

## CHAPTER 7 - FINAL CHECK

**700. GENERAL.** Design values determined for the foundation sizes and detailing, that have been derived using procedures in the preceding chapters, will now be summarized. Follow the procedure near the end of the Design Worksheet of Appendix F for assembling relevant foundation information.

### **700-1. BEARING AREA AND VERTICAL ANCHORAGE.**

#### **A. Pier Footings and Piers under Chassis Beams.**

1. Determine the area required for pier footings by comparing two values:
  - a. The Required Effective Footing Area (Aftg).
  - b. The Required Footing Area to resist overturning and uplift from withdrawal capacities found in Appendix C, where required.
2. Select the largest of the above two values. This value will determine the Pier Footing Size. The size and spacing of anchor bolts and the selection of reinforcing bar size, lap splice length, and reinforcing bar hook length for the piers has already been determined. The depth of the footings for frost and for withdrawal (where required) has also been determined. Bring these values forward.

**B. Pier Footings and Piers under Marriage Walls.** Marriage walls only occur in multi-section units. Their piers only carry gravity loads and never participate in uplift or sliding. There are two pier situations that may occur at marriage walls: (1) the marriage wall is continuous without openings, or (2) there are locations where large openings in the marriage wall are intended to enlarge a room's space.

1. Where marriage walls are continuous: determine the area required for pier footings by using one value:
  - a. The Required Effective Footing Area (Aftg) for marriage wall piers from the multi-section unit Foundation Design Tables in Appendix B.
  - b. The piers are assumed equally spaced under the continuous portion of the wall.
2. Where marriage walls have a large opening: determine the area required for piers at the ends of the opening by using one value:
  - a. The Required Effective Footing Area (Aftg) for marriage wall piers from the bottom of each multi-section unit Foundation Design Table in Appendix B by using the length of the opening.
  - b. These piers are located at the ends of the opening directly under the

posts that support the beam at the top of the opening.

### **C. Longitudinal Foundation Wall Footings and Longitudinal Foundation Walls.**

1. Determine the correct footing size for longitudinal foundation walls, Types E & I, by comparing two values:
  - a. The Required Effective footing width (Aftg).
  - b. The Required footing width to resist uplift and overturning from the withdrawal capacities found in Appendix C, where required.
2. Select the largest of the above two values and use it as the appropriate footing size.
3. The foundation system brought forward can either be wood, concrete or masonry.
4. Bring forward values for the wall and footing as follows:
  - a. Depth of footing
  - b. Reinforcing bar size
  - c. Lap splice length
  - d. Reinforcing bar hook length
  - e. Size and spacing of anchor bolts
  - f. Treated wood foundation nailing requirements

### **700-2. HORIZONTAL ANCHORAGE IN THE TRANSVERSE DIRECTION: TRANSVERSE FOUNDATION WALLS.**

#### **A. Transverse Foundation Walls: Exterior (at unit ends) and Interior (to Under-side of Chassis).**

1. The number of transverse walls, wall footing sizes, anchorage requirements and foundation wall reinforcement have been determined to resist sliding, based on capacities found in Appendix C. Bring all these values forward where continuous transverse foundation walls are used.
2. The foundation system brought forward can either be wood, concrete or concrete masonry.

#### **B. Transverse Foundation Walls Completed with Diagonal Braces.**

1. Connection sizes and anchorage requirements have been determined. Bring these values forward where transverse foundation walls are completed with diagonal braces.
2. The foundation wall system brought forward can be only concrete or masonry. The galvanized steel diagonal straps connect to the top of chassis beams under the unit and to the top of masonry or concrete wall option selected.

**C. Vertical X-Bracing Planes in Lieu of Walls.** This applies only to Concept Design Types **C1, C2, E1, E3** and **E4** for either single or multi-section units.

1. Number, spacing and detailing information has been determined. Bring these values forward where vertical X-bracing planes are used.
2. The foundation system brought forward can be only galvanized steel diagonal straps connected to the top of chassis beams under the unit and to the top of concrete footings.

**700-3 HORIZONTAL ANCHORAGE IN THE LONGITUDINAL DIRECTION: LONGITUDINAL FOUNDATION WALLS.**

**A. Longitudinal Exterior Foundation Walls - Type E or I Units.**

1. Connection sizes and anchorage requirements have been determined based on capacities found in Appendix C. Bring these values forward where longitudinal exterior foundation walls are used.
2. The foundation system brought forward can be wood, concrete or masonry.

**B. Vertical X-Bracing Planes under Chassis Beam Lines-Type C Units Only.**

1. Number, spacing and detailing information has been determined. Bring these values forward where vertical X-bracing planes are used.
2. The foundation system brought forward can be only galvanized steel diagonal straps connected to the bottom of chassis beams under

the unit and to the top of concrete footings.

**701. FINAL APPROVAL.** All considerations important in the installation of the manufactured home should have been checked. If answers fall within the boundaries of this document, the foundation may be approved.