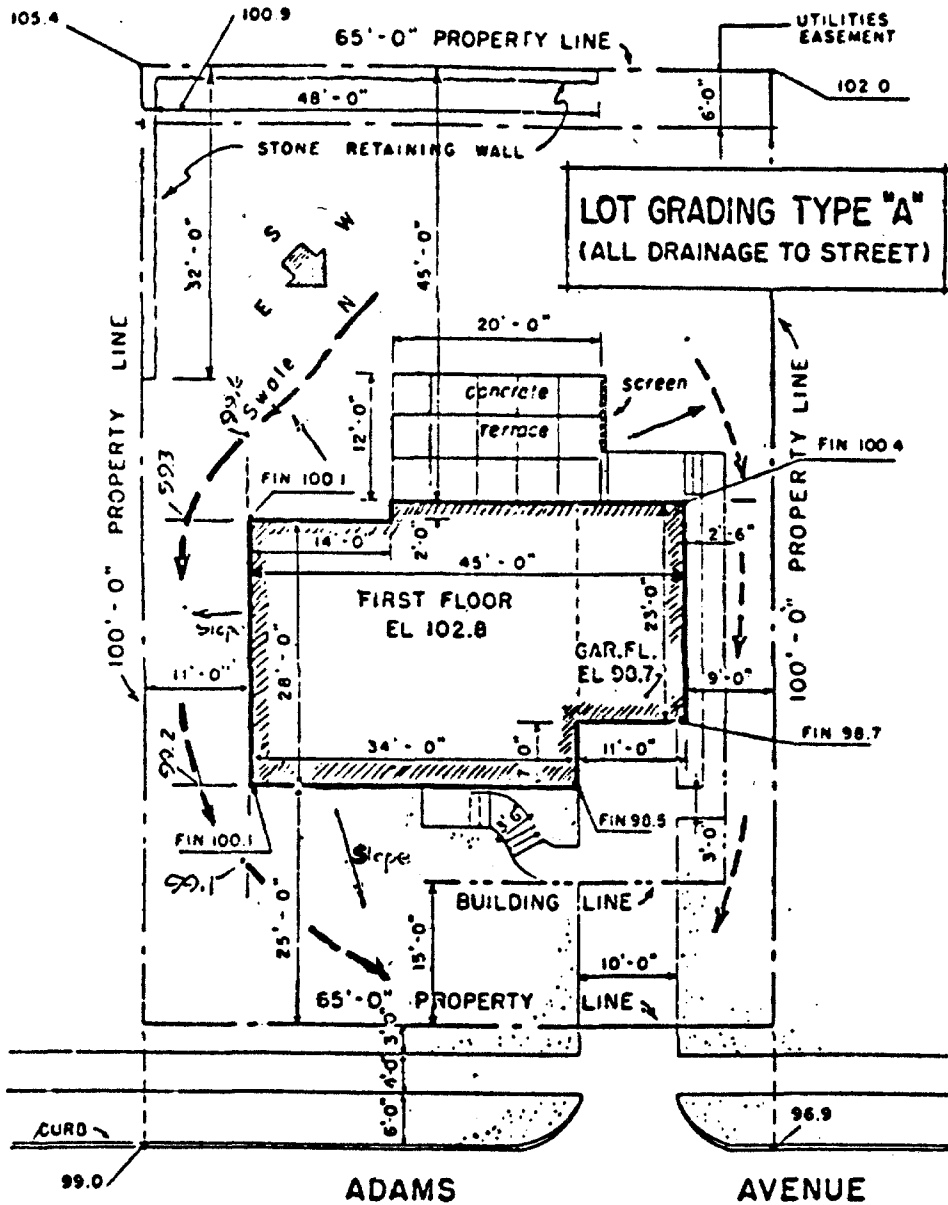


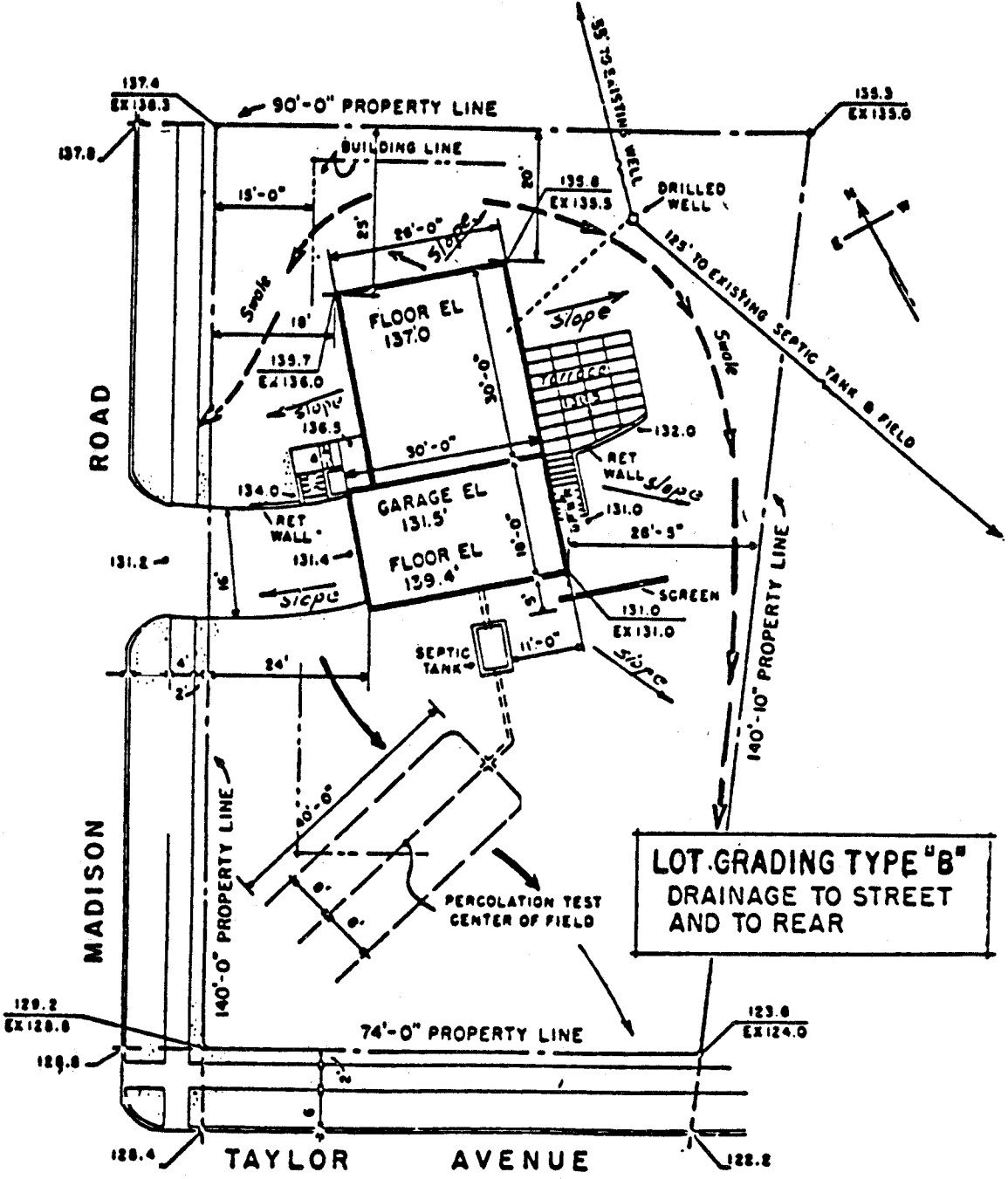
EXAMPLE PLOT PLAN NO 1



Lot 4 Block 7
 CHESTNUT HILL - BRAINARD, COLUMBIA

Scale $\frac{1}{16}'' = 1'-0''$

EXAMPLE PLOT PLAN NO. 2

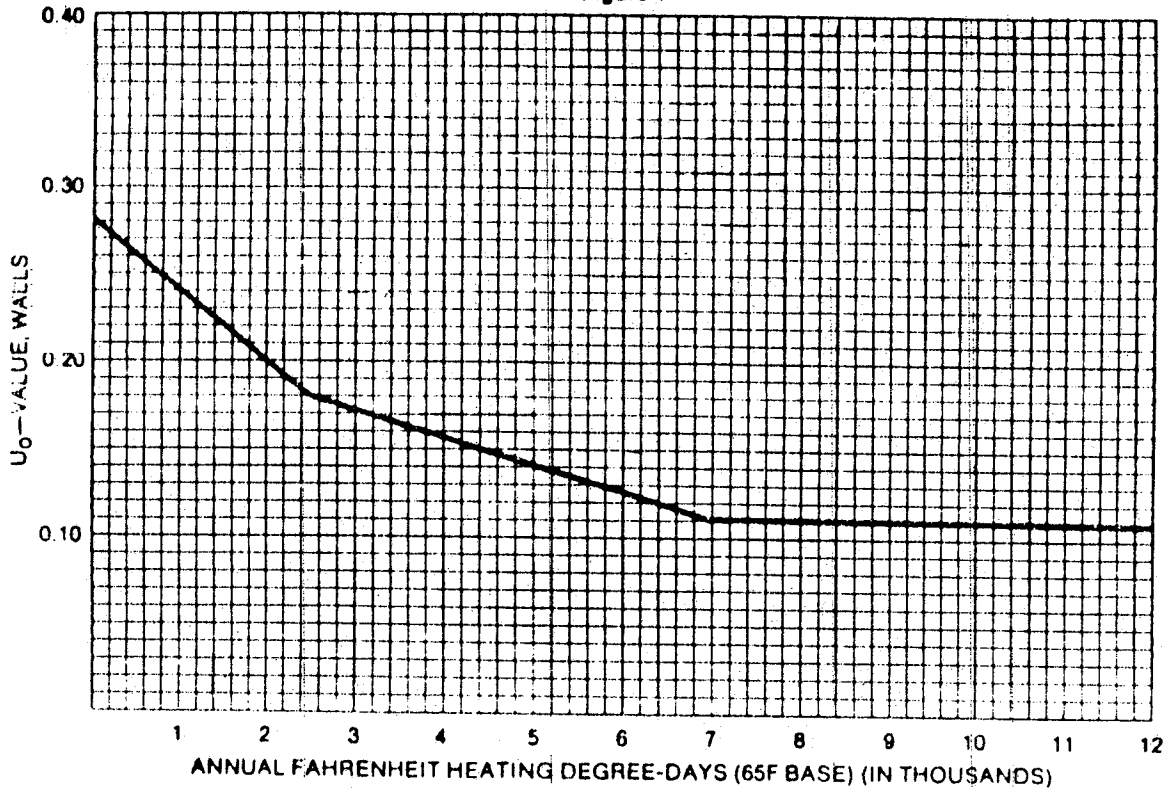


LOT GRADING TYPE "B"
 DRAINAGE TO STREET
 AND TO REAR

LOT 29, BLK. 2 HEALTH AUTHORITY
 HOMESTEAD ADDITION, LINCOLN COUNTY, COLUMBIA

Scale 1" = 20'

Figure 1



Equation 1, formula for determining combinations (See Figure 1):

$$U_o = \frac{U_{wall}A_{wall} + U_{window}A_{window} + U_{door}A_{door}}{A_g}$$

where:

U_o = the average thermal transmittance of the gross wall area, Btu/h.ft².F

A_g = the gross area of exterior walls, ft²

U_{wall} = the thermal transmittance of all elements of the opaque wall area, Btu/h.ft².F

A_{wall} = opaque wall area, ft²

U_{window} = the thermal transmittance of the window area, Btu/h.ft².F

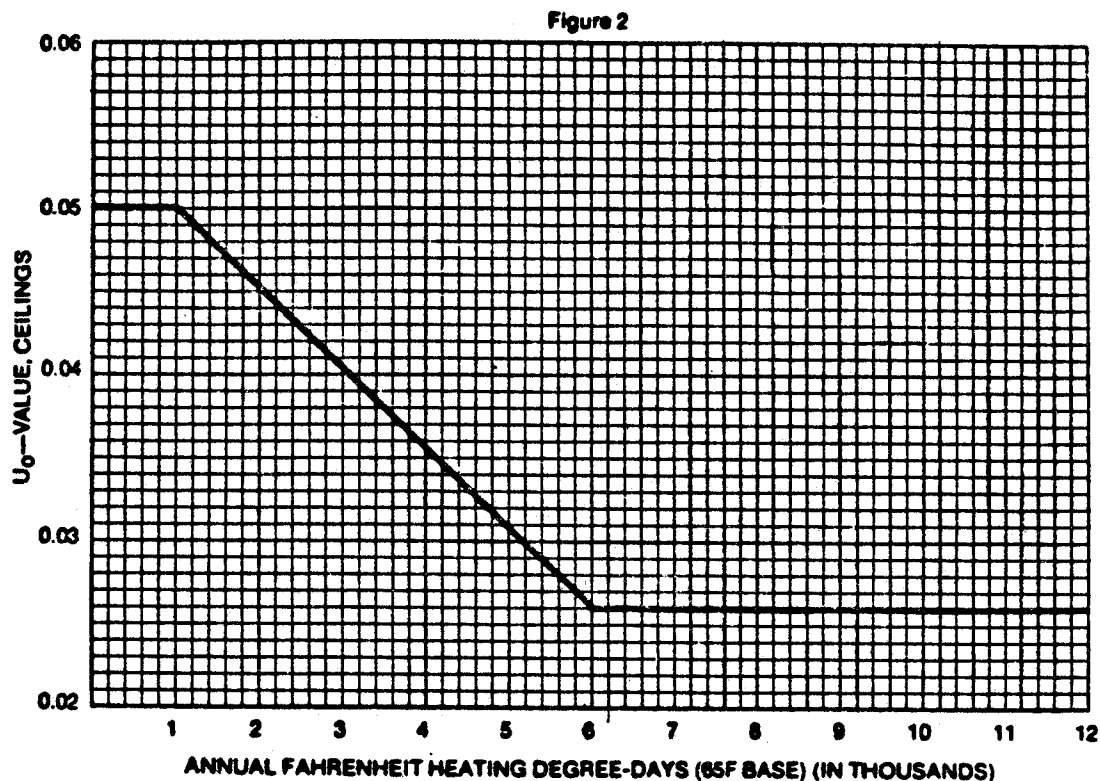
A_{window} = window area (including sash), ft²

U_{door} = the thermal transmittance of the door area, Btu/h.ft².F

A_{door} = door area, ft²

Note.—Where more than one type of wall, window and/or door is used, the $U \times A$ term for that exposure shall be expanded into its sub-elements as:

$$U_{wall}A_{wall1} + U_{wall2}A_{wall2} \text{ etc.}$$



Equation 2, formula for determining roof/ceiling combinations:

$$U_o = \frac{U_{\text{roof}}A_{\text{roof}} + U_{\text{skylight}}A_{\text{skylight}} + U_{\text{door}}A_{\text{door}}}{A_o}$$

where:

U_o = the average thermal transmittance of the gross roof/ceiling area, Btu/h.ft².F

A_o = the gross area of a roof/ceiling assembly, ft²

U_{roof} = the thermal transmittance of all elements of the opaque roof/ceiling area, Btu/h.ft².F

A_{roof} = opaque roof/ceiling area, ft²

U_{skylight} = the thermal transmittance of all skylight elements in the roof/ceiling assembly Btu/h.ft².F

A_{skylight} = skylight area (including frame), ft²

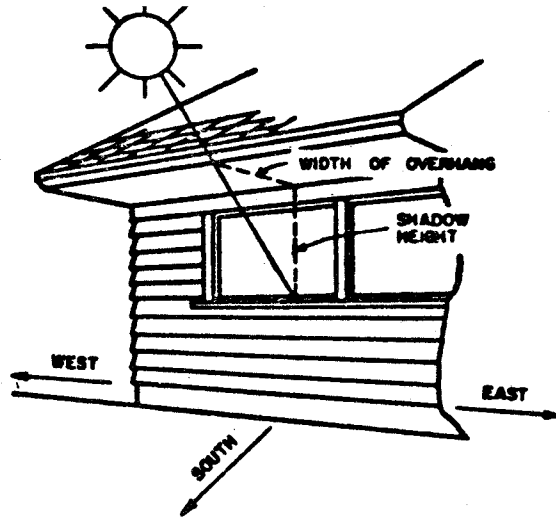
Note.—Where more than one type of roof/ceiling and/or skylight is used, the U x A term for that exposure shall be expanded into its sub-elements as:

$$U_{\text{roof1}}A_{\text{roof1}} + U_{\text{roof2}}A_{\text{roof2}} \text{ etc.}$$

ROOF OVERHANGS

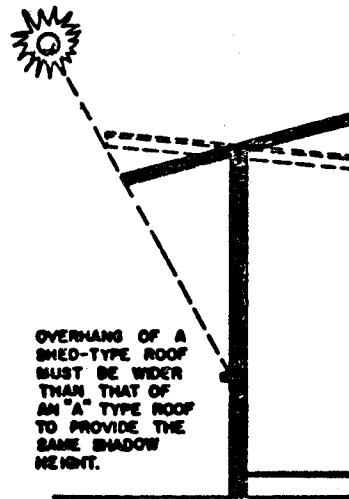
Roof overhangs, or extensions of the roof, over south walls are usually easy to incorporate into house designs. To determine the *width of overhang* needed to shade a south wall or window, follow this method:

- (1) Consider the *latitude* of the geographical area in which your house is located. (See map below.) Latitude, together with season of the year, determines the angle at which the sun's rays strike the earth at different times of day.
- (2) Measure on your plan or house the number of feet the south windows extend below the eave of the roof or horizontal overhang. This measurement is the *shadow height*.
- (3) Then for that specific latitude and shadow height, you will find, from the table given here, the exact width of overhang needed.



NORTH LATITUDE (DEGREES)	SHADOW HEIGHT (FEET)					
	3	4	5	6	7	8
25	1.1	1.5	1.9	2.2	2.6	3.0
30	1.4	1.9	2.4	2.9	3.4	3.8
35	1.8	2.4	3.0	3.5	4.1	4.7
40	2.1	2.8	3.6	4.3	5.0	5.7
45	2.6	3.4	4.3	5.1	6.0	6.8
50	3.0	4.1	5.1	6.1	7.1	8.2

For example, in a latitude of 35° and for a shadow height of 5 feet, the width of overhang needed is 3 feet.



CHAPTER 1
SPECIAL DESIGN

100 GENERAL

This information has been prepared for use as a guide in the design of housing for the elderly and the physically handicapped in programs financed through loans and grants made by the Farmers Home Administration (FmHA).

101 HOUSING FOR THE ELDERLY

This section provides special recommendations which should be incorporated into the design of housing for the elderly.

101-1 HANDRAILS

Handrails for exterior steps should be provided in accordance with Uniform Federal Accessibility Standards (UFAS) on both sides of a tenant stairway with a flight rise exceeding 24 in. and width exceeding 4 ft., and on one side when the width is 4 ft. or less.

101-2 WALKS

- (a) Covered walks should connect residential buildings with any central dining rooms. The walks should be enclosed where necessary to assure safety and comfortable use.
- (b) Walks designed for use by tenants should have maximum gradients of five percent.

101-3 COMMUNITY SOCIAL ROOMS

Community social rooms should be required in housing for the elderly.

101-4 BEDROOMS

- (a) Beds should be accessible from two sides and one end.
- (b) Combined living-sleeping space should be of sufficient size to accommodate the living and sleeping functions as conveniently as separate living and sleeping areas.

(07-30-90) SPECIAL PN

MASTER COPY

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101-5 BATHROOMS

- (a) Bathtubs should be at least 5 ft. long and should be provided with at least two grab bars.
- (b) A stall shower, when installed, should have a seat and grab bar.
- (c) Tub or shower bottom surfaces should be slip resistant.
- (d) Grab bars should be installed to sustain a dead weight of 250 pounds for 5 minutes.

101-6 HALLS AND CORRIDORS

- (a) Minimum clear widths of public halls and corridors should be "5'-0".
- (b) Handrails complying with UFAS should be provided on at least one side of all tenant corridors except in living units.

101-7 STAIRS

The maximum riser height for stairs should be 7-1/2".

Spiral stairways and winders should not be permitted.

101-8 ELEVATORS

- (a) Elevators should be provided in buildings of three or more stories.
- (b) At least one elevator car in each building should be suitable for handling ambulance stretchers. It should have a minimum capacity of 2500 pounds and minimum size as stipulated below. (Minimum for ambulance stretchers):

Inside car size - 6'- 8" wide by 4'- 3" deep
Room size - 3'- 6" wide by 7'- 0" high
Door type - 2500 lbs. Single slide
Capacity

101-9 EMERGENCY LIGHTING

Emergency lighting should be provided for every public space, corridor, stairway, elevator and other means of egress. The lighting should provide a minimum of one foot candle measured at the floor.

101-10 FLAME SPREAD

The flame spread rating of walls and ceiling should not exceed 75.

101-11 WALL FINISHES

Abrasive wall finishes such as a sand finish should not be used.

101-12 FLOORS

- (a) Floors should be slip-resistant.
- (b) Adjacent dissimilar materials should be flush with each other to provide an unbroken surface. Thresholds and expansion joint covers should be flush with the floor.

101-13 INSIDE DESIGN TEMPERATURES

The inside design temperature should not be less than 75 degrees F in all habitable rooms and corridors when the outside temperature is at design level. Lower inside design temperatures may be used for storage rooms, work rooms, offices and other similar spaces.

101-14 HEATING AND HOT WATER SYSTEMS

Heating systems serving 10 or more living units should be supplied by not less than properly parallel connected boilers. The minimum net capacity of each boiler should be 70 percent of the total connected load when two boilers are used and 35 percent when three boilers are used. When four or more boilers are used, the connected load, and each boiler should have the same net capacity.

101-14.1 Hot and cold water should be supplied to all plumbing fixtures except water closets, urinals, and drinking fountains, each of which will be supplied with cold water only.

101-14.2 Automatic temperature limit controls should be provided so that hot water for showers will not exceed 110 degrees F.

(07-30-90) SPECIAL PN

101-14.3 The quantity of hot water for personal use and the capacity of the domestic hot water heating equipment system should be in compliance with the design criteria of ASHRAE System Handbook, 1987, Chapter 54, "Service Water Heating."

101-15 NIGHT LIGHT

A convenience outlet for receiving a night light should be provided approximately 2 ft. above the floor between the bed location and the bathroom.

101-16 EMERGENCY CALL SYSTEMS

In projects containing 20 or more living units, each bathroom and one bed location in each living unit should be furnished with one of the following emergency call systems: an emergency call system which registers a call (annunciator and alarm) at one or more central supervised locations, and intercommunicating telephone system connected to a switchboard which is monitored 24 hours a day, or an emergency call system which sounds an alarm (not the fire alarm) in the immediate corridor and automatically actuates a visual signal in the corridor at the living unit entrance.

101-17 NUMBER OF EXITS

Every living unit should have access to at least two separate exits which are remote from each other and are reached by travel in different directions. A single exit may be acceptable when the living unit exit discharges directly to the street or yard at ground level.

102 HOUSING FOR THE PHYSICALLY HANDICAPPED

This section applies to the design of housing and related facilities for the physically handicapped. The number of housing units required to be accessible to or adaptable for physically handicapped persons is in FmHA Instruction 1944.215 (b) (6). (This regulation is available in any FmHA office)

1944-E

102-1 TECHNICAL STANDARD

The UFAS, available for review at any FmHA District Office, provides specific criteria for the following features:

- (a) parking spaces
- (b) entrance walks
- (c) community rooms and public toilets
- (d) laundry facilities
- (e) primary entrances
- (f) doors in common facilities
- (g) public corridors
- (h) elevators, stairways, ramps and landings
- (i) handrails and railings
- (j) floors
- (k) public telephones
- (l) drinking fountains

102-2 HOUSING UNIT CRITERIA

UFAS provides specific criteria for each of the following for housing units required to be made accessible to and useable by physically handicapped persons:

- (a) living units, including living, dining, bedrooms, and storage space
- (b) kitchens
- (c) bathroom
- (d) laundry space
- (e) closets and storage
- (f) hallways
- (g) doors in living units

(h) floors

(i) fire alarm systems and

(j) door and window hardware

102-3 EMERGENCY EXIT LIGHTING

Emergency exit lighting which provides a minimum of one foot candle measured at the floor should be provided for every public space, corridor, stairway, elevator and other means of egress.

102-4 EMERGENCY CALL SYSTEMS

Each bathroom and one bed location in each living unit required to be made accessible to and useable by physically handicapped persons should be furnished with one of the following emergency call systems: an emergency call system which registers a call (annunciator and alarm) at one or more central supervised locations, an intercommunicating telephone system connected to a switchboard which is monitored 24 hours a day, or an emergency call system which sounds an alarm (not the fire alarm) in the immediate corridor and automatically activates a visual signal in the corridor at the living unit entrance.

103 CONGREGATE HOUSING AND GROUP HOMES

Recommendations provided in other chapters of this guide and sections 101 and 102 of this chapter also apply to congregate housing and group homes. Some of the recommendations are mandatory, as described in FmHA Instruction 1944-E (available in any FmHA office). This section provides additional guidelines which should be considered in the design of congregate housing and group homes.

103-1 LOCATION

(a) Among the many factors involved in selecting a site to accommodate congregate housing and group homes, topography, security, neighborhood, and available transportation should be given priority attention.

(b) A site should be selected that gives residents a sense of belonging to the local community and an opportunity to participate in its activities.

103-2 SITE DESIGN

- (a) A designated area should be provided near the main entrance for the safe and convenient usage of the transportation service. Safe and convenient access should also be provided to a public transportation system (if available).
- (b) Unless otherwise required by local authorities, one resident parking space should be provided for every two living units in congregate housing.
- (c) Loading/unloading areas, drives and parking for building services and staff members should be separated from similar areas for residents and visitors.
- (d) Walks should be provided for safe and convenient access to parking, outdoor recreation facilities, and any off-site walkways.
- (e) Outdoor recreation facilities should be adequately lighted and located in good relationship to public toilet rooms and indoor social/dining areas.
- (f) Exterior court yards surrounded by buildings should be of sufficient size and proportions to provide a feeling of being "outdoors" to the residents.

103-3 CENTRAL KITCHEN

- (a) Such facilities should be located in the housing facility that will allow for the convenient delivery of food and supplies. They should also be located in congregate housing near a janitor's closet which includes a floor receptor or service sink.
- (b) A professional food service consultant should be retained for advice on the kitchen design. The design must comply with applicable local codes and should be carefully coordinated with the food service contractor/supplier.
- (c) The kitchen should be arranged and equipped for adequate and efficient food storage, preparation in proper sequence, serving, dish and utensil cleaning and storage, and refuse storage and removal.
- (d) All cabinets and equipment provided should be designed and installed to prevent contamination by insects, rodents, other vermin, splash, dust and overhead leakage.

(07-30-90) SPECIAL PN

- (e) In projects consisting of 20 or more living units, the dishwashing activity should be separated from that of food preparation.
- (f) Kitchens providing on-site preparation of meals in congregate housing should have a floor area that is approximately 50 percent of the central dining floor area.
- (g) The kitchen floor area may be decreased if meals are prepared off-site and delivered to the congregate housing facility for consumption. Refrigerated storage and facilities for heating hot foods should still be provided. The design of the facility should allow for future conversion or expansion of the kitchen area in the event on-site food preparation becomes necessary.
- (h) When a dietitian is employed, suitable office space convenient to the kitchen should be provided.
- (i) When central kitchen employees are employed, special facilities, such as toilets, lockers, dressing rooms, etc., should be provided.

103-4 CENTRAL DINING

- (a) This space should provide approximately 20 square feet of floor area for each bedroom in the housing facility.
- (b) Each dining table in congregate housing should accommodate a maximum of six persons. Larger tables may be appropriate in group homes.
- (c) If this area will be used for other activities, space should be provided for the temporary storage of tables and chairs.

103-5 LAUNDRY

- (a) A permanent counter or table should be provided for the sorting and folding of laundry.
- (b) A minimum of one washer and one dryer should be provided for every 8 to 12 units in the housing facility.
- (c) The laundry room(s) should be visible from another public space and located near a sitting area.
- (d) Routes between laundry room(s) and living units should not pass through public rooms, such as dining rooms, social rooms, etc.

103-6 HEALTH EXAMINATION ROOM

- (a) When an office or room is provided for examinations or consultations by visiting nurses or doctors, it should be designed to serve the residents and include a hand washing sink, space for an examination table, and storage, which may need to be locked for security.
- (b) It should be located adjacent to a public toilet room and near a building entrance.
- (c) The floor and wall surfaces should not be adversely affected by liquid germicidal and cleaning solutions.
- (d) Health examinations or consultations may also be provided in a multi-use room designed for a variety of personal care services.

103-7 PUBLIC TOILET ROOMS

- (a) Congregate Housing: Unless otherwise required by local codes, a public barrier-free toilet room should be provided for each sex.
- (b) Group Homes: Unless otherwise required by local codes, a public unisex barrier-free toilet room should be provided.

103-8 LOUNGE OR SOCIAL ROOM(S)

- (a) This space should be designed to encourage social interactions of the residents. It should be centrally located in the housing facility. Public circulation routes should not pass directly through this space.
- (b) It should include a floor area of approximately 15 square feet per living unit. More than one space may be appropriate for large projects.
- (c) A small kitchenette with refrigerator, sink, cooktop/hot plate, countertop and cabinets may be located nearby in congregate housing, but should be screened from view when not in use.
- (d) Mail boxes, public telephone(s), and drinking fountain should be conveniently located nearby.

(07-30-90) SPECIAL PN

103-9 ACTIVITY ROOM(S)

- (a) If provided, this room should include a floor area of approximately 10 square feet per living unit.
- (b) It should be designed to allow observation of the activities from a public corridor or hall.
- (c) The room should be designed for flexibility to accommodate a variety of activities, such as crafts, games, exercise classes, etc.
- (d) Storage space for equipment, supplies, projects, etc. should be located nearby.

103-10 OFFICE AND ADMINISTRATIVE SPACE

- (a) This space should include a floor area of approximately 100 square feet plus 2 square feet for each living unit.
- (b) It should be located near the main building entrance and have a visual link with the lobby or public corridor.
- (c) Sleeping accommodations for an on-site supervisor in group homes should be conveniently located near this space.

103-11 CORRIDORS

- (a) Long corridors should be visually broken up by offsets, alcoves, recessed doorways, or variations in color, texture or ceiling heights.
- (b) Lighting and finish materials should be carefully selected to minimize glare and provide a residential character to the space. Natural light should be provided in corridors whenever possible or feasible, but not through the end walls.
- (c) Corridors near elevators should be widened to provide a waiting area that does not obstruct the corridor.

103-12 MECHANICAL SYSTEMS

- (a) Heating, and cooling systems, if provided, should be highly reliable, economical and quiet in operation.
- (b) Control devices in the living units, such as faucets and thermostats, should be easy for residents to operate properly.

- (c) All public spaces should be mechanically ventilated, unless a central heating or cooling system is provided in these spaces.

103-13 MISCELLANEOUS

- (a) Direct access to the outdoors from congregate housing units is recommended when local security and climatic conditions permit.
- (b) Security should be carefully considered in the design. The number of public building entrances should be minimized. All exterior doors in living units should have dead bolts operated with thumb latch from the inside only. Entrance doors to living units should have peep viewers. All doors used by residents should have latch sets with lever handles rather than knobs.
- (c) Walking distances from living units to dining and other support services should be minimized as much as possible and through an interior corridor or an enclosed all-weather walkway.
- (d) Wherever possible, ramps, as opposed to platform lifts, should be used at level changes to provide accessibility for the handicapped.
- (e) Living units that are fully accessible to the handicapped should not be grouped together in one area of the housing complex.
- (f) If facilities are provided for assisted bathing, they should be located on the same floor and close to the living units served. Space should be provided for an attendant, the movement of wheelchairs, dressing, and transfer equipment, if provided.
- (g) All large public spaces, such as dining rooms providing more than 500 square feet of floor area, should have ceilings that are higher than in smaller spaces.

103-14 REFERENCES

The following is a partial list of references that may be helpful in designing congregate housing:

- (a) The American Institute of Architects. Design for Aging: An Architect's Guide. Washington, DC: AIA Press, 1985.

- (b) Beall, Thompson, Godwin, and Donahue.. Housing Older Persons in Rural America, A Handbook on Congregate Housing. Washington, DC: International Center for Social Gerontology, 1981.
- (c) Chellis, Seagle and Seagle. Congregate Housing for Older People. Lexington, MA: Lexington Books, 1982.
- (d) Howel, Sandra C., Designing for Aging, Patterns of Use. Cambridge, MA: MIT Press, 1980.
- (e) Lawton, M. Powel., Environment and Aging. Monterey, CA: Brooks/Cole Publishing Co, 1980.
- (f) Welch, Parker, and Zeisel, Independence through Interdependence: Congregate Living for Older People. Boston, MA: Reprographics Inc., 1984.

- 302-2.1 Where utilities will be installed above ground, they should be located in rear lot easements wherever practicable.
- 302-2.2 Where utilities will be installed below ground, they should be located in the rights-of-way of a street or alley, or in an easement. All utilities and service connections that will be located under street pavement should be completely installed, properly backfilled and graded, and approved throughout the length of the street before any pavement base is applied. Where utility mains are located outside the pavement area, the subdivider may omit the installation of service connections if they can be jacked across the street when needed, without breaking or weakening the existing pavement. Service connections should be completely installed before any base is applied where rock is known to exist beneath the pavement area at a depth which would interfere with the jacking of service connections. In cases where underground utilities are provided within the right-of-way of streets, they should not be installed under the paved portions of such streets.

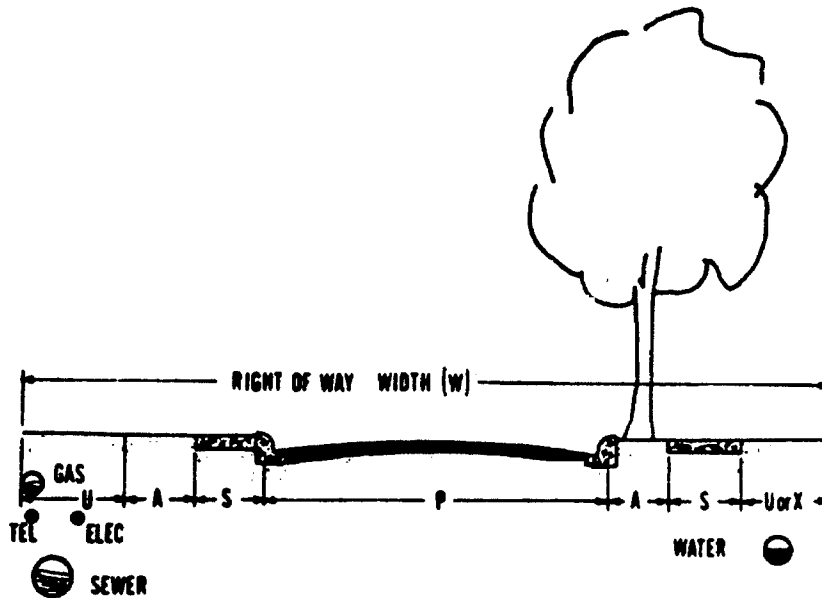


DIAGRAM 1. PLACEMENT OF UTILITIES WITHIN RIGHT-OF-WAY

Placement of utilities within right-of-way.

- W = Right-of-way width
- P = Pavement width.
- C = Curb and gutter width.
- S = Sidewalk width.

- U = Utility easement.
- A = Planting strip or snow storage area.
- X = Local or future factors. (represents localized, special conditions not normally present, or where future additions may require later widening).

302-2.3 Placement of all utilities in a common trench located in the right-of-way should be considered by the subdivider for all service lines. The common trench requires utilities to be placed in a certain order and with as little time lag between placements as possible. Water mains should be at a higher elevation and on a shelf if in the same trench as sewer lines. However, the advantages of the common trench system are worth the effort to secure them. There may be a reduction in trenching costs and construction delays caused by multiplicity of open trenches.

302-2.4 Electrical and telephone distribution systems should be provided underground in all residential developments unless it can be established that installation is economically unfeasible.

303 STREETS

303-1 GENERAL

The street system should be designed to provide for all traffic needs and at the same time create a street arrangement that will make an attractive neighborhood and good building sites. Streets located with proper regard to topography and traffic flow increase neighborhood desirability and minimize development expense. The proposed street system within a subdivision should be tied in with the existing street systems. The proposed street system should also provide for the continuation of the existing City and State systems, whenever these systems have been officially platted on a local or regional plan.

303-2 TYPES OF STREETS

In this discussion of street systems, the various types of streets are named and defined by their distinctive functions or uses as follows:

303-2.1 Arterial streets and highways (major and secondary thoroughfares) are those which are used primarily for fast or heavy traffic.

303-2.2 Collector streets (feeder streets) are those which carry traffic from local streets to the major system of arterial streets and highways, including the principal entrance streets of a residential development and streets for circulation within such a development.

- 303.2.3 Local streets are those which are used primarily for access to the abutting properties.
- 303.2.4 Marginal access streets are local streets which are parallel to and adjacent to arterial streets and highways; and which provide access to abutting properties and protection from through traffic.

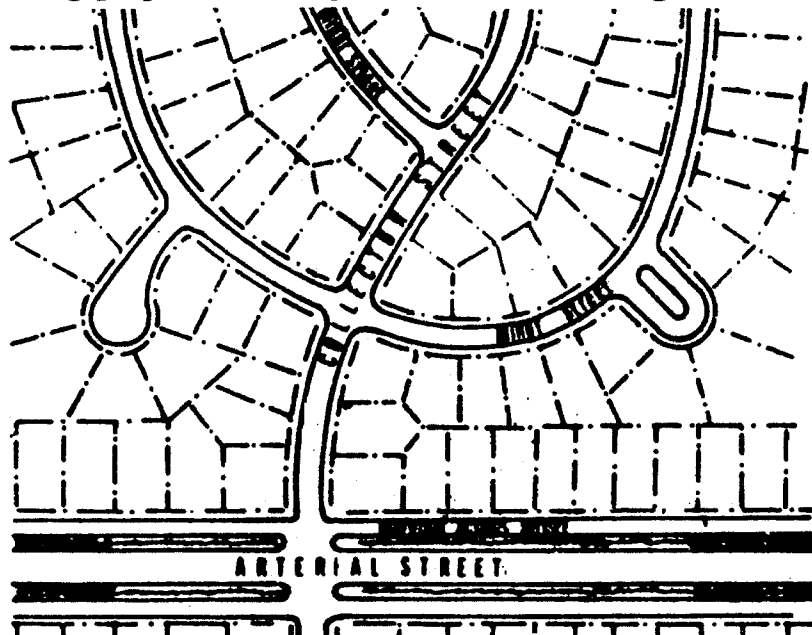


DIAGRAM 2. SUBDIVISION STREET TYPES

- 303-3 Street Patterns. Streets should serve both as areas for pedestrian and automobile movement and as fixed spaces separating activities. Access, safety, economy and livability should be considered in street design. Street layout can be grouped into several basic categories according to the arrangement of streets and the type of building sites and open space (FmHA MAP 303-2). When laying out streets, consideration should be given the fact that dwelling units served must comply with the Minimum Passive Design Requirements of Exhibit D, Subpart A of this Part.
- 303-3.1 Grid. The grid system of street design provides easy orientation on level ground and the regular patterns help to moderate varying structure sizes and designs. The main deficiency in the grid pattern is that traffic is not directed onto main ways and every street is a major thoroughfare. The frequent four-way intersections create a large number of potential accident areas. Street and utility costs are also higher for this type of layout.

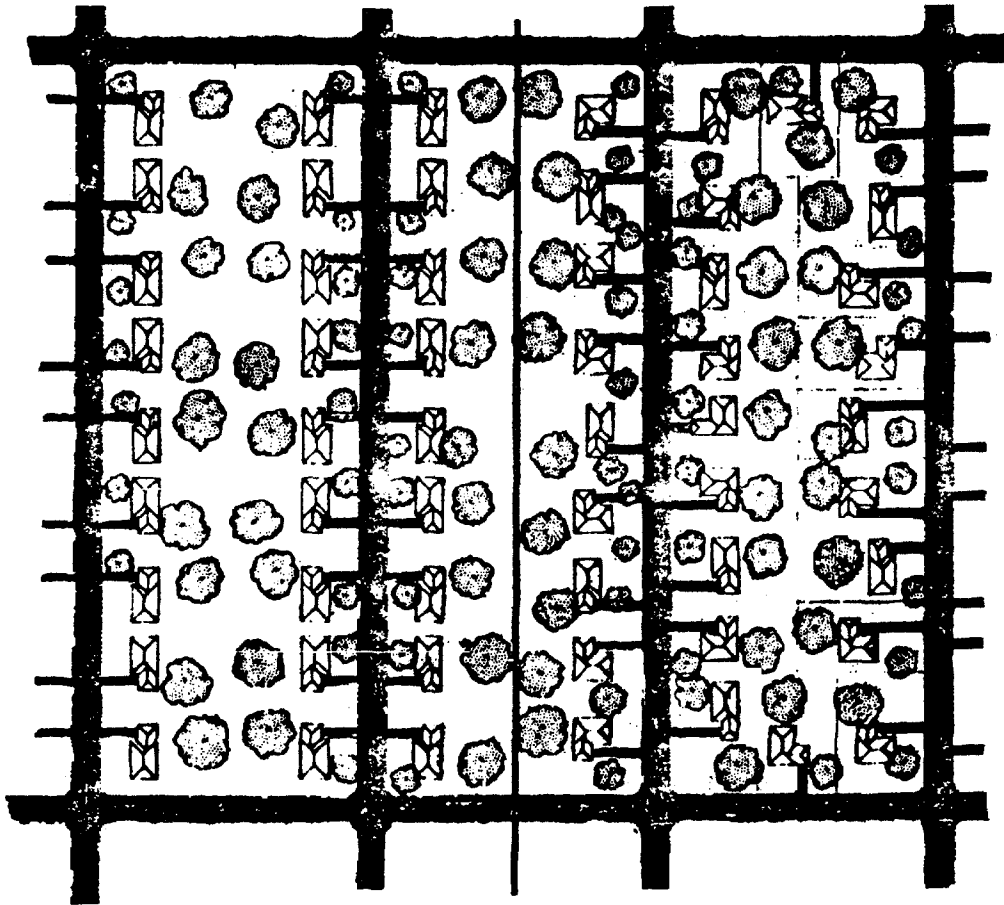


DIAGRAM 3. GRID PATTERN

303-3.2 Curvilinear. Rolling terrain can produce more useable building sites by the use of curvilinear street arrangements. This type of street arrangement also requires less grading and utility installation costs and provides more privacy for residential areas by establishing a hierarchy of traffic use. One problem inherent in this type of design is the lack of orientation due to the random arrangement. However, this type of layout provides greater safety because of the intersection designs which are possible.

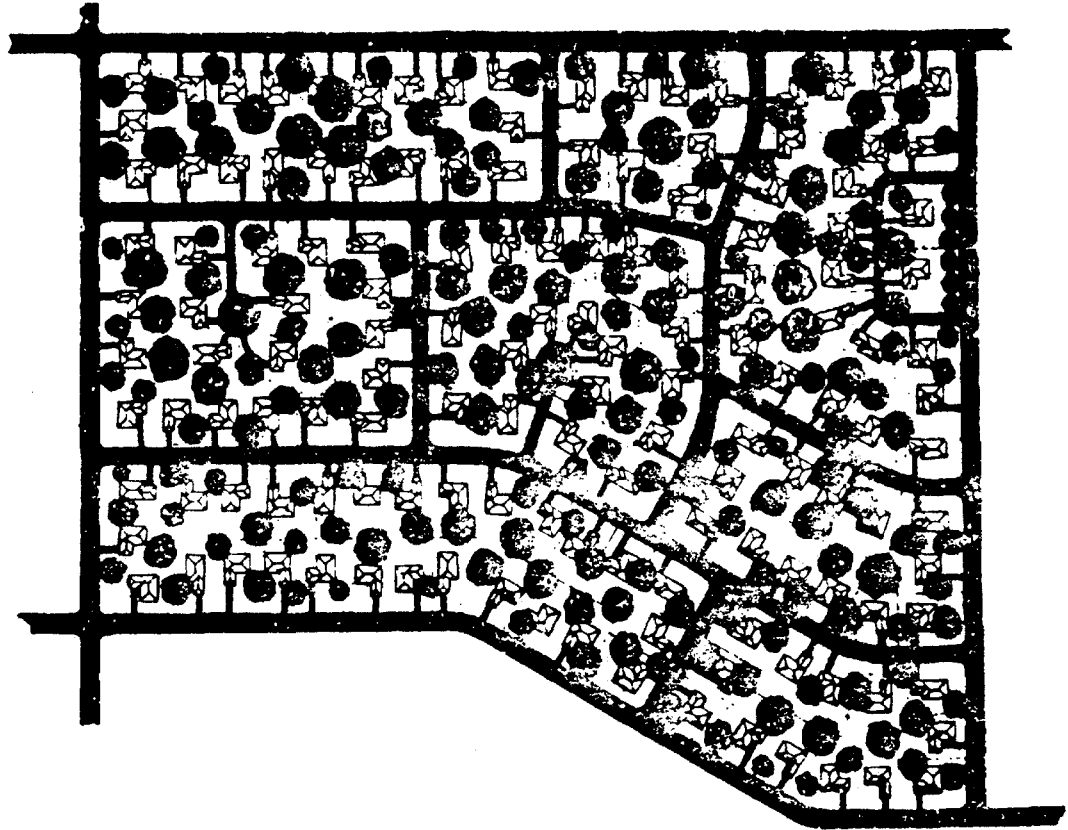


DIAGRAM 4. CURVILINEAR STREET ARRANGEMENT

303-3.3 Cluster. Grouping dwelling units together in order to protect desirable natural features or provide recreational areas is the primary function of cluster development. This type of arrangement greatly reduces expenditures for street improvements, grading, water, sewer and other utilities. Cluster housing may be in the form of townhouses, zero lot line dwellings or single family detached houses on more compact lots.

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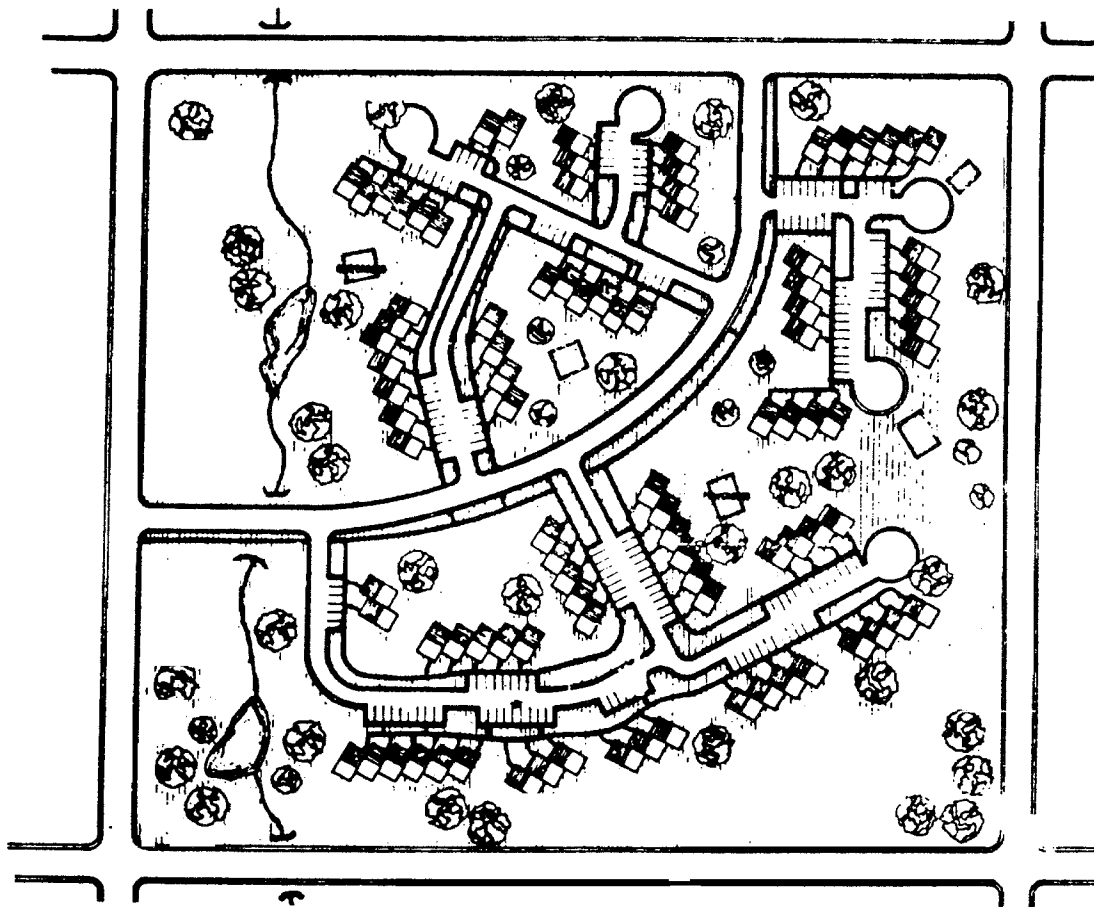


DIAGRAM 5. TOWNHOUSE CLUSTER DEVELOPMENT

303-3.4 Super Block. The super block concept involves siting the houses on short streets surrounding an interior open space. In this type of arrangement, all of the housing sites front on private residential streets and have convenient pedestrian access to the open space. Dedication to and acceptance by a public body or an approved form of homeowners association is necessary to provide maintenance for the common open space.

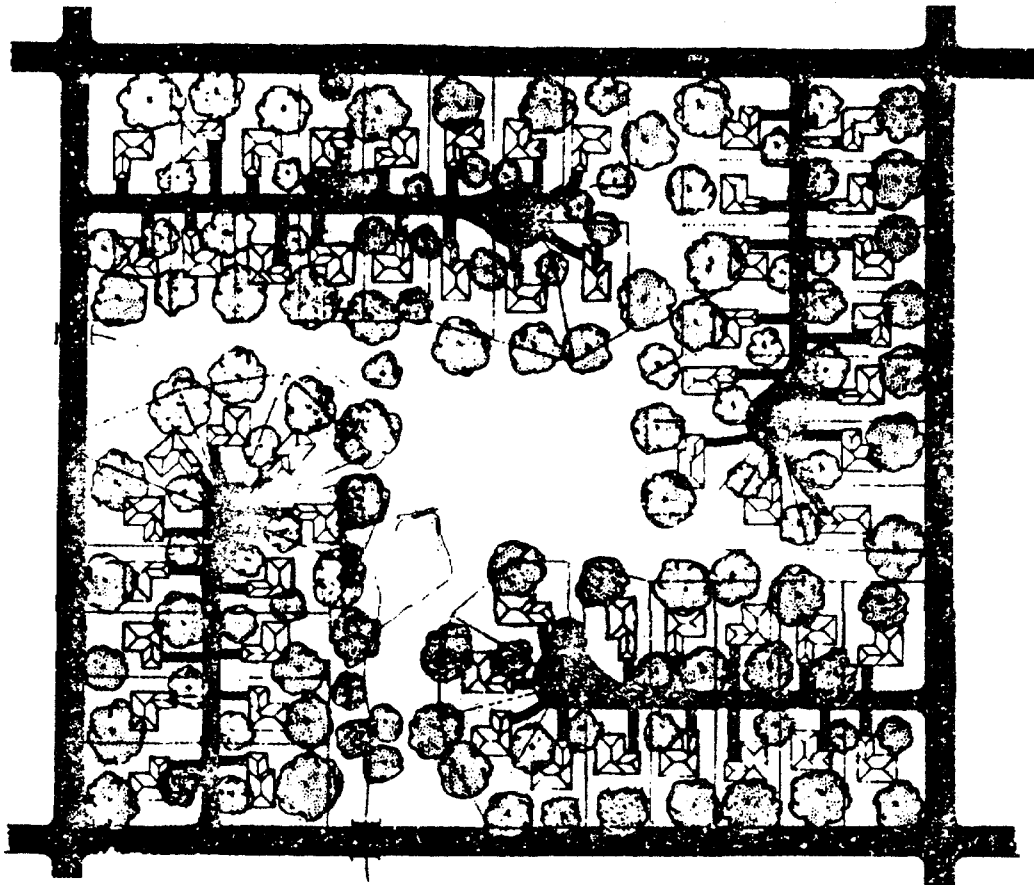


DIAGRAM 6. SUPER BLOCK DEVELOPMENT

303-4

SUB-TYPES

Several types of short streets can be used not only to provide adequate lots in odd-shaped parcels of land but also to create desirable residential groupings on low traffic streets.

303-4.1

Cul-de-sacs. Dead-end streets should have adequate turning spaces for vehicles. Such streets should not be more than 1000 feet in length. If "T" turnheads are located at the end of such streets, they should have a minimum paved width of 50 feet. Where the length, curvature or slope of the cul-de-sac street does not make obvious the dead-end characteristics, an appropriate street sign should be placed at the entrance.

(5-12-87) SPECIAL PN

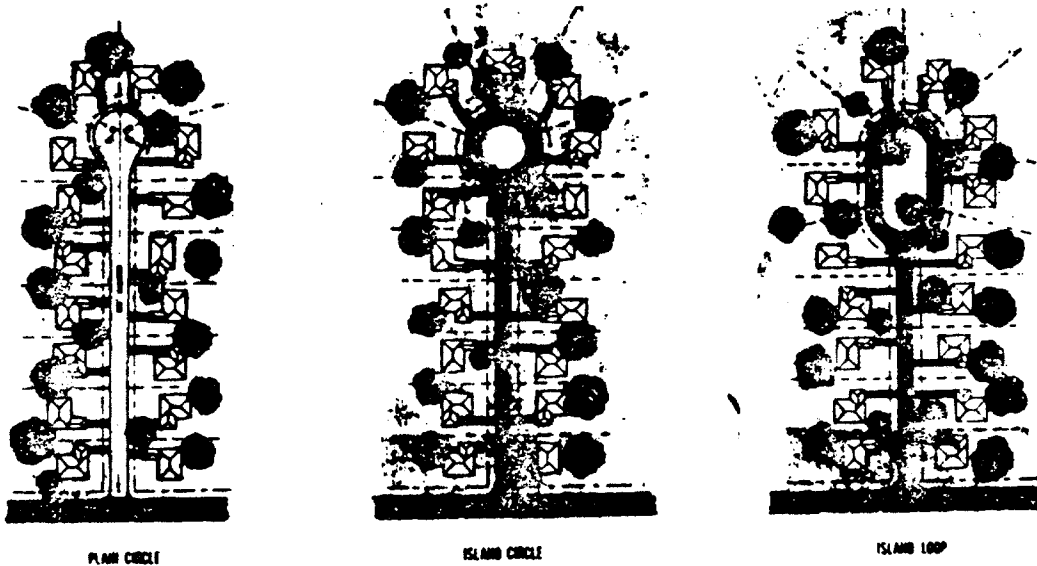


DIAGRAM 7. CUL-DE-SACS

303-4.2 Loop Streets. Houses can be sited on streets which loop away from a main street into the site. These can be made into one-way streets with parking on one side. The interior of the loop can be developed as housing sites or left open to provide parking and/or park area.

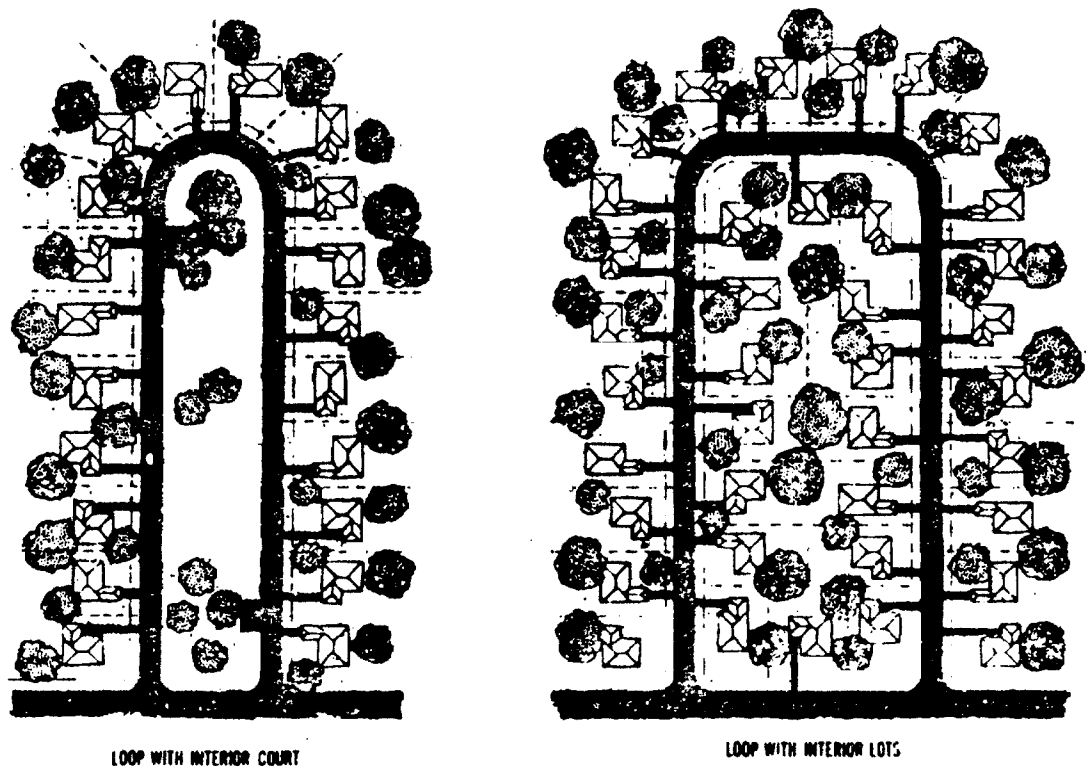


DIAGRAM 8. LOOP STREETS

303-4.3 Eyebrow. When it is possible to move the building site back off the highway or large street and provide a buffer zone, one of the best methods is the use of the eyebrow. The strip left between the main and minor street acts as a buffer and small recreation space. This type of arrangement reduces the danger of backing out of private driveways onto a major thoroughfare.

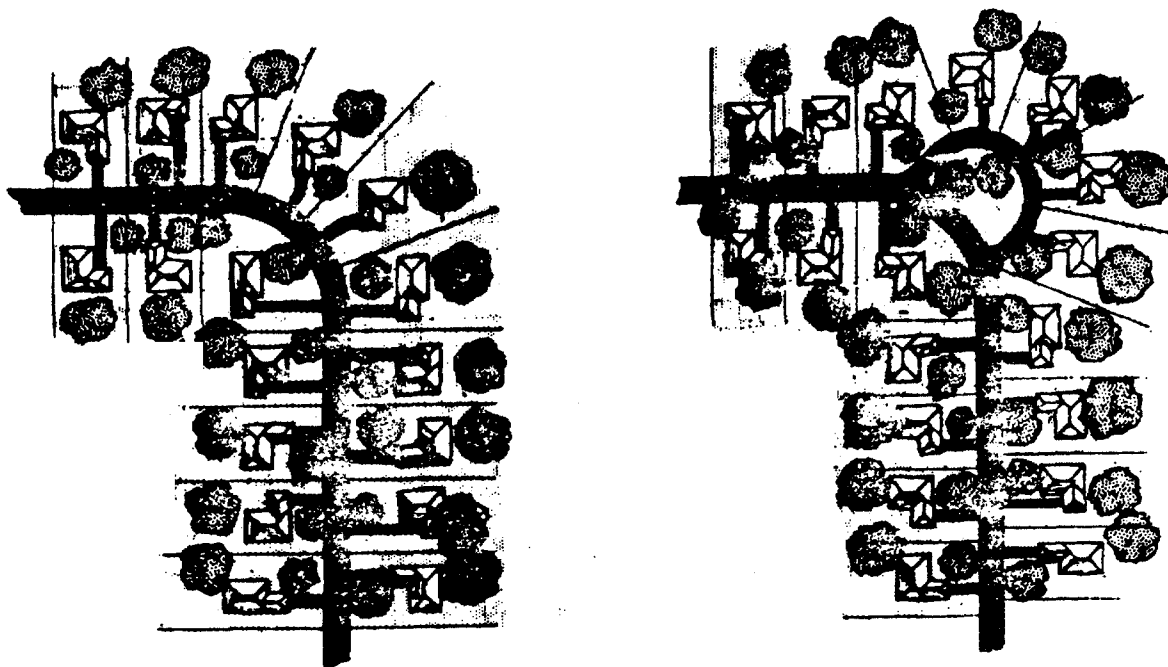


DIAGRAM 9. EYEBROW

303-5 DESIGN FEATURES

303-5.1 Intersection Type. No street intersection should have more than four streets entering it, as in the four-way or four-corner intersection. The safe "T" or three-way intersection should be used whenever practical, except for intersections controlled by traffic signal lights. Street jogs with center-line offsets of less than one hundred and twenty-five (125) feet should be avoided. Major street and highway intersections should be a minimum of one thousand (1,000) feet apart. (FmHA MAP 305-6)

303-5.2 Traffic Control Devices. Signs, pavement and other markings should be installed per local regulations and in sufficient quantity to adequately control the traffic flow and protect pedestrians. Streets should be numbered, lettered or named in conformance with the local system and signs be erected to clearly indicate street labels for non-local travelers.

303-6 STREET CONSTRUCTION

303-6.1 If local requirements do not exist, street construction should conform with the following:

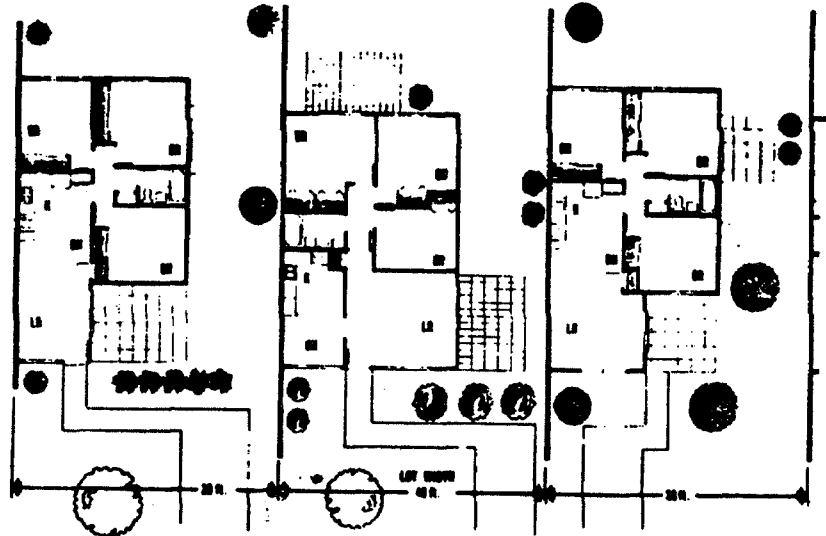
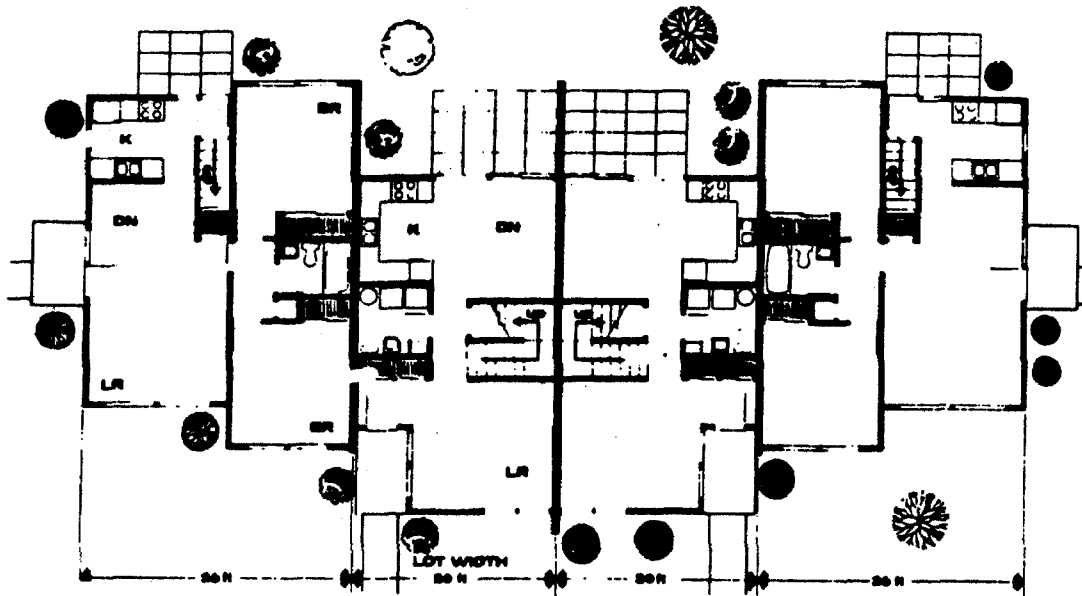


DIAGRAM 11. ZERO LOT LINE SITING

306-4.4 Single and multiple family attached dwellings (townhouses) and zero side lot arrangements should have lot dimensions compatible with the design of the individual units.



(5-12-87) SPECIAL PN

DIAGRAM 12. TOWNHOUSE SITING

306-4.5 Double frontage and reverse frontage lots should be avoided except where essential to provide separation of residential development from traffic arteries or to overcome specific disadvantages of topography and orientation. These types of lots should have additional depth to provide additional separation.

306-4.6 A planting screen easement at least 10 feet wide within the dedicated right-of-way or constructed as part of the site landscaping and across which there should be no right of access should be provided to buffer residential dwellings from major traffic arteries, railroads or other adverse impacts. On Rural Housing Site loans, funds for plantings should be placed in escrow and the developer should install plants within one year of the beginning of building construction.

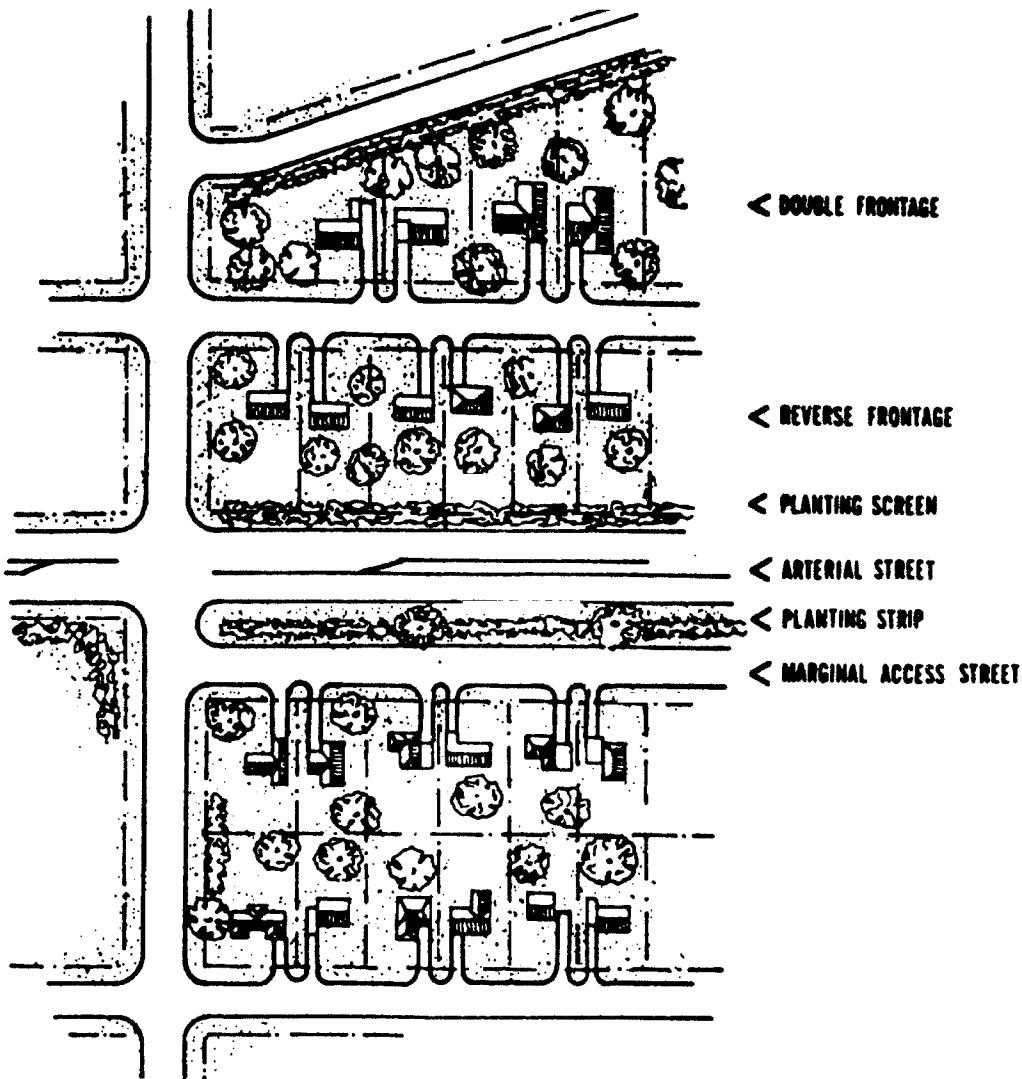


DIAGRAM 13. DOUBLE FRONTAGE LOTS, REVERSE FRONTAGE LOTS, PLANTING STRIPS AND SCREENS AND MARGINAL ACCESS STREETS ALONG A MAJOR ARTERIAL STREET OR HIGHWAY.