

NFPA No.
501A
1973

STANDARD FOR
MOBILE HOME PARKS

\$1.25

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Mobile Homes Manufacturers Association

14650 Lee Road, Chantilly, VA 22021

National Fire Protection Association

470 Atlantic Avenue, Boston, MA 02210

Trailer Coach Association

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Mobile Homes Manufacturers Association

The Mobile Homes Manufacturers Association (MHMA) is a non-profit trade organization to serve the mobile home industry and promote industry growth by providing better tools for successful operation. It is voluntarily supported by manufacturers, suppliers, and related service organizations. It has a Standards Division with field engineering personnel to visit member plants regularly, inspecting units and assisting when necessary in the correction of any deviations from the standards applicable to mobile homes. MHMA Manufacturers must comply with the provisions of this Standard as a condition of membership.

National Fire Protection Association

The National Fire Protection Association (NFPA) is a non-profit technical and educational organization to promote the science and improve the methods of fire protection. Organized in 1896, the Association has a broad-scale standards-making program to aid in its objective to reduce loss of life and destruction of property by fire. The Association publishes the standards developed under its aegis in pamphlet editions (such as this) and in what is known as the National Fire Codes (a ten-volume compilation annually updated, totaling approximately 9,500 pages). For full information about the Association and for a list of its publications, write to the Association's Headquarters.

Trailer Coach Association

The Trailer Coach Association represents the manufacturers of mobile homes and recreational vehicles, dealers and suppliers in the Western States while drawing its members from all sections of the country. Founded in 1936, the Association sponsors mobile home and recreational vehicle shows in the major western cities and has research programs dedicated to advance the proper use of mobile homes and recreational vehicles. It has a Standards Department which works with the enforcing officials in the various Western States to encourage compliance with the recommendations contained in this Standard. The Trailer Coach Association currently has a staff of 23 and a membership of nearly 1,000.

American National Standards Institute

The American National Standards Institute (ANSI) is the national coordinating institution for voluntary standardization in the U.S.A. through which organizations concerned with standardization may cooperate in recognizing, establishing and improving standards in this country. Approval of a standard by the Institute is based on a consensus of those essentially concerned with its scope and provisions. The Institute has a Member Body Council, a Consumer Council, and a Company Member Council. The Member Body Council is composed of non-profit technical, professional, scientific, trade, or other membership associates, societies, or organizations which are of national scope and recognition. The Mobile Homes Manufacturers Association, National Fire Protection Association, and the Trailer Coach Association are Member Bodies of the ANSI.

Standard for Mobile Home Parks

NFPA No. 501A — 1973

ANSI A177.1

Origin and Development

This Standard was developed by the Sectional Committee on Mobile Home Parks and processed through the Correlating Committee on Mobile Homes and Recreational Vehicles. The involved committees are organized under the aegis of the American National Standards Institute (ANSI), sponsored by the Mobile Homes Manufacturers Association, the National Fire Protection Association, the Recreational Vehicle Institute, and the Trailer Coach Association. A listing of the Correlating Committee and the Sectional Committee membership is shown on the following pages.

This Edition of the Standard was approved by the National Fire Protection Association at its 77th Annual Meeting held in St. Louis, Missouri, May 15, 1973. NFPA activity in this general area commenced in 1937 when the NFPA organized its first Committee on Trailers and Trailer Courts. The first standard covering Trailer Courts appeared in 1939, with revisions in 1940, 1952, 1960, 1964, 1971, and 1972. This Edition replaces the 1972 and earlier NFPA documents and is a companion to the Standard for Mobile Homes (NFPA No. 501B-1973; ANSI A119.1).

This 1973 Edition is a complete *editorial* revision of the 1972 text and introduces new material on ground anchors (4.3), their placement (4.4), and diagonal ties (4.5). The new material gives guidance for park operators and mobile home owners consistent with new material for windstorm protection in the Standard for Mobile Homes (NFPA No. 501B-1973; ANSI A119.1).

Approval of the 1972 edition of this Standard by the ANSI was secured under date of May 8, 1973 and identified as ANSI A177.1-1973. This 1973 NFPA edition is being submitted to the ANSI for action; when and if approval is given the cover of the pamphlet printing of this Standard will reflect the action taken.

Particular attention is called to the Standard for Mobile Homes [NFPA No. 501B-1973; ANSI A119.1] and to Article 550, Part B of the National Electrical Code (NFPA No. 70-1971; ANSI C1-1971).

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This list represents the membership at the time the Committee was balloted on the text of this edition. Since that time, changes in the membership may have occurred.

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FOREWORD

This Standard is sponsored by the Committees listed herein and the membership is inclusive of those having a substantial interest in the subject as consistent with the policies of the American National Standards Institute and the National Fire Protection Association. These Committees are standing committees which will periodically review this Standard in an effort to keep the recommendations contained herein up-to-date. Anyone interested is invited to make suggestions for revisions to the Chairman and Administrative Secretary of the Correlating Committee or the Chairman and Secretary of the Sectional Committee.

The participation of the National Fire Protection Association as a sponsor of this project is administrative and undertaken in the sole interest of safety to life and property from fire and allied hazards. Some portions of this Standard cover areas outside the scope of NFPA's normal sphere of activity but are of interest and concern to the other sponsors and to the owners and occupants of mobile home parks. The NFPA Board of Directors has authorized the Association's participation with the understanding that its responsibility extends only to those areas within its scope.

Official Interpretations Procedure

1. General. There is hereby established an Official Interpretations Procedure for this Standard produced under the aegis of the Correlating Committee on Mobile Homes and Recreational Vehicles and its Sectional Committees for the purpose of providing official explanations of the meaning or intent of any specific provision.

NOTE: This Official Interpretations Procedure does not prevent any officer or member of the Committees concerned from commenting on the meaning or intent of any provision of any such document, provided that the comment is clearly identified as not being an Official Interpretation of the Committee.

2. Nature of Official Interpretations. Two General forms of Official Interpretations shall be recognized:

- (a) Those making an Interpretation of the literal text.
- (b) Those making an Interpretation of the intent when the particular text was adopted.

No judgments will be rendered of engineering drawings by the Interpretations Committee regarding compliance with any provisions of this Standard.

3. Procedures for Requesting Official Interpretations. Those desiring an Interpretation shall direct their requests to the Administrative Secretary of the Correlating Committee, c/o National Fire Protection Association, 470 Atlantic Ave., Boston, MA 02210, supplying five identical copies of a statement in which shall appear specific references to a single problem, identifying article, section or paragraph of the document with which they are concerned. Such a request shall be on the business stationery of the inquirer and shall be duly signed. When applications involve actual field situations they shall so state, and all parties involved shall be named.

4. Handling of Requests for Official Interpretations. The responsible Sectional Committee shall not be under any obligation to process requests for Official Interpretations in any specified time period nor to issue an Official Interpretation except at its own convenience. The request for an Official Interpretation may be processed exactly the way it has been submitted, or they may rephrase the question, if desired, to clarify the intent, or they may refuse to consider the request if they find it not to be in proper form or consistent with Paragraph 2. If acceptable for consideration, the request for an Official Interpretation shall be submitted to an Interpretations Subcommittee made up of five or more individuals selected by the Sectional Committee Chairman or its Secretary (with the approval of the Chairman). In selecting those to serve the Sectional Committee Chairman or its Secretary will select Members of the Sectional Committee having jurisdiction over the question posed and may also include up to two members of the appropriate Task Group who are not Sectional Committee members, but no Member, Alternate, or Task Group representative shall be eligible for such appointment if he is directly involved in the particular case prompting the request for the Interpretation. The personnel of each Interpretations Subcommittee may be varied with each request.

5. Voting on Interpretations. In any case where there is more than 1 negative vote in the Interpretations Subcommittee, the request for Interpretation shall be referred to the Sectional Committee for a decision. Under these conditions, adoption of an Official Interpretation requires approval by a three-quarters majority vote of that Sectional Committee. Where a three-quarters

majority vote of the Sectional Committee is not received, the item shall be placed on the docket for regular processing by the Sectional Committee for subsequent possible action. If the Interpretations Subcommittee unanimously agrees or a three-quarters affirmative vote is secured from the Sectional Committee, the Correlating Committee on Mobile Homes and Recreational Vehicles shall be informed of the decision reached and shall be requested to ballot on said decision. If at least a three-quarters affirmative vote is secured, the applicant shall be informed promptly and as soon as possible the Interpretation shall be published by the sponsors in the publications each distributes to its members and announced in a suitable news release by the Administrative Secretary which shall be sent to the American National Standards Institute for their information and guidance. If the Correlating Committee does not concur by the three-quarters affirmative ballot required the question shall be returned to the Sectional Committee for regular processing and subsequent possible action.

6. Action Following Issuance of Official Interpretations. Following the issuance of an Official Interpretation, the Sectional Committee shall be obliged to review the item on which the Interpretation has been issued with a view to determining whether any change may be desired in the Standard to clarify or correct the condition which brought about the request for the Official Interpretation. If such a change is indicated, the Sectional Committee shall process such a change in conformance with the usual procedures established under the rules of procedure of the Committee as a whole.

7. Time Limit on Interpretations. Any Official Interpretation issued shall apply only to the edition of the document for which the Interpretation is made.

Standard for Mobile Home Parks

NFPA No. 501A — 1973

ANSI A177.1

Part 1. Scope

1.1 General. This standard covers mobile home parks which are defined as contiguous parcels of land which have been so designated and improved that they contain two or more mobile home lots available to the general public for the placement thereon of mobile homes for occupancy. The standard includes recommendations for new mobile home park design and land use where no local regulations governing such design are in effect, intended to give minimum guidance which is considered good practice. In addition, the standard includes requirements for mobile home lot facilities (Part 4), mobile home accessory buildings and structures (Part 5), mobile home park permanent buildings (Part 6), mobile home park plumbing systems (Part 7), mobile home park electrical systems (Part 8), mobile home park fuel supply systems (Part 9), and mobile home park fire safety (Part 10).

1.2 Companion Standard. This standard is designed as a companion document to the *Standard for Mobile Homes (NFPA No. 501B-1973; ANSI A119.7)* and it is recommended that all mobile homes located in parks covered herein meet the provisions of the latter reference.

NOTE: Recreational Vehicles are covered in a separate Standard (NFPA No. 501C-1972; ANSI A119.2-1973) and an Electrical Standard on Recreational Vehicle Parks is available for those interested (NFPA No. 510D-1971; ANSI A177.2-1972).

Part 2. Definitions

2.1 Approved. Means acceptable to the authority having jurisdiction.

2.2 Authority Having Jurisdiction. The organization, office or individual responsible for "approving" equipment, an installation, or a procedure.

2.3 Awning. A shade structure supported by posts or columns and partially supported by a mobile home installed, erected, or used on a mobile home lot.

2.4 Awning, Free Standing. A shade structure supported entirely by columns or posts and not attached to or supported by a mobile home or other structure.

2.5 Awning Window. A shade structure supported wholly by the mobile home or building to which it is attached.

2.6 Building. A roofed structure erected for permanent use.

2.7 Cabana. A room enclosure erected or constructed adjacent to a mobile home for residential use by the occupant of the mobile home.

2.8 Carport. An awning or shade structure for a vehicle or vehicles which may be free-standing or partially supported by a mobile home.

2.9 Diagonal Tie. Any tiedown designed to resist horizontal or shear forces and which deviates not less than 30 degrees from a vertical direction.

2.10 Feeder Assembly. The overhead or under-chassis feeder conductors, including the grounding conductor, together with the necessary fittings and equipment, or a power supply cord listed for mobile home use, designed for the purpose of delivering energy from the source of electrical supply to the distribution panelboard within the mobile home.

2.11 Fence. A vertical structure designed and erected as a free-standing unit, the surface of which is more than 50 percent open.

2.12 Ground Anchor. Any device at the mobile home stand designed for the purpose of securing a mobile home to the ground.

2.13 Habitable Room. Any room meeting the requirements of these regulations for sleeping, living, cooking, or dining purposes, excluding such enclosed spaces as closets, pantries, bath or toilet rooms, service rooms, connecting corridors, laundries, unfinished attics, foyers, storage spaces, cellars, utility rooms, and similar spaces.

2.14 Listed. Equipment or materials included in a list published by a nationally recognized testing laboratory that maintains periodic inspection of production of listed equipment or materials and whose listing states either that the equipment or material meets nationally recognized standards or has been tested and found suitable for use in a specified manner.

2.15 Mobile Home. A factory-assembled structure or structures equipped with the necessary service connections and made so as to be readily movable as a unit or units on its (their) own running gear and designed to be used as a dwelling unit(s) without a permanent foundation.*

*The phrase "without permanent foundation" indicates that the support system is constructed with the intent that the mobile home placed thereon will be moved from time to time at the convenience of the owner.

2.16 Mobile Home Accessory Building or Structure. A building or structure which is an addition to or supplements the facilities provided a mobile home. It is not a self-contained, separate, habitable building or structure. Examples are awnings, cabanas, ramadas, storage structures, carports, fences, windbreaks, or porches.

2.17 Mobile Home Lot. A designated portion of a mobile home park designed for the accommodation of one mobile home and its accessory buildings or structures for the exclusive use of the occupants.

2.18 Mobile Home Park. A parcel (or contiguous parcels) of land which has been so designated and improved that it contains two or more mobile home lots available to the general public for the placement thereon of mobile homes for occupancy.

2.19 Mobile Home Service Equipment. That equipment containing the disconnecting means, overcurrent protective devices, and receptacles or other means for connecting a mobile home feeder assembly. (*See 2.22.*)

2.20 Mobile Home Stand. That area of a mobile home lot which has been reserved for the placement of a mobile home.

2.21 Occupied Area. The total of all of the lot area covered by a mobile home and roofed mobile home accessory buildings and structures on a mobile home lot.

2.22 Park Electrical Wiring System. All of the electrical wiring, fixtures, equipment and appurtenances related to electrical installations within a mobile home park, including the mobile home service equipment.

2.23 Park Street. A private way which affords principal means of access to abutting individual mobile home lots and auxiliary buildings.

2.24 Permanent Building. Any building except a mobile home or a mobile home accessory building or structure.

2.25 Porch. An outside walking area having the floor elevated more than eight inches above grade.

2.26 Ramada. Any free-standing roof, or shade structure, installed or erected above an occupied mobile home or any portion thereof.

2.27 Special Permission. The written consent of the authority having jurisdiction.

2.28 Storage Structure. A structure located on a mobile home lot

which is designed and used solely for the storage and use of personal equipment and possessions of the mobile home occupants.

2.29 Structure. That which is built or constructed, an edifice or building of any kind, or any piece of work artificially built up or composed of parts joined together in some definite manner.

2.30 Tiedown. Any device designed for the purpose to anchor a mobile home to ground anchors.

2.31 Windbreak. A vertical wall structure designed and erected as a free-standing unit, the vertical surface of which is not more than 50 percent open.

Part 3. Mobile Home Park Design and Land Use

3.1 General. The material in this Part contains recommendations on new mobile home park design and land use where no local regulations governing such design and land use are in effect. The suggested criteria is intended to give minimum guidance which is considered good practice.

3.2 Setbacks. Each mobile home shall be located at least 25 feet from any park property boundary line abutting upon a public street or highway.

3.3 Density. The density of mobile homes shall be regulated by mobile home lot requirements and separation requirements set forth in this standard.

3.3.1 The occupied area of a mobile home lot shall not exceed 75 percent of the lot area.

3.3.2 Mobile homes shall not be located closer than 10 feet from any other mobile home or permanent building within the mobile home park. Mobile home accessory building shall not be closer than 3 feet from a mobile home or building on an adjacent lot.

3.4 Access to Park Streets. Each mobile home lot within a mobile home park shall have direct access to a park street. The access shall be an unobstructed area, not less than 14 feet in width.

3.5 Park Streets. "Park Streets" shall be of adequate widths to accommodate the contemplated parking and traffic load in accordance with the type of street. Traffic lanes shall be 10 feet minimum width for collector streets, and 9 feet minimum width for minor streets. Lanes for parallel parking shall be 7 feet minimum width. Collector streets, with guest parking allowances, shall be 34 feet minimum width. Collector streets and all other streets, except minor

streets without parking allowances, shall be 24 feet minimum width. Minor streets serving less than 40 lots (no parking) shall be minimum width 18 feet. One-way minor streets serving less than 20 lots (no parking) shall be 14 feet minimum width.

3.5.1 The street system shall have direct connection to a public way.

3.5.2 Streets and walkways designed for the general use of the mobile home park residents shall be lighted during the hours of darkness. Such lighting shall not be under the control of the mobile home occupant.

3.6 Vehicle Parking. Mobile home parks should be designed to include two automobile parking spaces for each mobile home lot.

Part 4. Mobile Home Lot Facilities

4.1 Utility Connections. Utility connections serving the mobile home shall be located to properly service the mobile home placed on the stand.

NOTE: For further guidance on location of utility connections, see NFPA No. 501B-1973, ANSI A119.1, Part C, Sections 11.2.1 and 12.2.1; Part D, Sections 5.1.10.1 and 5.1.10.2; and Part E, Section 10.9.

Exception: By special permission other locations may be designated for specific types of mobile homes.

4.1.1 Mobile home utility services shall be connected to the mobile home park system by means of approved materials. No rigid utility connections shall be made.

4.2 Stabilizing Devices or Piers. Mobile homes shall not be permanently attached to foundations. Stabilizing devices or piers may be used. Where specified by the manufacturer, they shall be installed in accordance with his instructions (see Part B, Section 6.5.1.5 of NFPA No. 501B-1973; ANSI A119.1).

4.3 Ground Anchors. Ground anchors shall be installed at each mobile home stand when a mobile home is located thereon to permit tiedowns of mobile homes to comply with the requirements of Paragraph 4.4.

4.3.1 Each ground anchor shall be capable of resisting an allowable working load equal to or exceeding 3,150 pounds applied in the direction of the tiedown. In addition, each ground anchor shall be capable of withstanding a 50 percent overload without failure.

4.3.2 Ground anchors shall be resistant to weathering deterioration at least equivalent to that provided by a coating of zinc on steel strapping of not less than 0.30 ounces per square foot of surface coated.

4.4 Placement of Ground Anchors. Unless the entire tiedown system, including ground anchors, is designed by a Registered Professional Engineer or Architect, ground anchors shall be placed as follows:

4.4.1 Hurricane Zones. Not more than 12 feet on centers beginning from the front line of the mobile home stand (congruent with the front wall of the mobile home). Not more than 6 feet open-end spacing shall be provided at the rear line of the mobile home stand unless additional tiedowns are installed.

4.4.2 Nonhurricane Zones. Not more than 24 feet on centers beginning from the front line of the mobile home stand (congruent with the front wall of the mobile home). Not more than 6 feet open-end spacing shall be provided at the rear line of the mobile home stand unless additional tiedowns are installed.

NOTE: See Figure A-1 in Appendix A for information on hurricane and nonhurricane zones.

4.5 Diagonal Ties. Ground anchors for diagonal ties shall be provided in conjunction with each vertical tiedown.

Part 5. Mobile Home Accessory Buildings and Structures

5.1 General. Because of variable conditions encountered in different areas of the United States, it is impractical to develop detailed requirements for mobile home accessory buildings and structures. The requirements set forth in this Part are basic standards applicable to the type of structures defined.

5.2 Scope. When mobile home accessory buildings and structures are erected, constructed or occupied on a mobile home lot, they shall comply with this standard.

5.3 Construction, General. Every mobile home accessory building or structure shall be designed and constructed in accordance with the applicable provisions of nationally recognized building codes and shall conform to the criteria of the authority having jurisdiction.

5.4 Electrical Systems, General. Electrical equipment installed in a mobile home accessory building or structure shall comply with the applicable provisions of the *National Electrical Code (NFPA No. 70-1971; ANSI C1-1971)*.

5.5 Plumbing Systems, General. Plumbing equipment, materials, and installations in a mobile home accessory building or structure shall comply with the applicable provisions of the nationally recognized plumbing codes.

5.6 Lot Area Usage. The area of a mobile home lot occupied by a mobile home and accessory buildings and structures shall not exceed 75 percent of the lot area (see Paragraph 3.3.1).

5.7 Clearance. Under no conditions shall a mobile home accessory building or structure be closer than 3 feet from any adjacent mobile home or mobile home accessory building or structure (see Paragraph 3.3.2).

5.8 Cabanas

5.8.1 General. A cabana may be erected, constructed, occupied or maintained on a mobile home lot only as an accessory to a mobile home.

5.8.2 Design and Construction. A cabana shall be designed and constructed as a free-standing structure. A cabana may be attached to a mobile home with appropriate flashing or sealing materials to provide a weather seal.

5.8.3 Dimensions

5.8.3.1 The height of a cabana shall not exceed one story or the height of the mobile home, except when constructed in conjunction with a ramada.

5.8.3.2 A cabana shall have a minimum ceiling height of 7 feet 6 inches from the finished floor to the finished ceiling, or, if there is no finished ceiling, to the roof. If the ceiling or roof is sloped, one-half of the sloped ceiling area shall meet the minimum ceiling height. No portion of any room having a ceiling height of less than 5 feet shall be considered as contributing to the minimum area prescribed in subsection 5.8.3.4 of this section.

5.8.3.3 Habitable rooms shall be not less than 7 feet in any horizontal dimension and toilet compartments shall be not less than 30 inches in width, and there shall be not less than 21 inches clear space in front of each toilet.

5.8.3.4 Each habitable room in a cabana shall have a superficial floor area of not less than 90 square feet, excluding a private toilet and bath compartment or other enclosed area.

5.8.4 Foundation. A cabana may be set on piers and girders in lieu of continuous footings. Piers and girders shall be designed and constructed to support the live and dead loads imposed on them in accordance with standard engineering practice and the criteria established by the authority having jurisdiction.

5.8.5 Floors. Floors shall be designed and constructed to support the live and dead loads to which they may be subjected in accordance with criteria established by the authority having jurisdiction.

5.8.6 Walls. Walls shall be designed and constructed to withstand horizontal and lateral forces in accordance with design criteria established by the authority having jurisdiction.

5.8.7 Roofs. Roofs of cabanas shall be designed and constructed to withstand vertical and horizontal forces to which they may be subjected in accordance with criteria established by the authority having jurisdiction.

5.8.8 Exits. Every room in a cabana shall have access to at least one exterior door opening directly to the outside without passing through the mobile home. The opening shall be not less than 28 inches in width nor less than 6 feet 2 inches in height. When the cabana encloses two doors of the mobile home, an additional exterior door shall be installed which provides an alternate route of exit in the event the other exit becomes blocked.

5.8.9 Light and Ventilation

5.8.9.1 Habitable Rooms. Habitable rooms shall be provided with windows or doors having a total glazed area of not less than 10 percent of the floor area. An area equivalent to not less than 5 percent of the floor area shall be available for unobstructed ventilation. Glazed areas need not be openable where a mechanical ventilation system is provided and is capable of producing a change of air in the room(s) every thirty minutes with not less than $\frac{1}{5}$ of the air supply taken from outside the cabana.

Exception: Kitchens may be provided with artificial light and mechanical ventilation capable of producing a change of air in the room every 30 minutes.

5.8.9.2 Windows and Doors Used for Light and Ventilation. Such windows and doors shall open directly to the outside.

5.8.9.3 Bathroom. Each bathroom shall be provided with windows or doors having a total glazed area of not less than one and one-half ($1\frac{1}{2}$) square feet of full openable window except where artificial light and an approved mechanical ventilation system is provided and capable of producing a change of air every twelve (12) minutes.

5.8.9.4 Cabana Windows. Required windows of a cabana shall open on a court, yard or street either directly or through a porch or awning having a minimum clear height of not less than 7 feet. Such porch or awning shall be at least 50 percent open on the side opposite the windows.

5.9 Awnings or Carports

5.9.1. General. An awning or carport may be erected, constructed or maintained on a mobile home lot only as an accessory to a mobile home located on the same lot. An awning shall not be enclosed with rigid materials or walls or converted for use as a habitable room or cabana unless the completed construction complies with all the requirements for a cabana (see Section 5.8).

5.9.2 Location. An awning or carport may be erected on a lot line provided the awning or carport is constructed of material which does not support combustion and is not less than 3 feet from a mobile home or mobile home accessory building or structure on an adjacent lot.

5.9.3 Dimensions

5.9.3.1 An awning or carport supported in part by a mobile home shall not exceed 12 feet in width (projection) as measured from the wall of the mobile home to the outer edge of the awning or carport roof.

5.9.3.2 A free-standing awning or carport is not limited as to width or length, except that the occupied area of a mobile home lot shall not exceed 75 percent of the lot area (see Paragraph 3.3.1).

5.9.4 Exits from Awning Enclosures. An awning with enclosures of nonrigid materials shall have at least one door in the enclosure opening directly to the outside of the enclosure. The opening shall be not less than 28 inches in width nor less than 6 feet 2 inches in height. Two such door openings shall be provided from the enclosure when the enclosure encloses two doors of the mobile home.

5.10 Ramadas

5.10.1 General. A ramada may be erected, constructed or maintained on a mobile home lot only as an accessory to a mobile home located on the same lot.

5.10.2 Location. A ramada or any portion thereof shall have a clearance of not less than 18 inches in a vertical direction above any fuel-burning appliance vent or plumbing vent extending through the roof of a mobile home and not less than 6 inches in a horizontal direction from each side of a mobile home. Cross braces, architectural appurtenances or structural ties, shall not obstruct movement of any mobile home.

5.10.3 Design and Construction. A ramada shall be designed and erected as a free-standing self-supporting structure meeting structural requirements for cabanas.

5.10.4 Enclosure Prohibited. A ramada shall not be enclosed or partially enclosed on any side or end, except that one side may be enclosed when the ramada roof is continuous with the roof of a cabana constructed on one side only of the mobile home.

5.10.5 Roof Venting: A ventilating opening shall be installed at the highest point in the ramada roof to relieve products of combustion from vents or ducts of fuel-burning equipment. Vent openings shall have a minimum cross-sectional area of 28 square inches. Chimneys or vents of appliances burning solid or liquid fuel shall extend through the ramada roof surface and shall terminate in an approved roof jack and cap.

5.11 Porches

5.11.1 General. A porch erected, constructed or maintained on a mobile home lot for the use of the occupants of the mobile home located on the same lot shall comply with all the requirements herein.

5.11.2 Design and Construction. The design and construction of all structural elements of a porch, stairs leading thereto, and rails shall be in accordance with the applicable provisions of nationally recognized dwelling codes. A porch shall be designed and constructed in accordance with the criteria established by the authority having jurisdiction. Live loads applicable to porch floors should be not less than 40 pounds per square foot.

5.11.3 Foundation. A porch foundation may be precast concrete piers when placed on undisturbed or compacted earth, provided the bearing surface is adequate for the designed load and no wood is placed within 6 inches of any earth.

5.11.4 Railings. Railings shall be provided around the perimeter of porches which are 30 inches or more above grade. Railings shall be not less than 42 inches in height above the floor. Intermediate rails in open-type railings shall be spaced not more than 9 inches apart. Railings shall be designed and constructed to withstand a horizontal force of 20 pounds per lineal foot applied at the top of the railing.

5.11.5 Handrails. Stairways serving porches having the finished floor 30 inches or more above grade shall be equipped with handrails. Handrails shall be not less than 30 inches nor more than 34 inches as measured vertically from the nosing of stair treads.

5.12 Storage Structures

5.12.1 General. Not more than two individual storage structures may be located or maintained on one mobile home lot.

5.12.2 Location. A storage structure may be located on a lot line or adjacent to a mobile home or mobile home accessory building or structure, or beneath an awning or carport, provided that it does not obstruct openings for light and ventilation of the mobile home, required open space or screening of mobile home accessory building or structure, or prevent inspection of mobile home equipment and utility connections.

5.13 Fences and Windbreaks

5.13.1 General. If a fence or windbreak is located on a mobile home lot, it shall not exceed 6 feet in height, except where such fence or windbreak is on the park property line.

5.13.2 Location. A fence or windbreak exceeding 42 inches in height shall not be located closer than 3 feet to any mobile home or mobile home accessory building or structure. A fence or windbreak shall not be used to form an enclosure of any part of an awning or carport.

Part 6. Mobile Home Park Permanent Buildings

6.1 Construction. Every permanent (see Paragraph 2.24) building shall be designed and constructed in accordance with the applicable provisions of nationally recognized building codes.

6.2 Electrical Installations. Electrical wiring, fixtures and equipment installed in a permanent building in a mobile home park shall comply with the applicable provisions of the *National Electrical Code (NFPA No. 70-1971; ANSI C1-1971)*.

6.3 Fuel Gas Equipment and Installation. Fuel gas equipment and installations installed within a permanent building in a mobile home park shall comply with nationally recognized appliance and fuel gas piping codes and standards. Where the state or other political subdivision does not assume jurisdiction, such fuel gas equipment and installation shall be designed and installed in accordance with the appropriate provisions of the *Standard for the Installation of Gas Appliances and Gas Piping (NFPA No. 54-1969; ANSI Z21.30-1964)*; the *Standard for the Installation of Gas Piping and Gas Equipment on Industrial Premises and Certain Other Premises (NFPA No. 54A-1969; ANSI Z83.1-1968, with addenda)*; or the *Standard for the Storage and Handling of Liquefied Petroleum Gases (NFPA No. 58-1972; ANSI Z106.1-1972)*.

6.4 Oil-Burning Equipment and Installation. Oil-burning equipment and installations within a permanent building in a mobile home park shall comply with nationally recognized codes and standards. Where the state or other political subdivision does not assume jurisdiction, such oil-burning equipment and installation shall be designed and installed in accordance with the appropriate provisions of the *Standard for the Installation of Oil Burning Equipment (NFPA No. 31-1972; ANSI Z95.1-1972)*.

6.5 Plumbing Installation. Plumbing equipment, materials and installations in a permanent building within a mobile park home shall comply with the applicable provisions of nationally recognized plumbing codes.

6.6 Materials, Fixtures, Devices, Fittings. Materials, fixtures, devices and fittings and their installation, shall conform to nationally recognized standards.

Part 7. Mobile Home Park Plumbing Standards

7.1 Water Supply

7.1.1 General Requirements. An accessible, adequate, safe and potable supply of water shall be provided in each mobile home park. Where a public supply of water of satisfactory quantity, quality and pressure is available at or within the boundary of the park site, connection shall be made thereto and its supply used exclusively. When a satisfactory public water supply is not available, a private water supply system shall be developed and used as approved by the authority having jurisdiction.

7.1.2 Source of Supply

7.1.2.1 The water supply shall be capable of supplying a minimum of 150 gallons per day per mobile home lot.

7.1.2.2 Every well or suction line of the water supply system shall be located and constructed in such a manner that neither underground nor surface contamination will reach the water supply from any source. Minimum distances between wells and various sources of contamination shall be 50 feet for building sewers, septic tanks and dry wells, 100 feet for disposal fields and seepage pits, and 150 feet for cesspools.

7.1.2.3 Well-casing, pumping machinery or suction pipes shall not be placed in any pit, room or space extending below ground level, nor in any room or space above ground which is walled in or otherwise enclosed, unless such rooms, whether above or below ground, have free drainage by gravity to the surface of the ground.

7.1.2.4 The treatment of a private water supply shall be in accordance with applicable laws and regulations.

7.1.3 Water Storage Facilities. All water storage reservoirs shall be covered, watertight and constructed of impervious material. Overflows and vents of such reservoirs shall be effectively screened. Manholes shall be constructed with overlapping covers, so as to prevent the entrance of contaminated material. Reservoir overflow pipes shall discharge through an acceptable air gap.

7.1.4 Water Distribution Systems

7.1.4.1 All water piping, fixtures and other equipment shall be constructed and maintained in accordance with state and local regulations and requirements and shall be of a type and in locations approved by the authority having jurisdiction.

7.1.4.2 The water piping system shall not be connected with nonpotable or questionable water supplies, and where necessary, shall be protected against the hazards of backflow or back siphonage.

7.1.4.3 The water supply system shall be so designed and maintained as to provide a pressure of not less than 20 pounds per square inch under all normal operating conditions at each mobile home stand. Also, the system shall be capable of supplying up to 50 mobile homes with a demand load of 100 gpm, 100 mobile homes with 180 gpm, and 300 mobile homes with 370 gpm. Greater design values may be required when the system is to provide fire protection.

7.1.5 Individual Water-Riser Pipes and Connections. Each mobile home stand shall be provided with a water riser or risers located and arranged to permit attachment in a workmanlike manner to a mobile home utilizing the stand (see NFPA No. 501B-1973; ANSI A119.1, Part C, Section 11.2.1). In addition:

Exception: By special permission, other locations may be designated for specific types of mobile homes.

7.1.5.1 Water-riser pipes shall extend at least 4 inches above ground elevation. The pipe diameter shall be at least $\frac{3}{4}$ inch. The water outlet shall be capped when a mobile home does not occupy the lot.

7.1.5.2 Adequate provisions shall be made to prevent freezing of service lines, valves and riser pipes and to protect risers from the heaving and thawing actions of ground during freezing weather. Surface drainage shall be diverted from the location of the riser pipe.

7.1.5.3 A shutoff valve shall be provided on the water-riser pipe on each mobile home lot. Where frost conditions occur, the shutoff valve shall be located below the frost line.

7.1.5.4 Underground stop and waste valves shall not be installed on any water service.

7.1.5.5 Each mobile home shall be connected to the park water service outlet by a flexible connector, such as copper tubing, not less than $\frac{1}{2}$ inch interior diameter.

7.2 Sewage Disposal

7.2.1 General

7.2.1.1 An adequate and safe sewage collection system shall be provided in all mobile home parks for conveying and disposing of all sewage. Wherever feasible, connection shall be made to a public system. All new improvements shall be designed, constructed and maintained in accordance with applicable laws and regulations.

7.2.1.2 Where the sewage collection lines of the mobile home park are not connected to a public sewer, all proposed sewage disposal facilities shall be approved by the authority having jurisdiction prior to construction.

7.2.2 Sewage Collection Lines. All sewage collection lines shall be located in trenches of sufficient depth to be free of breakage from traffic or other movements and shall be separated from the park water supply system at a safe distance. Sewage collection lines shall be at a grade which will insure a velocity of two feet per second when flowing full. The system shall be designed for a minimum flow of 150 gallons per day per mobile home lot.

7.2.3 Mobile Home Lot Sewage Collection-Inlet and Lateral

7.2.3.1 The sewage collection inlet shall have a nominal inside diameter of at least 3 inches (see NFPA No. 501B-1973, ANSI A119.1, Part C, Section 12.2.3.3).

7.2.3.2 The lateral line from the inlet to the sewage collection line shall slope at least $\frac{1}{4}$ inch per foot. All joints shall be watertight.

7.2.3.3 All materials used for sewer connections between a mobile home and the inlet shall be semirigid, approved pipe (not less than Schedule 40), corrosive resistant, non-absorbent and durable. The inner surface shall be smooth.

7.2.3.4 Provision shall be made for sealing the sewage collection inlet when a mobile home does not occupy the lot. Surface drainage shall be diverted away from the inlet. The rim of the inlet shall extend not more than 4 inches above ground elevation.

NOTE: See NFPA No. 501B-1973, ANSI A119.1, Part C, Section 12.2.1 for information relative to location of drain outlet on mobile homes.

Part 8. Mobile Home Park Electrical Systems

8.1 Application and Scope. This section applies to electrical distribution systems in mobile home parks. It does not apply to the electrical systems of mobile homes or the feeder assembly used to connect them to the mobile home service equipment. Except as otherwise permitted or required by this standard, all electrical installations in mobile home parks shall be designed and constructed in accordance with the applicable provisions of the *National Electrical Code (NFPA No. 70-1971; ANSI C1-1971)*.

NOTE: See NFPA No. 501B-1973, ANSI A119.1, Part E, Section 10.9 for information relative to location of point of entrance of the feeder assembly to a mobile home.

8.2 Distribution System. The mobile home park secondary electrical distribution system to mobile home parks, shall be single phase 115/230 volts nominal.

8.3 Calculated Load

8.3.1 Park electrical wiring systems shall be calculated on the basis of not less than 16,000 watts (at 115/230 volts) per each mobile home service. The demand factors which are set forth in Table 1 are the minimum allowable demand factors which may be used in calculating load on feeders and service. No demand factor shall be allowed for any other load, except as provided herein.

Table 1

Demand Factors for Feeders and Service Entrance Conductors

Number of Mobile Homes	Demand Factor (Percent)
1.....	100
2.....	55
3.....	44
4.....	39
5.....	33
6.....	29
7-9.....	28
10-12.....	27
13-15.....	26
16-21.....	25
22-40.....	24
41-60.....	23
61 and over	22

8.3.2 For the purpose of this Part where the park service exceeds 240 volts, transformers and secondary distribution panelboards shall be treated as services.

8.3.3 The demand factor for a given number of lots shall apply to all lots indicated.

For example: 20 lots calculated at 25 percent of 16,000 watts results in a permissible demand of 4,000 watts per lot or a total of 80,000 watts for 20 lots.

8.3.4 Mobile home lot feeder circuit conductors shall have adequate capacity for the loads supplied, and shall be rated at not less than 100 amperes at 115/230 volts.

8.4 Mobile Home Service Equipment

8.4.1 Mobile home service equipment shall be rated at not less than 100 amperes, and provisions shall be made for connecting a mobile home feeder assembly by a permanent wiring method. Mobile home service equipment may also be provided with 50-ampere receptacles conforming to ANSI C73.17-1966 (R 1972).

8.4.2 Mobile home service equipment may also be provided with a means for connecting a mobile home accessory building or structure or additional electrical equipment located outside a mobile home by a permanent wiring method.

8.4.3 Additional receptacles may be provided for connection of electrical equipment located outside the mobile home.

8.4.4 Electrical equipment installed in a mobile home accessory building or structure shall comply with the applicable provisions of the *National Electrical Code (NFPA No. 70-1971; ANSI C1-1971)*.

Part 9. Mobile Home Park Fuel Supply Systems

9.1 Mobile Home Park Gas Systems

9.1.1 General. Gas equipment and installations within a mobile home park shall be designed and constructed in accordance with the applicable codes adopted by the authority having jurisdiction. Where the state or other political subdivision does not assume jurisdiction, such installations shall be designed and constructed in accordance with the appropriate provisions of the standards referenced in Section 6.3 herein.

9.1.2 Required Gas Supply. The minimum hourly volume of gas required at each mobile home lot outlet or any section of the mobile home park gas piping system shall be calculated as shown in Table 2.

Table 2
Demand Factors for Use in Calculating Gas Piping Systems in Mobile Home Parks

No. of Mobile Home Sites	BTU Per Hour Per Mobile Home Site
1.....	125,000
2.....	117,000
3.....	104,000
4.....	96,000
5.....	92,000
6.....	87,000
7.....	83,000
8.....	81,000
9.....	79,000
10.....	77,000
11-20.....	66,000
21-30.....	62,000
31-40.....	58,000
41-60.....	55,000
Over 60.....	50,000

9.1.3 Installation. Underground piping shall be buried a sufficient depth or covered in a manner so as to protect the piping from physical damage. Consideration should be given to protect the piping from physical damage when it passes through flower beds, shrub beds, and other such cultivated areas.

9.1.3.1 Gas piping shall not be installed underground beneath a mobile home.

9.1.4 System Shutoff Valve. A readily accessible and identified shutoff valve controlling the flow of gas to the entire gas piping

system shall be installed near to the point of connection to the service piping or supply connection of the liquefied petroleum gas container.

9.1.5 Connector. Each mobile home utilizing gas shall be connected to the mobile home lot outlet by a listed flexible mobile home connector, 6 feet in length, and of sufficient capacity to supply gas to the connected load. Approved rigid pipe and fittings shall be used between the flexible connector and the mobile home lot gas outlet when the distance between the mobile home lot gas outlet and the mobile home gas service connection exceeds 6 feet.

NOTE: See NFPA No. 501B-1973, ANSI A119.1, Part D, Section 5.1.10.1 for information on location of gas supply connections on mobile homes.

9.1.6 Protection from Physical Damage. All gas outlet risers, regulators, meters, valves or other exposed equipment shall be protected from physical damage by vehicles or other causes.

9.1.7 Maximum Pressure Permitted. Gas supplied into the mobile home shall not exceed $\frac{1}{2}$ pound per square inch gage or 14 inches water-column.

9.2 Mobile Home Park Oil Supply Systems

9.2.1 General. Oil-burning equipment and installations within a mobile home park shall be designed and constructed in accordance with the applicable codes adopted by the authority having jurisdiction. Where the state or other political subdivision does not assume jurisdiction, such installations shall be designed and constructed in accordance with the applicable provisions of the standard referenced in Paragraph 6.4.

9.2.2 Oil Supply. The following three methods of supplying oil to an individual mobile home site are permitted:

9.2.2.1 Supply from an outside underground tank (see 9.2.3).

9.2.2.2 Supply from a centralized oil distribution system designed and installed in accordance with accepted engineering practice and in compliance with Section 380 of the *Standard for the Installation of Oil Burning Equipment* (NFPA No. 31-1972; ANSI Z95.1-1972).

9.2.2.3 Supply from an outside aboveground tank (see 9.2.3)

9.2.3 Recommended Minimum Oil Supply Tank Size. Oil supply tanks shall have a minimum capacity equal to 20 percent of the average annual oil consumption. Except for areas with mild winters (less than 1,800 degree days), 60 gallon ICC-5 shipping containers (drums) are not recommended.