardware shall be installed in all other furnace chambers. These doors shall be constructed in accordance with the specifications of what is known as the Underwriters' Standard of Construction for Tin-clad Doors.

(e) Ventilation. Furnace chambers shall be furnished with adequate ventilation to permit complete combustion of the fuel used without any chance of backfire or similar action, and shall be equipped with self closing shutters or other automatic closing device. Except where furnace-rooms are provided with sliding doors equipped with fusible links, all furnace-chamber doors shall open outward.

(f) Windows. Where window openings occur in furnace chambers they shall be provided with wired glass set in metal sash. If a window is used as a means of ventilation it shall be equipped with an automatic closing device.

(g) Equipment. There shall be no equipment housed within any furnace room other than that necessary for the operation and maintenance of the heating plant or garbage disposal unit.



2. This By-law may be cited as the "BURNABY BUILDING BY-LAW 1926, AMENDMENT BY-LAW NO. 3, 1951."

DONE AND PASSED in Open Council this Twenty-sixth (26th) day of November, A.D. 1951.

RECONSIDERED AND FINALLY PASSED on Third (3rd) day of December, A.D. 1951.



*W. R. Beames*

REEVE

*Walter B. Brown*

CLERK