**Section 738.320 Plant Construction and Design**

a) Adequate Size: The processing plant shall be of sufficient size for the purpose intended without crowding of equipment or personnel.

b) Proper Construction: The building and surrounding area should be such as can be kept reasonably clean of objectionable odors, smoke, dust or other contamination. The building shall be of such construction as to protect against the entrance and harborage of insects or birds or vermin.

c) Clean and in Good Repair:

1) Interior walls and ceilings shall be constructed of a smooth, nonabsorbent material, easily cleanable, free of cracks, ledges or shelves where dust and debris may collect. Floors shall be smooth and kept in good repair. Floors in all rooms or areas where products or ingredients are processed or stored, or where utensils and equipment are washed, and floors in refuse rooms and other floors which are not kept dry, shall be constructed of good quality concrete, or of equally inpervious and easily cleanable material. Floor and wall junctures shall be covered and sealed in all new construction. In all cases, the juncture between the floor and wall shall be closed.

2) All surfaces of such floors shall be graded to drain and floor drains shall be equipped with traps and grills and shall be located as to be easily cleanable.

3) All floors shall be kept clean.

d) Partitioned as Required: Effective measures shall be taken to prevent contamination of products, raw materials or packaging materials with microorganisms, chemicals, filth or other extraneous material. This may be accomplished by separating the following operations by parition, location, air flow, enclosed systems or other effective means:

1) Receiving.

2) Raw material storage.

3) Cacao bean cleaning, roasting, cooling, cracking and fanning.

4) Cacao product milling, pressing, mixing, refining, conching, tempering and molding.

5) Pulverizing or separating of cocoa, and other dusty operations.

6) Cacao product and confectionery processing.

7) Portable equipment and utensil cleaning and sanitizing.

8) Packaging and packing.

9) Finished product storage and shipping.

e) Lighting:

1) At least 50 foot candles of light shall be provided on work surfaces, in areas where products are examined for cleanliness or wholesomeness; at least 30 foot candles of light on all other working surfaces; and at least 5 foot candles of light at a distance of 30 inches above the floor in all other areas of the plant. Toilet facilities shall have a minimum of 10 foot candles of light.

2) Light bulbs or fixtures suspended over food in any step of preparation shall be of the safety type or otherwise protected to prevent food contamination in the case of breakage.

f) Ventilation: All rooms in which cacao products and confectionery are processed or equipment and utensils are washed, dressing or locker rooms, toilet rooms and refuse storage rooms shall be well ventilated. Equipment giving off noxious odors, fumes or vapors shall be ventilated to the outside air. Ventilation systems shall not create conditions whereby products are subjected to contamination.

g) Screened as Required: All outside doors, windows and open skylights shall be kept in good repair, and whenever flying insects are prevalent, be provided with tight screens of 16 mesh or equivalent to prevent the entrance of such insects; provided that fans or other devices which prevent the entrance of flying insects may be used in lieu of screen doors. If such equipment is used, tight fitting doors shall be installed and whenever such insects are prevalent, doors shall be kept closed at all times when such devices are not in operation. Conveyor, air-vent and other special outside openings shall be effectively protected at all times against the entrance of insects, rodents and other vermin by the use of doors, flaps, fans, screens or other means.