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Division of Building Code Enforcement
Manufactured Housing Section
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Site Preparation, Foundation & Installation Guidelines

I. SITE PREPARATION

Where your home is to be located is extremely important for the proper installation of the home. The following are items that need to be taken into consideration prior to determining the proper location.

A. WATER DRAINAGE AND SITE GRADING – It is necessary to control the flow of rain and irrigation water and keep it from running under the home. Locate the home a distance from natural streams and rivers. It is necessary that the home site be properly graded and sloped to prevent water and moisture collecting under the home. Controlling the water and moisture under the home will improve the stability of the footings and piers that support the home.

Put the drawings in here about the mounded dirt under the home.



B. VEGETATION CONTROL – Cut back low hanging tree branches, bushes and other vegetation and debris which could scrape walls and roof when the home is installed. Consider future growth and possible swaying movement of branches in projected wind, snow or ice conditions. Remove all vegetation from under the home site. This will make it easier to place footings and piers. Any debris that could become termite infested should be removed completely from the home site and surrounding area.

II. INSTALLATION INFORMATION

A. Construction of Permanent Foundation

If you have agreed to perform any of the foundation construction work for your home, it is necessary for the retailer to provide you with the detailed footer/foundation design from the manufacturer and the concrete provided for the work must meet the minimum consistency required by the manufacturer in order to be approved.

B. Utility Connections and Locations

Review the location of utility inlets for water, gas and electricity and the septic tank system (for electricians, and certified septic tank installers. Local officials must approve the septic tank system, electrical and plumbing hookups before you can occupy the home. Evaluate the site location for any provided utility connections and determine that there are no obstruction to making these connections to the home. Do not request delivery until the local health department has approved the site where the septic system will be located.

III. POST INSTALLATION

A. Dryer Vent Installation

If provisions for the installation of a dryer are in the home, a dryer vent roughed-in opening has been provided in the utility area or room with access through the floor or exterior wall. The homeowner should removed the material closing off the roughed-in opening and follow these details along with the dryer manufacturer's installation instructions.

CAUTION

UNDER FLOOR DRYER DUCT MUST BE CONTINUOUS AND TERMINATE OUTSIDE THE PERIMETER OF THE HOME, OUTSIDE OF ANY SKIRTING OR FOUNDATION INSTALLED AROUND THE HOME.

B. SKIRTING/UNDERPINNING/PERIMETER FOUNDATIONS

Putting underpinning or perimeter blocking around the home will assist the home in withstanding below freezing temperatures. Its installation helps to prevent cold air infiltration below the home where the heat ducts and the majority of the plumbing is located. The greatest value of any skirting is as a barrier to air movement, and non-insulated skirting accomplishes this purpose as well as the insulated type. Should you elect to underpin your home, the following guidelines in this document must be followed to avoid damage to your home.

CAUTION

CARE SHOULD ALWAYS BE TAKEN TO ENSURE THAT ADEQUATE VENTILATION IS PROVIDED WHEN SKIRTING OR PERIMETER FOUNDATIONS ARE INSTALLED. FAILURE TO PROVIDE ADEQUATE VENTILATION MAY ALLOW MOISTURE TO BUILD UP UNDER THE HOME ITSELF. THIS MOISTURE CAN RESULT IN HIGH HUMIDITY IN THE HOME, AND ALSO IN THE FORMATION OF CONDENSATION, FROST OR ICE ON COLD SURFACES.

HOMES WITH OPEN SLATTED DECKING AT RECESSED ENTRIES, OPEN PORCHES OR OPEN DECKS MUST HAVE SKIRTING OR FOUNDATIONS BEHIND THESE AREAS SO THAT WATER WILL NOT DRAIN IN THE AREA UNDER THE HOME. THE AREA UNDER THE HOME MUST BE VENTILATED TO MINIMIZE THE ACCUMULATION OF MOISTURE. THIS VENTILATION SHALL BE PROVIDED BY OPENINGS WITH A NET AREA OF AT LEAST ONE SQUARE FOOT FOR EACH 150 SQUARE FEET UNDER THE HOME. THE REQUIRED LOCATION OF OPENINGS SHOULD BE APPROXIMATELY EQUALLY DISTRIBUTED ALONG THE LENGTH OF THE HOMES ON OPPOSITE SIDES WITH OPENINGS LOCATED CLOSE TO THE CORNERS TO PROVIDE CROSS VENTILATION.

C. Final Grading

Purchasers are cautioned that once the home is set on its foundation and anchored, any final grading should take into account the necessity that water not be allowed to accumulate under the home. All grading should result in the drainage of moisture away from the home. Otherwise, the moisture will likely result in serious deterioration of the home and present health hazards, over time.

NOTICE: Please consult the attached Appendix Guidelines for additional guidance regarding a proper site preparation and post installation measures for the protection of your home. Only items listed on KMH 101 may be performed by the purchaser.

APPENDIX TO GUIDELINES

This appendix contains information to assist a consumer. The standards relate to the installation of manufactured homes, wherever located, whenever the manufacturer's installation instructions are not available. The information also includes guidelines for placement and set-up of the home. (If you have questions about the site preparation or installation of your home, you may contact your retailer; and you may contact the Manufactured Housing at 502-573-1795).

(1) Drainage

Purpose

Proper drainage prevents water build-up under the home, which may cause shifting or settling of the foundation, dampness in the home, damage to siding and bottom board, buckling of walls and floors, and problems with the operation of doors and windows.

- A. Elimination of depressions Grade the home site to permit water to drain away from the home.
- B. Gutters and downspouts When gutters and downspouts are installed, direct the run off away from the home.

(2) Skirting

Skirting, if used, shall be of durable materials suitable for exterior exposures. Skirting must not be attached in a manner that can cause water to be trapped between the siding or trim to which it is attached. The skirting should be recessed under the siding or trim. Most local codes do not permit wood, including lumber and all wood siding used for skirting, to be used within 6 inches of the ground unless it is pressure treated to prevent decay and termite infestations. Ventilation shall be provided for the crawl space at a minimum of one square foot of free area for every 150 square feet of the home's floor area. Ventilation openings shall be located to provide cross-ventilation on at least two opposite sides.

A uniform 6-mil polyethylene sheet material or other acceptable vapor barrier material should be installed on the ground surface beneath the home to further reduce moisture. Where an acceptable ground vapor barrier is installed and one such ventilation opening is within 3 feet of each corner of the home, the total area of ventilation openings may be reduced to one square foot for every 1,500 square feet of the home's floor area. Where local codes have minimum ventilation requirements for crawl spaces, these requirements shall apply to homes with skirting and continuous foundations.

Access opening(s) not less than 18 inches in any dimensions and not less than three square feet in area shall be provided and shall be located so that any water supply and sewer drain connections located under the home are accessible for inspections. Dryer vents, air conditioning condensation drains, and combustion air inlets must pass through the skirting to the outside.

(3) Clothes dryer vent. The clothes dryer must exhaust to the exterior of the home or beyond any perimeter skirting installed around it. Important: Do not let the exhaust system end under the home, where excess material can accumulate. (Follow the dryer manufacturer's instructions for installing the exhaust system.)

(4) **Air conditioners.** An installed central air conditioning system must not exceed the rating shown on the home's compliance certificate. The home electrical distribution panel may contain optional factory-installed circuits for air conditioning. The maximum full-load ampere draw for the desired air conditioning unit must not exceed the circuit rating shown.

Important: Electrical circuits within the home may not have been sized for the additional load of non factory-installed air conditioning, and a separate, outside electrical supply may have to be provided. "A"-coil air conditional units must be compatible and listed for use with the furnace in the home. Follow the air conditioner manufacturer's instructions. Direct all condensation beyond the perimeter of the home by means specified by the equipment manufacturer.

(5) **Heat pumps.** Install heat pumps according to the heat pump manufacturer's instructions.

(6) **Utility-system connection and testing. Proper procedures.** *Local utility companies require inspection by a certified electrical inspector for the hook up of the home.* Consult local, county, or state authorities before connecting any utilities. Only qualified service personnel, familiar with local codes and licensed where required, should make utility connections and conduct tests.

□ **Supply Water.**

- A. **Maximum supply pressure and reduction.** The water systems of the home were designed for a maximum inlet pressure of 80 pounds per square inch. **IMPORTANT:** If the home is located in a water district where the local water supply pressure exceeds 80 pounds per square inch, install a pressure-reducing valve.
- B. **Mandatory shut-off valve.** Install an accessible shut-off valve between the water supply and the inlet. It must be a free-flow gate or ball valve.
- C. **Cross-overs** Multisection homes with plumbing in both sections require water-line cross-connections. Remove the shipping caps from the water lines and install the cross-over connectors provided with the home. If freezing could occur, wrap water connectors with insulation.

(7) **Freezing protection**

- A. **Necessity.** In areas subjected to subfreezing temperatures, protect exposed sections of water-supply piping, shut-off valves, pressure reducers and pipes in water-heater compartments with uninsulated doors, from freezing.
- B. **Use of heat tapes.** Heat tapes (either automatic or non-automatic) can protect exposed plumbing from freezing; Caution: In order to reduce the risk of fire, use only heat tapes listed by a nationally recognized testing laboratory for use with manufactured homes, and install them only in accordance with the manufacturer's instructions.

(8) **Drainage system.**

- A. **Proper slopes and connector sizes.** Drain lines must slope at least 1/4 inch fall per foot of run unless otherwise noted on the schematic diagram. Exception: 1/8-inch fall per foot is allowed when a clean-out is installed at the upper end of the run. Connect the main drain line to the site's sewer hook-up, using an approved elastomer coupler.
- B. **Cross-Overs.** Connect multisection-home, drainage-line cross-overs.

(9) Gas Supply

- A. **Type of gas system furnished with home.** All gas-burning appliances including the heating system, are equipped for either natural gas (NG) or liquefied petroleum gas (LPG). A qualified service person must convert the appliances from one type of gas to the other, following the instructions provided by the manufacturer of each appliance.

- B. **Orifices and regulators.** Important: Special orifices and regulators are required for specific gases. See the instructions accompanying each gas-burning appliances to ensure they are correctly set up for the type of gas to be supplied. Special attention should be given to homes sited at altitudes above 3,000 feet.

- C. **Cross-overs.** A gas cross-over may need to be installed in multisection homes. All cross-overs and fittings must be listed for exterior use and be of the same size as the main unit pipe. Do not use tools to connect or remove the flexible connector quick-disconnect.