

ARTIFICIAL LIGHTING FOR MILKING FACILITIES

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This publication has been prepared as a guide to meet the requirements of the Virginia Milk and Cream Law for adequate artificial lighting in milking barns, milking rooms, and milk houses.

The Department of Agriculture and Commerce, Division of Animal Health and Dairies considers "adequate" to mean 10 foot-candles of light intensity for the working area in the milking barn or room and 20 foot-candles of light intensity in the working area of the milk house.

As it is now quite usual for milking to be done with little or no natural light available, the diagrams presented in this publication are designed to provide the required lighting in the absence of natural light. The light intensity provided by these diagrams has been field tested with a calibrated light meter and has been found to be adequate.

The diagrams presented herein are not intended to preclude the use of other arrangements which meet the Virginia requirements, however, it is felt that the included diagrams represent the most practical arrangements and should be applicable to most situations.

These requirements for the measurement of light in terms of foot-candles will comply with the Grade A Pasteurization Milk Ordinance and Code of 1965 Recommendations of the Public Health Service.

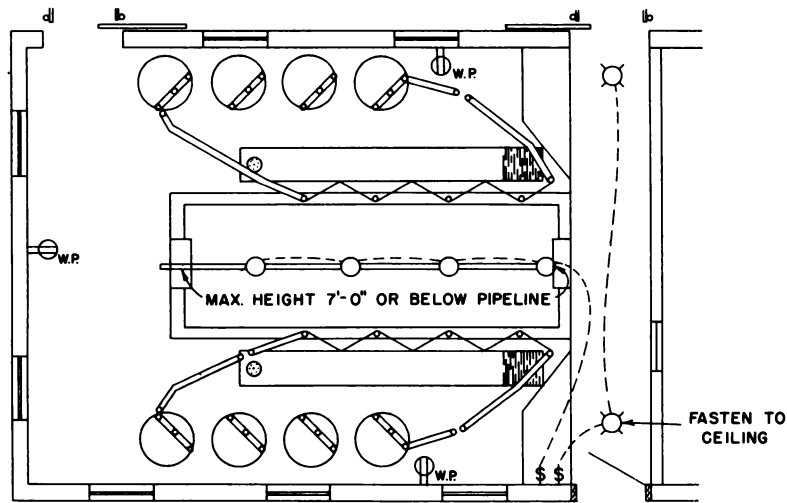
Publication 1

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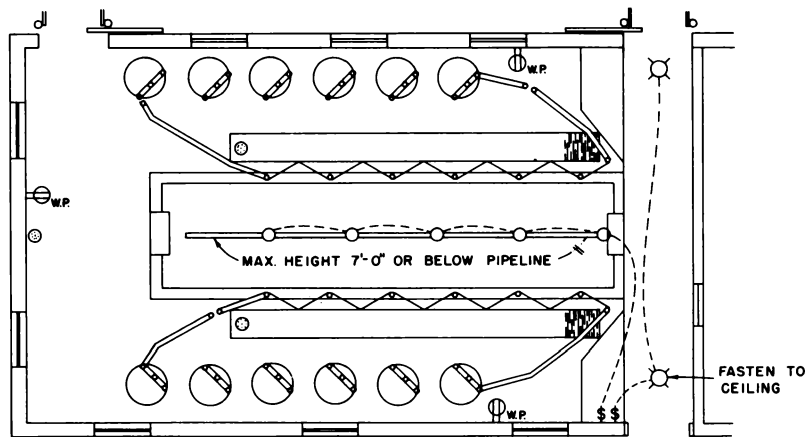
EXTENSION DIVISION
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The Herringbone milking room is one of the most widely accepted types of milking facilities. The sketches below show two of the most common arrangements, a double-4 and a double-6. A two-tube fluorescent fixture is shown running the length of the milking pit. Fluorescent bulbs were chosen to help eliminate shadows which are a problem particularly in the herringbone because of the close spacing of the cows. 100 W incandescent bulbs can be adequate, however, if one bulb is provided between each set of opposing stalls (i.e. a double-6 herringbone needs 6 incandescent bulbs in the pit).



8 STALL HERRINGBONE MILKING ROOM



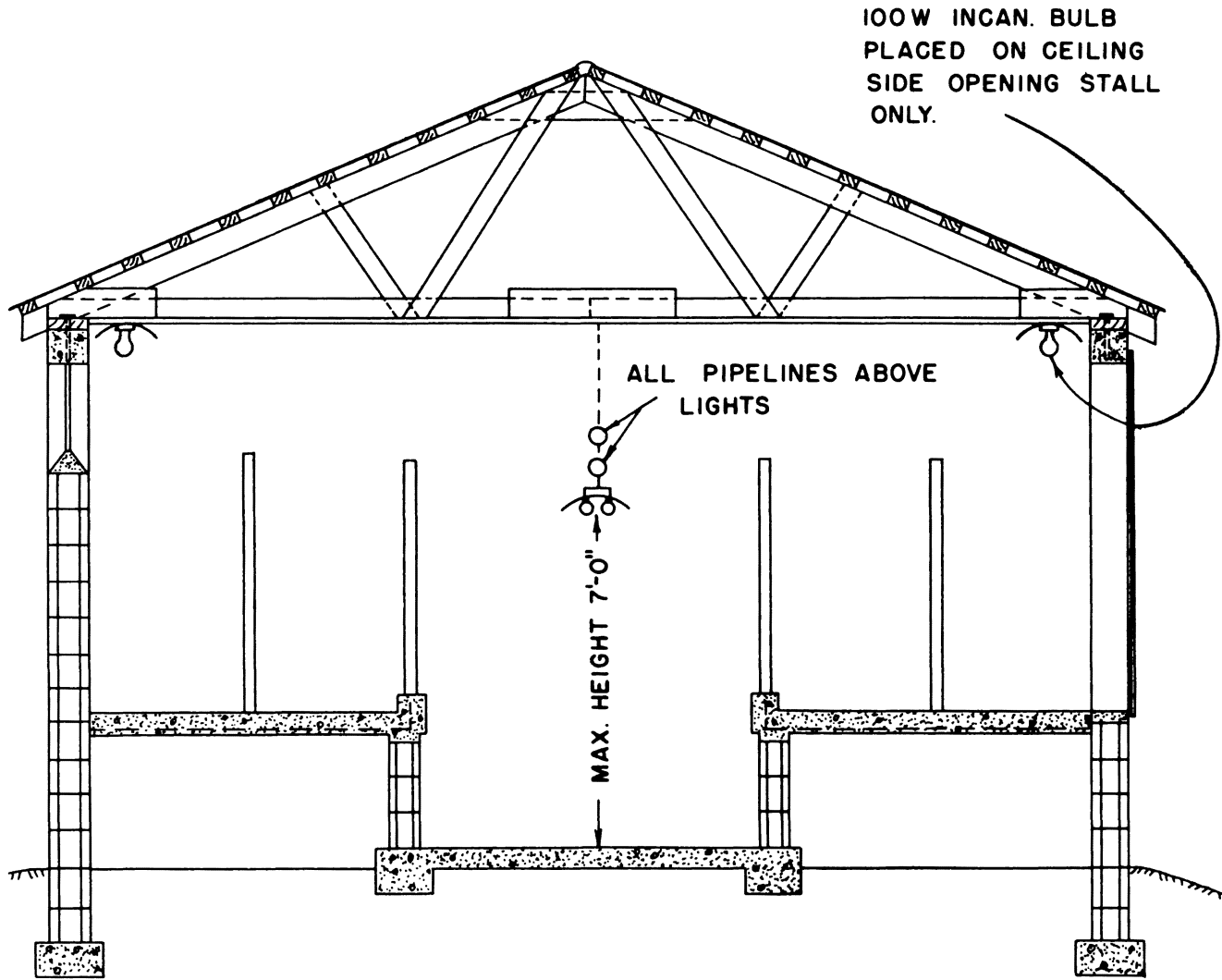
12 STALL HERRINGBONE MILKING ROOM

All fluorescent tubes shall be 40 watt tubes 4 feet long with low temperature ballasts and mounted in a reflective fixture. The incandescent bulbs shall be 100 watt bulbs mounted in a shallow dome reflector.

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Because of the large number of overhead pipes in most milking rooms, it is difficult to achieve adequate lighting unless the lights are dropped below milk vacuum lines and heat lamps. The typical cross section shown below indicates the proper position of the lights with respect to the pipes.



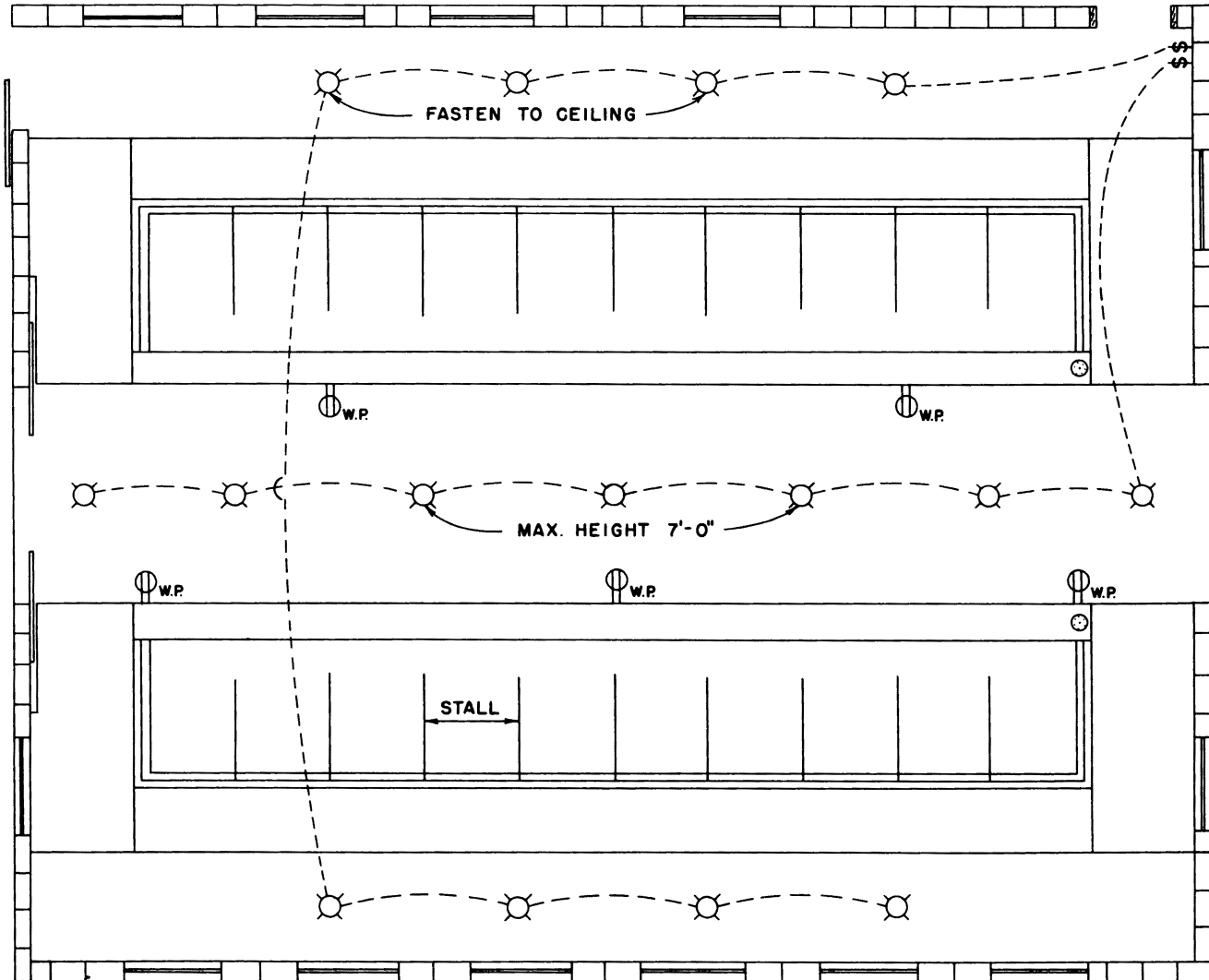
100W INCAN. BULB
PLACED ON CEILING
SIDE OPENING STALL
ONLY.

ALL PIPELINES ABOVE
LIGHTS

MAX. HEIGHT 7'-0"

MILKING ROOM CROSS SECTION

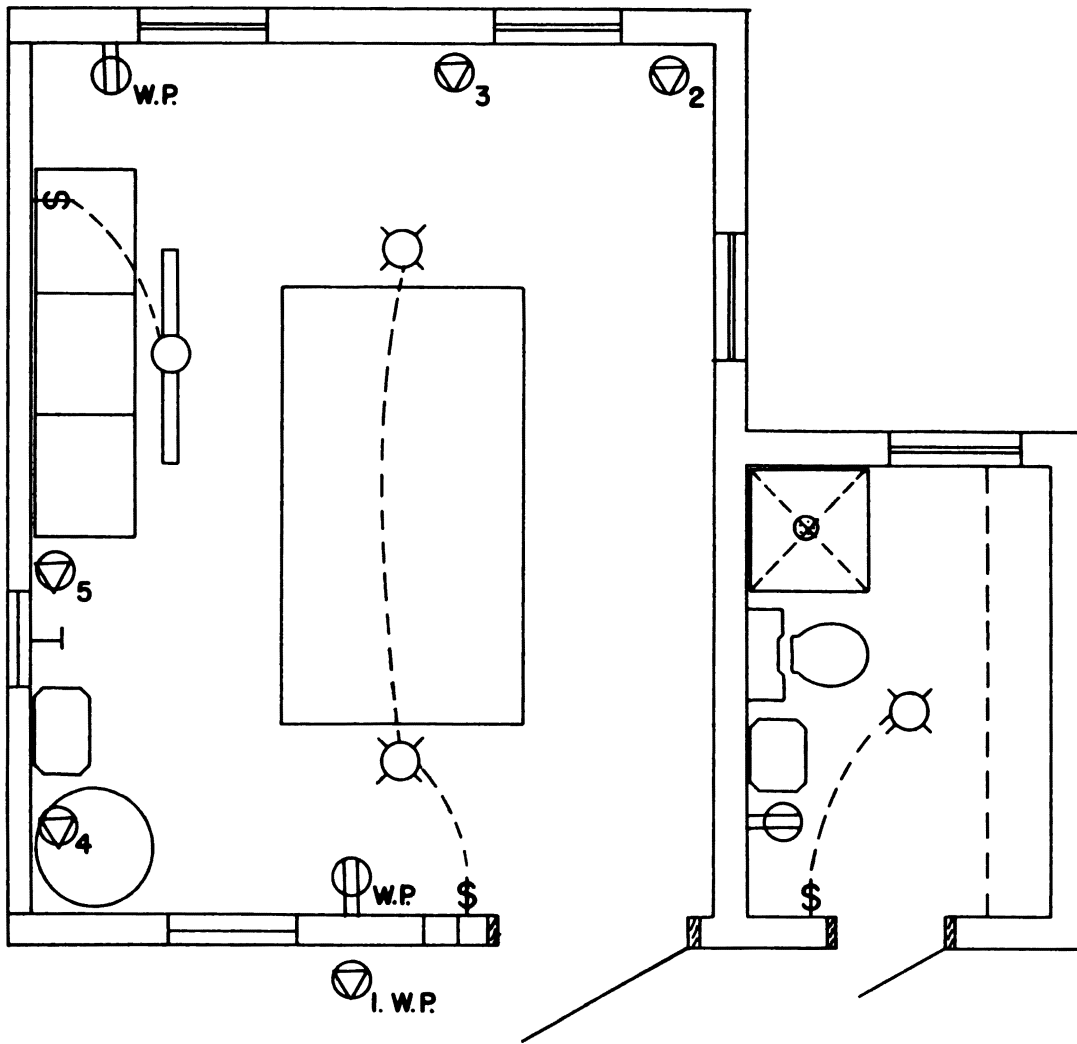
The milking barn continues to be one of the major milking facilities. The one shown below is more or less typical of most of the barns in use. As shown below, one incandescent bulb is provided front and rear for each two stalls, plus a bulb for both barn entrances. In one row barn, a similar arrangement would be applicable.



FACE OUT DAIRY BARN

NOTE: Incandescent bulbs can be replaced by fluorescent bulbs, which require 1/3 as many watts for equivalent lighting.










Proper lighting and wiring of the milk room is essential and mandatory for proper cleanliness of the finished product. The location of the special purpose outlets may need to be changed if the equipment is rearranged, but the location of the lamps relative to the tank should be maintained, and the requirement of 20 foot-candles on the working surfaces should be observed.



TYPICAL MILK ROOM

NOTE: 150 W R-40 flood lamps are preferred, however, the 100 incandescent are adequate to meet the standards.

Legend

	100 watt incandescent bulbs with shallow dome reflectors.
	2, 4 ft. 40 watt fluorescent tubes with low temperature ballasts.
 W.P.	Duplex convenience outlet, weatherproof
 1	Tank truck pump outlet, if required
 2	Bulk tank compressor outlet
 3	Electric heat outlet, if required
 4	Water heater outlet
 5	Milking machine vacuum pump outlet
	Single pole switch