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POLICY AND REGULATIONS
for
ENTRANCES TO PRIMARY ROADS

PART I

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PART I
POLICY AND REGULATIONS
FOR
ENTRANCES TO PRIMARY ROADS

Access Review Dept.
Iowa State Highway Commission
Ames, Iowa
1963

ACCESS CONTROL STATEMENT OF POLICY

WHEREAS, experience and facts have disclosed that control of access along highways has contributed greatly to the safety and utility of highways, and

WHEREAS, a substantial reduction in the appalling loss of lives which occurs on the highways of Iowa can be accomplished by reasonable and proper controls of access without imposing undue restrictions on property rights, or causing undue hardship to the citizens of Iowa, including abutting property owners, motorists, and business establishments, and

WHEREAS, the utility of the highways and the preservation of their carrying capacity should be protected to assure that the investment of the public therein may not be lost, and

WHEREAS, Chapter 306A, Code of Iowa, 1962, creates a duty upon the Iowa State Highway Commission to establish such reasonable rules and regulations as are necessary to govern access along the Iowa Primary Road System:

NOW THEREFORE, BE IT RESOLVED that the following "Statement of Policy" be adopted and followed in connection with the rules and regulations now or hereafter promulgated by the Iowa State Highway Commission regarding access control as follows, to-wit:

STATEMENT OF POLICY

Section I. That the Iowa State Highway Commission recognizes that there is no fixed, final, nor positive set of rules or regulations which will ultimately and irrevocably cover, nor standards so universal as to lead to an inevitable conclusion in every situation which may arise with regard to access to primary roads, and that in connection with each such application said Iowa State Highway Commission must and shall consider the following:

1. Safety to the traveling public.
2. Protection of the rights of property owners, and in particular the rights of abutting property owners.
3. The rights and convenience of the traveling public and of property owners to have access to homes and business facilities.
4. The impact upon the economy of the state.
5. The perpetuation of the carrying capacity of the highway.

Section II. That the Iowa State Highway Commission shall at all times recognize that no property owner shall be deprived of the right to reasonable, free and convenient access to his property without just compensation therefor.

Section III. That the Iowa State Highway Commission shall at all times reserve the right to make exceptions to any and all rules and regulations where the exercise of sound and reasonable judgment indicates that the literal enforcement of any such rules or regulations would effect an undue hardship on any interested party, and the Commission shall in the enforcement thereof use extraordinary care to see that no undue hardship or injustice results to any affected party, the community or state.

Highway Classifications

- Class I** Class I highways are fully controlled access highways and shall include the Interstate System and other highways where full control of access has been acquired.
- Class II** Class II highways are planned controlled access highways and shall include existing four-lane primary roads and those roads on which adequate right-of-way for four lanes has been acquired.
- Class III** Class III highways are planned controlled access highways and shall include those highways on which through traffic is given primary consideration.
- Class IV** Class IV highways are planned controlled access highways on which through traffic and land service traffic are given equal consideration.

The map inside the back cover shows by color the various highway classifications on the primary road system.

Terms Used

- Access** Access is a means of ingress and/or egress to a property from a public highway or street and shall be synonymous with entrance or driveway.
- Sight Distance** Sight distance is the clear vision along the highway in each direction from any point of access where a vehicle must stop before entering the highway. Vertical and horizontal sight distance is measured from a point 3.75 feet above the entrance surface to a point 4.5 feet above the highway surface. On four-lane divided highways the sight distance will be measured from the access in the direction of approaching traffic only when not served by a median cross-over.
- Built-up Area** A built-up area shall mean that area adjacent to a primary road or primary road extension in which the abutting lots are presently developed to such an extent that there is insufficient set-back for a frontage road and the development in depth precludes the establishment of a service road to the rear of the lots or area.
- Fringe Area** A fringe area shall mean that area adjacent to a primary road or primary road extension with intermittent or unrelated lot or parcel development which will permit consideration of a frontage road in front of, or in the rear of the development.
- Rural Area** A rural area shall mean that area adjacent to a primary road or primary road extension which does not clearly come within the criteria set forth for "Built-up" or "Fringe" area and shall include agricultural land within incorporated areas.

Introduction and Purpose of Access Control

It is the purpose of this publication to set forth clearly and in detail the policy of the Iowa State Highway Commission concerning entrances and exits on the Primary Road System and its

extensions and to make available to the public the standards and requirements for the construction of such entrances and exits. The policy is based upon studies of traffic movements and volumes conducted by the Iowa State Highway Commission and from an analysis of entrance and exit control practices of the Highway Departments and cities of other states.

There are two major purposes for the necessity of access control:

1. Safety to the traveling public.
2. Perpetuating the carrying capacity of the highway as designed and constructed.

These two purposes are interrelated because when the capacity of a highway is curtailed by side friction adjacent to the highway the safety of the highway is also curtailed. Each movement of a vehicle whether it is turning off of a highway or coming on to a highway develops a small amount of side friction and creates a point of potential conflict with the traffic desiring to proceed straight through on the main traveledway. Each left turn into a driveway off of a highway curtails other traffic approaching this driveway from either direction. If a driveway is so located that there is insufficient sight distance in either or both directions to permit approaching traffic to adjust its speed a serious accident potential is created. When movements into or out of such driveways are increased or when similar additional driveways are constructed in the area the potential points of conflict are also increased until the capacity of the highway is seriously curtailed. When sufficient points of conflict exist between two opposing movements of traffic invariably accidents are produced. When this highway obsolescence develops authorities are ultimately forced to relocate the highway on new right-of-way or provide frontage roads to reduce the points of traffic conflict.

The degree of necessary access control depends largely upon the usage of the highway itself. Therefore, it is first essential to determine the type of highway; character of traffic, through or local in nature; type of roadside development; rural, suburban or urban conditions; and other factors that affect the usage of the highway and the development adjacent to it. On a highway which carries a high percentage of through traffic at high speeds tighter controls of access are necessary than on a highway which carries traffic largely made up of local movements. Access control must, therefore, range from full control to a minimum of control for safety purposes only.

Property-fronting land owners have rights of access consistent with their needs and road users have other rights to freedom of movements, to safety, and the efficient expenditure of their public highway funds. It is the duty of the highway officials, in whose trust these public funds have been placed, to use extreme care and prudence in evaluating entrances to the highway, to the end that the landowner's rights and the rights of the motoring public will be protected, and the general public will obtain full utilization of both past and future expenditures of road funds.

Each Primary Road has been classified according to the composition of the traffic using it and thus the degree of control necessitated to preserve its usefulness is determined. (See road classification map inside back cover.)

Tables, maps, sketches and sample forms are included in this policy and its regulations in order that any interested person may fully understand the requirements necessary to establish a new entrance or to alter an existing entrance to the Primary Road System.

Free and convenient access will not be denied without just compensation. Where access rights have been acquired no additional access beyond that reserved will be granted except at Special Public Road connections.

Persons desiring more detailed information can obtain Part II of these rules and regulations at the Central Office in Ames, Iowa, or at any Resident Maintenance Engineer's office. Personnel from these offices will gladly explain the requirements of this policy and will assist any individual in the preparation of applications for changes of access or for the establishment of new accesses.

Procedures for Obtaining Permission for Entrance Construction

Application:

Any individual, firm or corporation desiring to construct or alter an entrance connecting with a Primary Road or Extension where access control is under joint agreement between the City or Town Council and the Highway Commission shall make written application before beginning construction to the State Highway Commission Resident Maintenance Engineer of the county in which the construction is to take place. Application forms, instructions and assistance may be obtained from any Resident Maintenance Engineer's office of the Iowa State Highway Commission.

Preparation of Application Form:

The application form must be filled out in its entirety in accordance with the instructions, and a sketch, drawn to a suitable scale, must be included in every case showing the details of the driveway design, and its location relative to the highway and other properties in the immediate area. (See illustrated form and sketch page 6-7-8.)

Submitting Application:

Upon completion of the application it should be submitted to the Resident Maintenance Engineer of the county in which the construction or alteration will take place. No work shall be undertaken on the Primary Road right-of-way until written approval has been received by the applicant.

The locations of the Resident Maintenance Engineer's offices are as follows, and the engineer in charge will be glad to assist in preparation of your application.

COUNTIES	ADDRESS	PHONE NO.
District 1		
Marshall, Polk, Story, Warren.....	Highway Comm. Bldg., Building 3, Ames.....	232-7250
Calhoun, Grundy, Hamilton, Hardin, Webster.....	1052 N. 23rd Street, Fort Dodge.....	8-6241
Boone, Carroll, Dallas, Greene.....	700 N. Pinet Street, Jefferson.....	386-2176
Jasper, Poweshiek, Tama.....	S. West Street, Grinnell.....	BElmont 6-5560
District 2		
Cerro Gordo, Chickasaw, Floyd, Mitchell, Worth.....	1420 4th Street SE, Mason City.....	GArden 4-3165
Emmett, Hancock, Kossuth, Winnebago.....	205½ N. Clark, Forest City.....	2-1541
Bremer, Butler, Franklin, Humboldt, Wright.....	109 10th Street NE, Clarion.....	308
Allamakee, Fayette, Howard, Winneshiek.....	107 Railroad Street, Decorah.....	382-3659

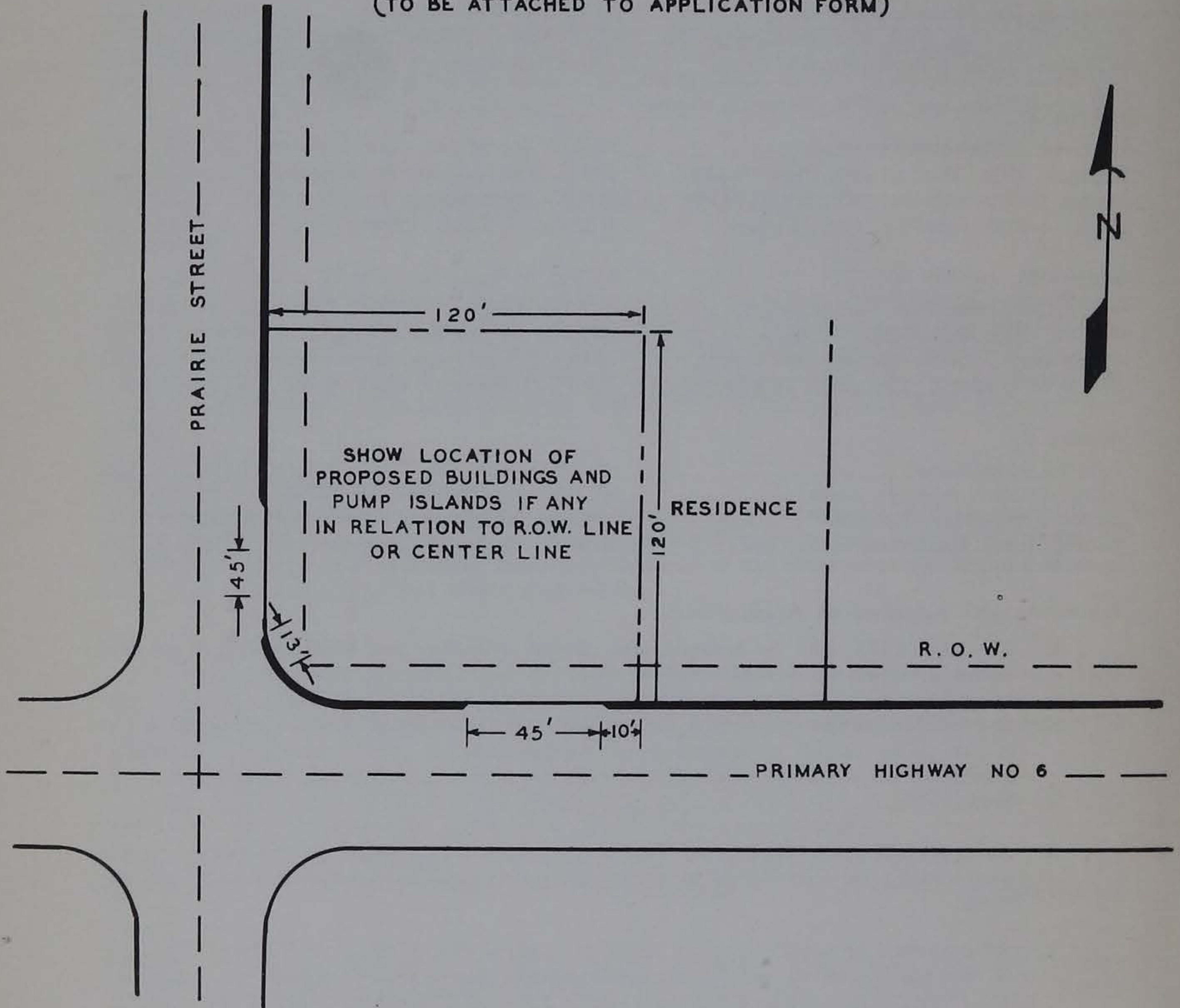
COUNTIES	ADDRESS	PHONE NO.
District 3		
Cherokee, Plymouth, Woodbury.....	2800 E. Gordon Drive, Sioux City.....	6-3450
Crawford, Ida, Monona.....	42 S. 7th Street, Denison.....	AMherst 3-3347
Buena Vista, Clay, Palo Alto, Pocahontas, Sac.....	620½ Lake Avenue, Storm Lake.....	REgent 2-4514
Dickinson, Lyon, O'Brien, Osceola, Sioux.....	410 S. Boone Street, Rock Rapids.....	472-2315
District 4		
Harrison, Pottawattamie, Shelby.....	3540 S. 4th Street, Council Bluffs.....	366-0438
Fremont, Mills, Montgomery, Page, Taylor.....	105 E. Nishna Road, Shenandoah.....	246-4610
Clarke, Decatur, Madison, Ringgold, Union.....	119 N. Maple Street, Creston.....	782-4310
Adair, Adams, Audubon, Cass, Guthrie.....	Highway 6 East, Atlantic.....	243-1510
District 5		
Henry, Jefferson, Lee, Van Buren.....	803 W. Adams, Fairfield.....	472-5357
Keokuk, Mahaska, Marion, Wapello.....	901 8th Avenue E., Oskaloosa.....	ORchard 3-6739
Appanoose, Davis, Lucas, Monroe, Wayne.....	101½ W. Van Buren Street, Centerville.....	265
Des Moines, Louisa, Muscatine, Washington.....	618 N. 6th Avenue, Washington.....	OLympia 3-3561
District 6		
Johnson, Jones, Linn.....	430 16th Ave. SW, Cedar Rapids.....	EMpire 5-3558
Cedar, Clinton, Jackson, Scott.....	410 Security Building, Davenport.....	323-7943
Clayton, Delaware, Dubuque.....	1312 N. Franklin St., Manchester.....	WAbash 7-7102
Benton, Black Hawk, Buchanan, Iowa.....	919 W. 5th Street, Waterloo.....	ADams 3-3885

Processing and Approval of Applications:

1. The application shall be properly and clearly completed and shall be signed by the owner or owners of record.
2. The location, design and construction of the entrance shall meet the requirements stated in this policy subject to ordinances or requirements of local authorities. Necessary provisions for drainage, shall comply with the Iowa State Highway Commission standards.
3. An applicant whose application has been considered and denied by the District Engineer may appeal such denial by resubmitting the application to the Commission, Ames, Iowa.
4. All approvals or denials shall be made in writing within thirty (30) days of receipt of the application by the Resident Maintenance Engineer and likewise all appeals to the Commission shall be acted upon within sixty (60) days of receipt of the appeal.
5. The applicant or his representative may appear before the Commission at the time such appeal is to be considered. Applicant will be notified of date and time that the Commission will consider his appeal.
6. Nothing herein contained shall deprive the Commission in the exercise of sound and reasonable discretionary judgment to make such exceptions to these rules as may appear reasonable.

SAMPLE
OF
EXHIBIT A

(TO BE ATTACHED TO APPLICATION FORM)



A sketch of the proposed entrances must be submitted with the application for access. Details of the driveway design and its location relative to the highway and other adjacent properties should be included on the sketch.

IOWA STATE HIGHWAY COMMISSION

Application for Permit to Construct Entrance from Private Property
to Primary Road or Primary Road Extension

Applicant _____
(Owner or Owners of Record)

Address _____, 19 _____
(Date)

Iowa State Highway Commission
Ames, Iowa

Gentlemen:

A permit is hereby requested to construct a _____ entrance _____ feet in width, from
(Residential, etc.)
right of way line to primary road traveled way, including necessary drainage structure thereunder.

PLAT OF ENTRANCE AS PROPOSED TO BE CONSTRUCTED IS ATTACHED
TO AND IS A PART OF THIS APPLICATION. (Marked Exhibit "A")

Proposed entrance is located on Primary Road No. _____, Sec. _____, T. _____, R. _____,
County, _____ Miles _____ from _____ more specifically described as follows: _____
(Direction) (Place, Town, or object)

The applicant agrees that if granted a permit to construct the above described entrance the following stipulations shall govern.

1. Written approval of the Highway Commission shall be obtained before any change is made in the entrance or its location.
2. That the entrance, including drainage structure, grading and surfacing, shall be constructed by the applicant at the applicant's expense, in accordance with the plat attached hereto, and in conformity with the standard specifications of the Iowa State Highway Commission, and shall thereafter be kept in repair and maintained by the applicant at his own expense. Nothing in this stipulation, however, shall preclude the Iowa State Highway Commission from entering upon said entrance on highway right of way and performing necessary maintenance for the protection of the highway.
3. That the construction, of the entrance shall be completed by the _____ day of _____, 19____.
(The permit is null and void if drive is not completed by the above date unless extension of time is granted in writing by the Iowa State Highway Commission.)
4. That the construction, future repair or maintenance of said entrance shall be carried on in such a way as not to interfere with, or interrupt traffic on said highway, and the applicant shall take all reasonable precautions to protect and safeguard the lives and property of any person or persons, and shall save the State and State Highway Commission harmless of any damage or losses that may be sustained by any person or persons, on account of such construction, repair or maintenance operations.
5. That no filling will be permitted in the right of way of primary road No. _____ other than that necessary to construct the entrance at Station _____, Project _____.
6. That the culvert pipe under the entrance shall be zinc coated corrugated metal or 1500D concrete pipe. It shall be _____ inches in diameter and _____ feet in length as shown on attached sketch, and of quality complying with Sec. 4141 and Sec. 4145 of the Iowa State Highway Commission Standard Specifications, Series of 1960. The pipe shall be installed at the elevation specified by the engineer.

The finished surface elevation of the driveway over the pipe or place where the pipe would normally be, shall be _____ inches lower than shoulder elevation at Station _____ to prevent water draining onto the pavement or travel way.

7. That the applicant agrees to give the State Highway Commission forty-eight hours notice of his intention to start construction on the highway right of way. Said notice shall be made in writing to the person whose name is shown below.

Summarization of Policy and Regulations

Access requirements for new or altered entrances to Primary Highways where access has not been acquired is summarized on the following pages. Table 1 includes the requirements for access to highways in rural or fringe areas. Minimum standards for access to Primary Road Extensions in built-up areas is included in Table 2. Table 3 shows the miscellaneous requirements for commercial or non-commercial entrances. These tables and charts are not intended to state the requirements for special commercial, industrial and miscellaneous developments such as drive-in theaters, race tracks, ball parks, amusement centers, shopping centers, industrial parks and other developments generating large volumes of traffic. These developments will require special study to be co-ordinated with Highway Commission planning and design sections to determine the exact entrance requirements.

The information in these tables is illustrated by this series of sketches:

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Table I

ACCESS REQUIREMENTS IN RURAL AND FRINGE AREAS FOR NEW AND
ALTERED ENTRANCES TO RURAL PRIMARY HIGHWAYS AND PRIMARY HIGHWAY
EXTENSIONS WHERE ACCESS HAS NOT BEEN ACQUIRED

Requirement	Classification of Highway					
	Class II		Class III		Class IV	
	Type of Entrance		Type of Entrance		Type of Entrance	
	Commercial or Industrial	Residential Farm or Field	Commercial or Industrial	Residential Farm or Field	Commercial or Industrial	Residential Farm or Field
I. MINIMUM SIGHT DISTANCE Posted speed limit 70 mph 60 mph 50 mph 40 mph	950 ft. 750 ft. 550 ft. 450 ft.		950 ft. 750 ft. 550 ft. 450 ft.		950 ft. 750 ft. 550 ft. 450 ft.	
II. INTERSECTION REQUIREMENT Minimum distance from: A. Unchannelized Intersections 1. At Primary Road 2. At Secondary Road B. Channelized Intersections 1. Median over 750 Ft. Long 2. Median less than 750 Ft. Long	500 ft. 300 ft.	500 ft. 300 ft.	500 ft. 300 ft.	500 ft. 300 ft.	300 ft. 150 ft.	300 ft. 150 ft.
	Access permitted between 500 feet from intersection and 250 feet from end of median. Frontage road required to another entrance beyond end of median. No new access permitted opposite median.					
III. NUMBER OF ENTRANCES PERMITTED A. General Development B. Service Stations	1 2	1 —	1 2	1 —	1 or more 2	1 —
IV. DISTANCE FROM PROPERTY LINE TO CENTER OF ENTRANCE	50 ft.	35 ft.	50 ft.	35 ft.	40 ft.	30 ft.
V. WIDTH OF ENTRANCE A. One property use 1. Maximum 2. Minimum B. Joint property use 1. Maximum 2. Minimum	45 ft.* — 45 ft. —	24 ft. 18 ft. 30 ft. 24 ft.	45 ft. — 45 ft. —	24 ft. 18 ft. 30 ft. 24 ft.	45 ft. — 45 ft. —	24 ft. 18 ft. 30 ft. 24 ft.
	*30 feet maximum for one-way use.					

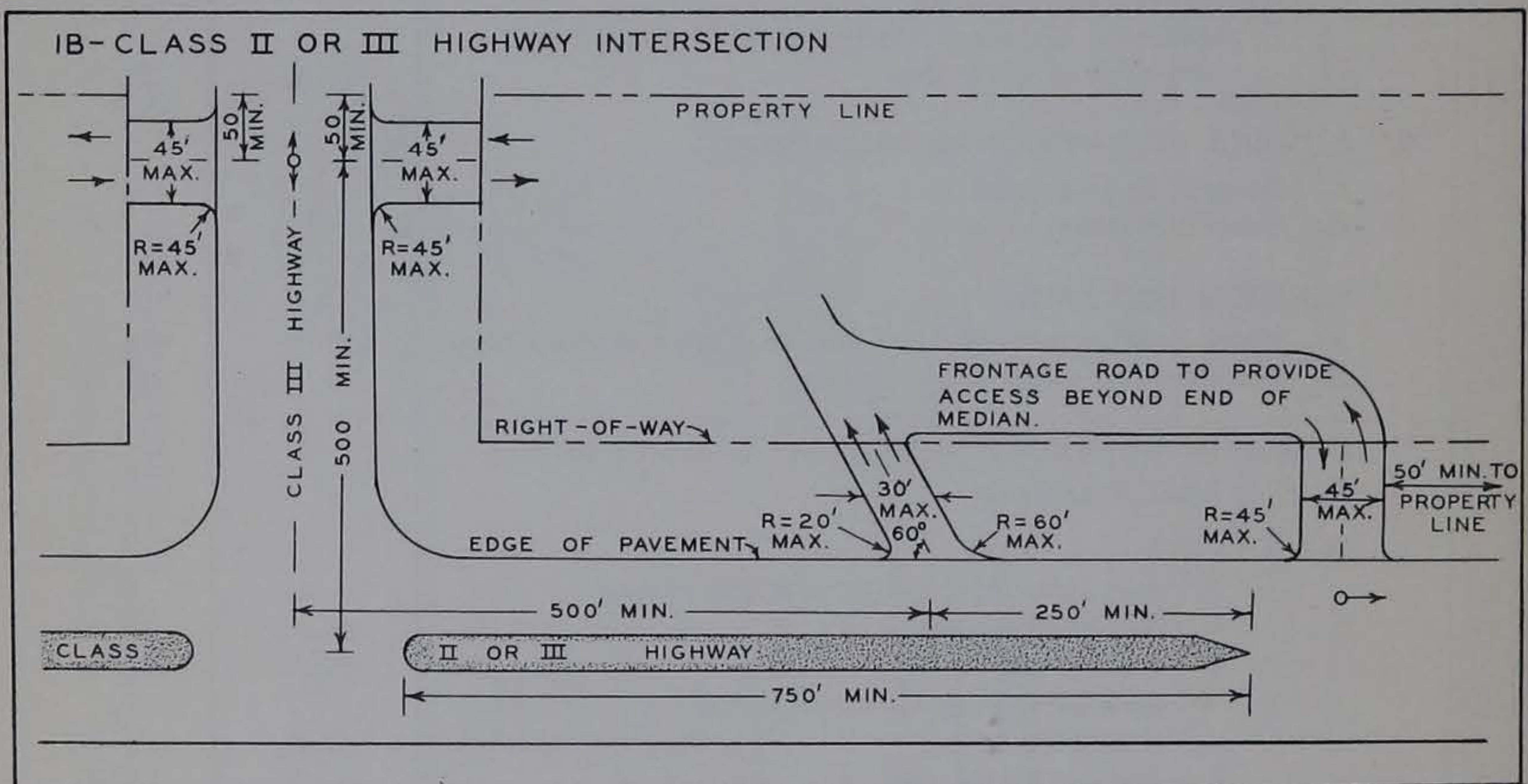
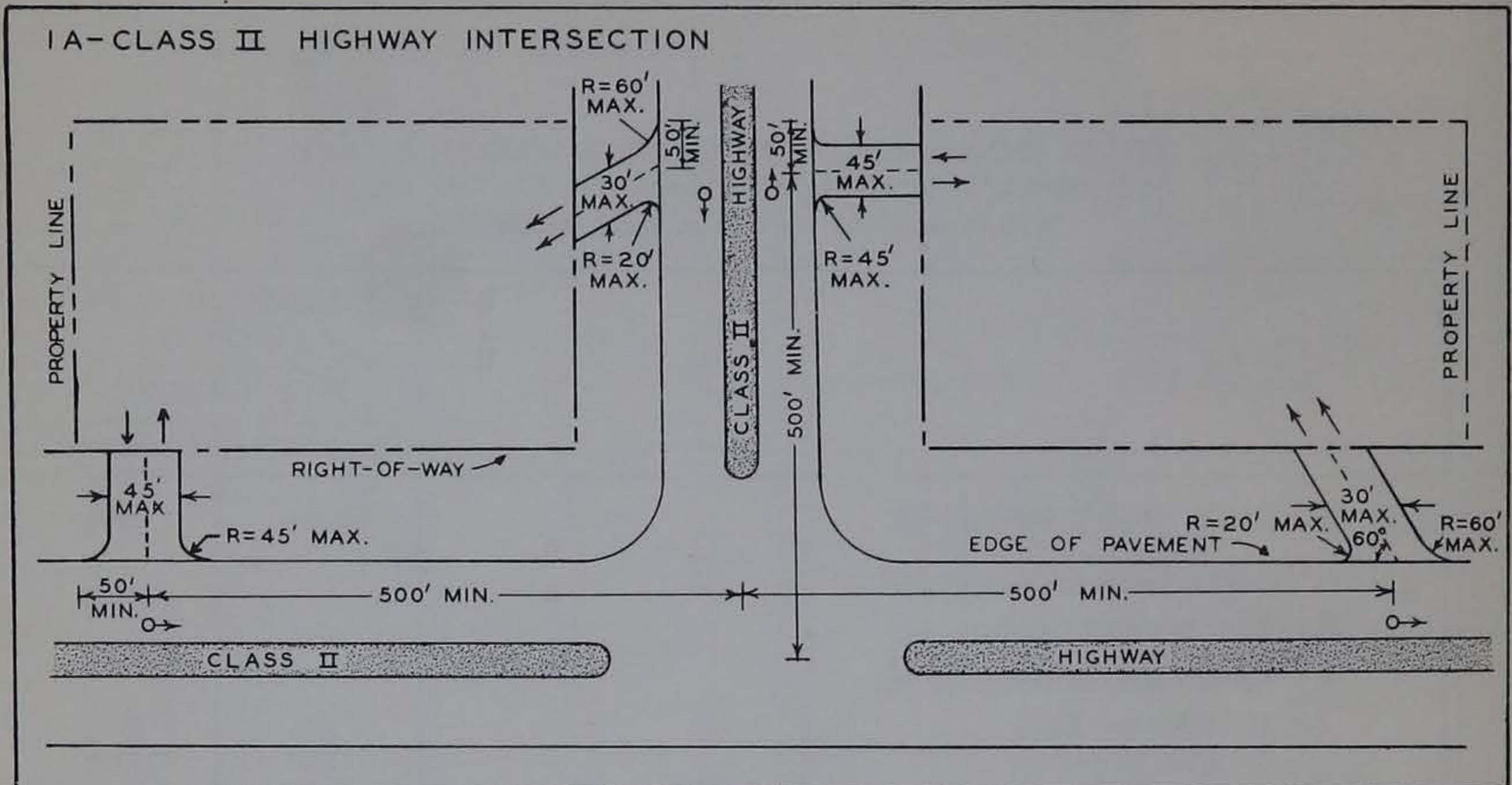
Table 2

ACCESS REQUIREMENTS FOR NEW OR ALTERED ENTRANCES
TO PRIMARY HIGHWAY EXTENSIONS IN BUILT-UP AREAS
WHERE ACCESS HAS NOT BEEN ACQUIRED

Requirement	Class II, III or IV Highway	
	Type of Entrance	
	Commercial	Residential
I. MINIMUM SIGHT DISTANCE	none	none
II. INTERSECTION REQUIREMENT Minimum distance from:		
A. Unchannelized intersections		
1. Primary Road	R*	R*
2. City Street	$\frac{1}{2}R^*$	$\frac{1}{2}R^*$
B. Channelized intersections		
1. Minimum distance between end of median and near edge of curb drop	20 ft.	20 ft.
III. NUMBER OF ENTRANCES PERMITTED		
A. General Development	1	1
B. Service Stations	2	—
IV. MINIMUM DISTANCE		
A. From interior property line and near edge of curb drop	10 ft.	10 ft.
B. Between near edges of curb drops	20 ft.	20 ft.
V. MAXIMUM ENTRANCE WIDTH (not to exceed 60% of Primary Road Frontage)		
A. Two-Way		
1. Parking authorized or no curb and gutter		
a. One property use	45 ft.	18 ft.
b. Joint property use	45 ft.	24 ft.
2. No parking or with curb and gutter		
a. One property use	45 ft.	24 ft.
b. Joint property use	45 ft.	35 ft.
B. One-Way		
1. One property use	30 ft.	—
2. Joint property use	45 ft.	—

*The minimum chord distance from the midpoint of the street return to a Class II, III or IV Highway curb drop is equal to the radius (R) of the street return. For city streets, the minimum chord distance is one-half of the radius ($\frac{1}{2}R$) length.

I. TYPICAL SERVICE STATION ENTRANCES
IN RURAL OR FRINGE AREAS
WHERE ACCESS HAS NOT BEEN ACQUIRED

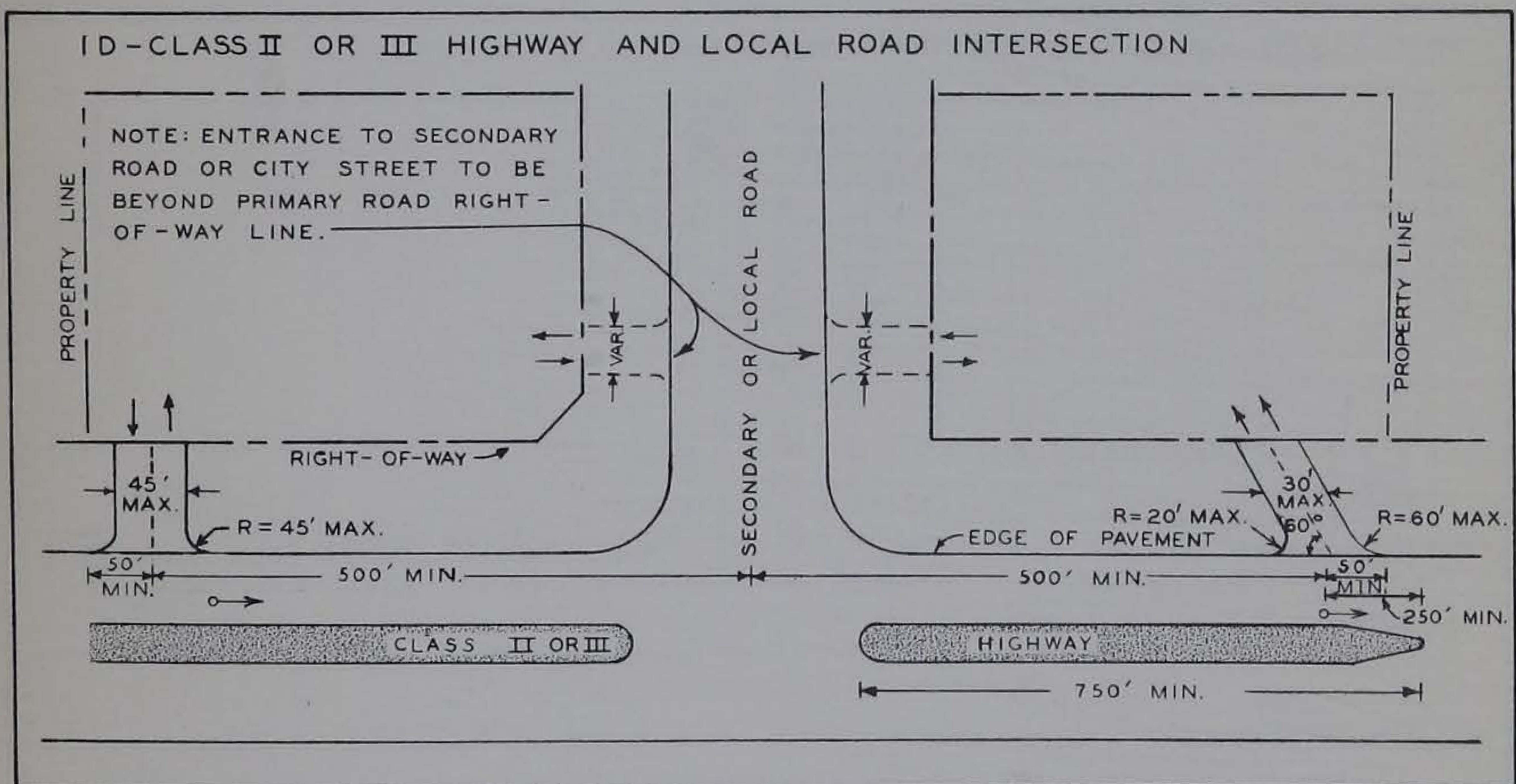
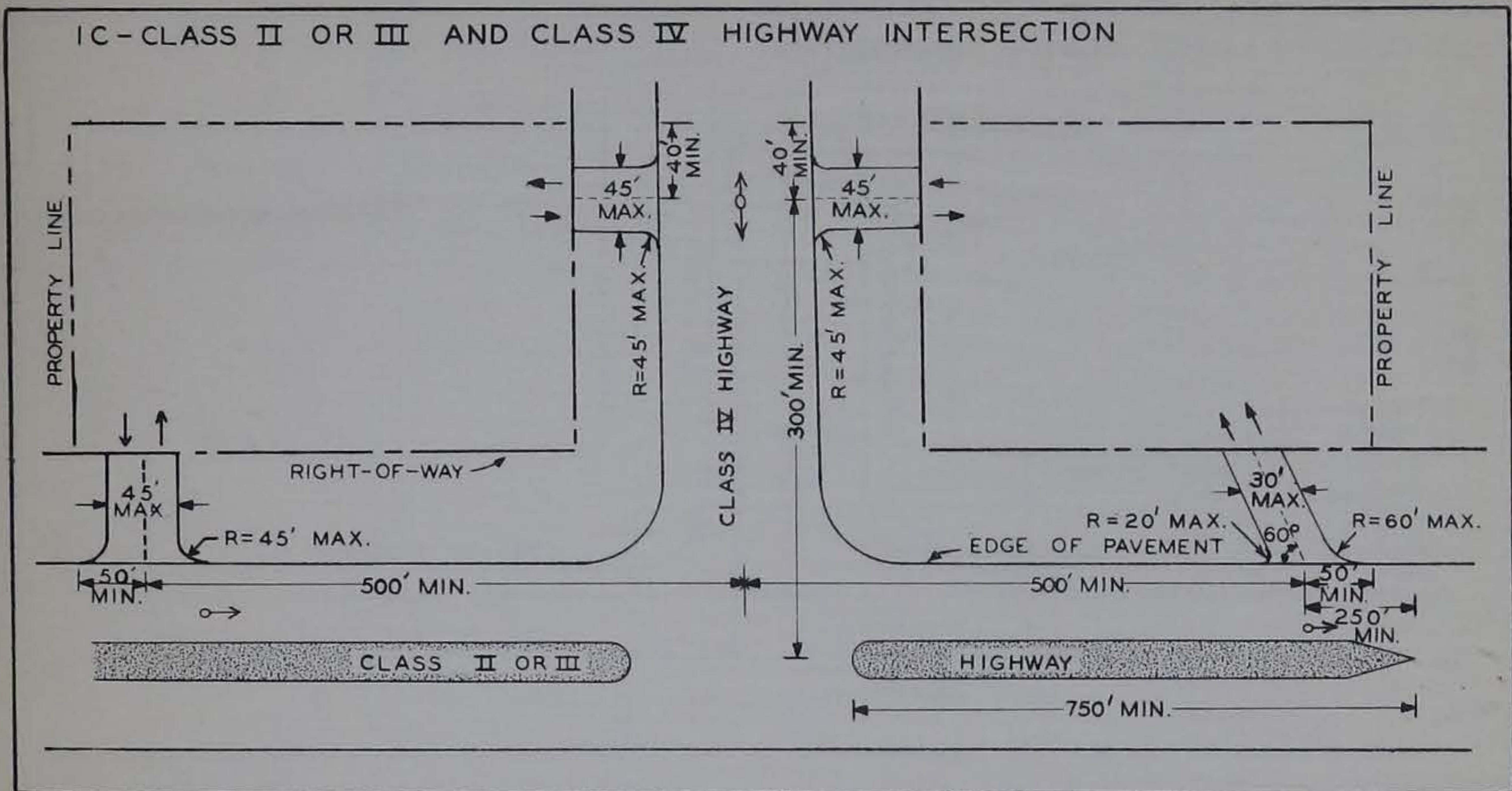


SIGHT DISTANCE REQUIREMENTS

- ONE DIRECTION ONLY
- ↔ BOTH DIRECTIONS

POSTED SPEED LIMIT	MINIMUM SIGHT DISTANCE
70 MPH	950 FT.
60 MPH	750 FT.
50 MPH	550 FT.
40 MPH	450 FT.

I. TYPICAL SERVICE STATION ENTRANCES
IN RURAL OR FRINGE AREAS
WHERE ACCESS HAS NOT BEEN ACQUIRED



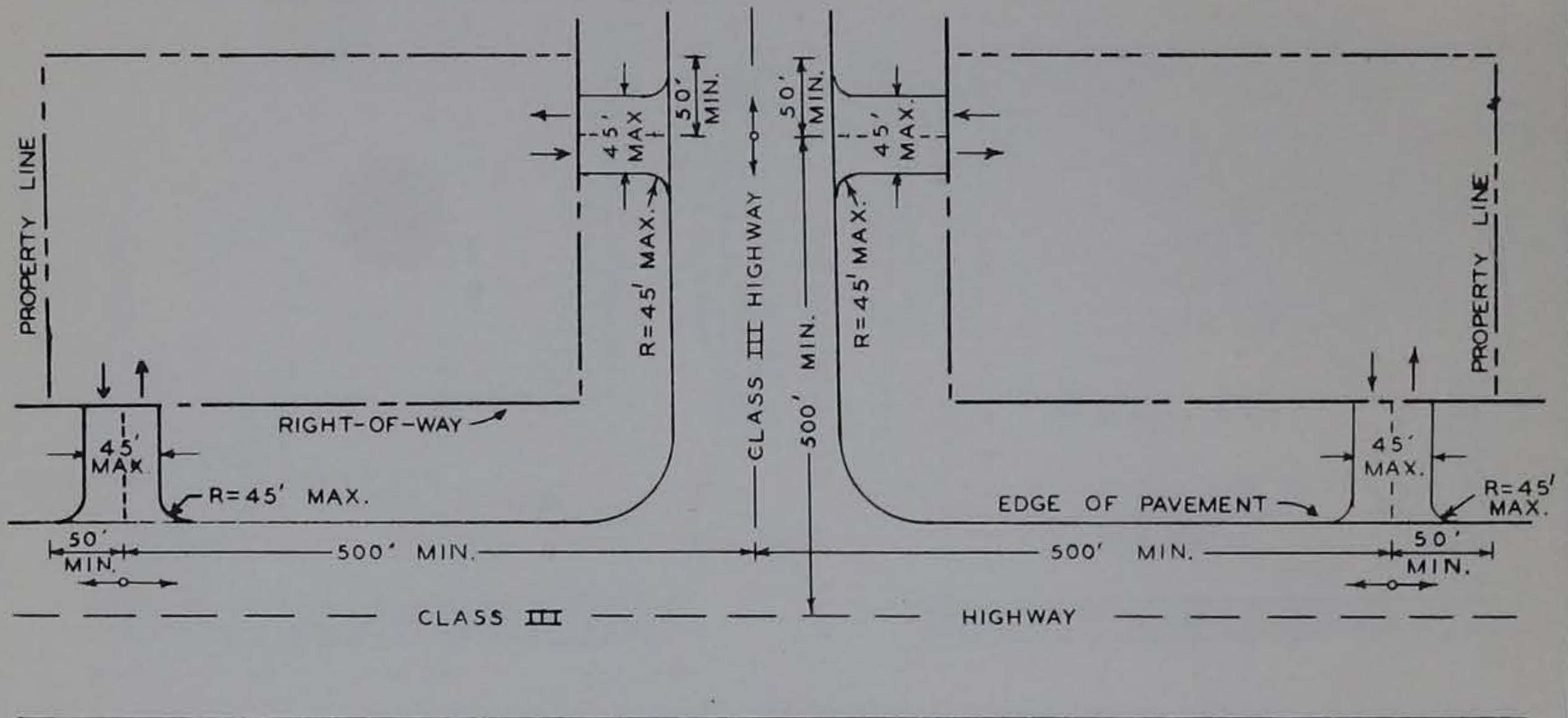
SIGHT DISTANCE REQUIREMENTS

→ ONE DIRECTION ONLY
↔ BOTH DIRECTIONS

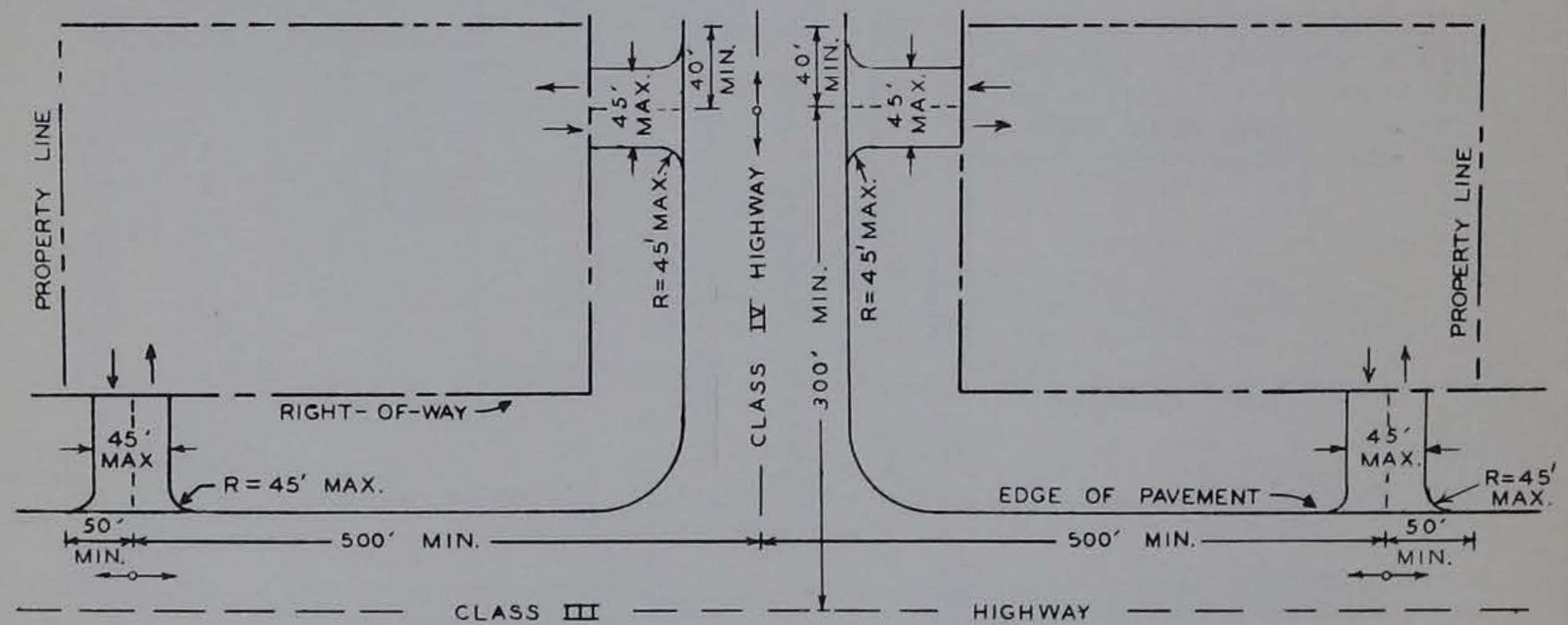
POSTED SPEED LIMIT	MINIMUM SIGHT DISTANCE
70 MPH	950 FT.
60 MPH	750 FT.
50 MPH	550 FT.
40 MPH	450 FT.

I. TYPICAL SERVICE STATION ENTRANCES
IN RURAL OR FRINGE AREAS
WHERE ACCESS HAS NOT BEEN ACQUIRED

2A-CLASS III AND III HIGHWAY INTERSECTION



2B-CLASS III AND IV HIGHWAY INTERSECTION



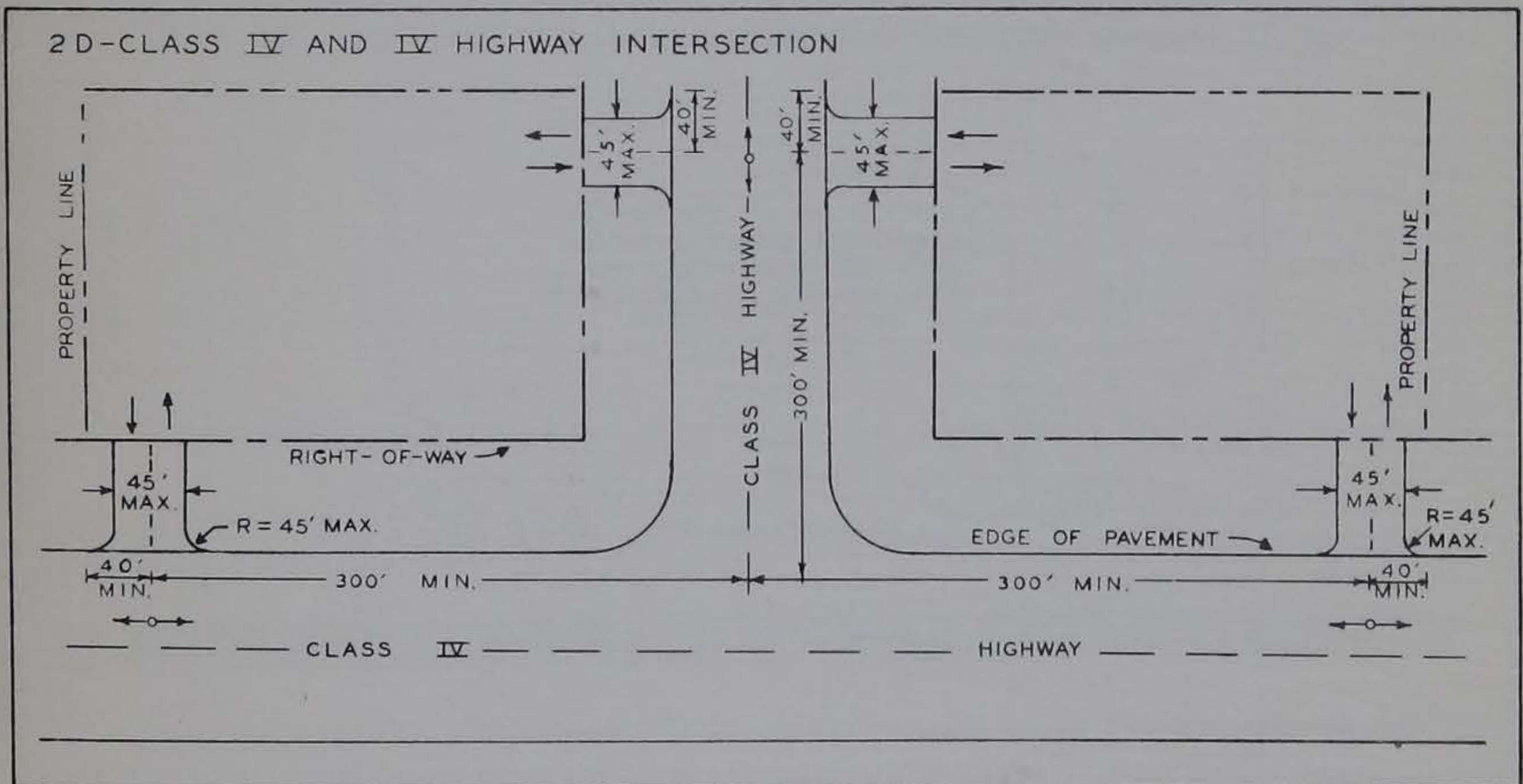
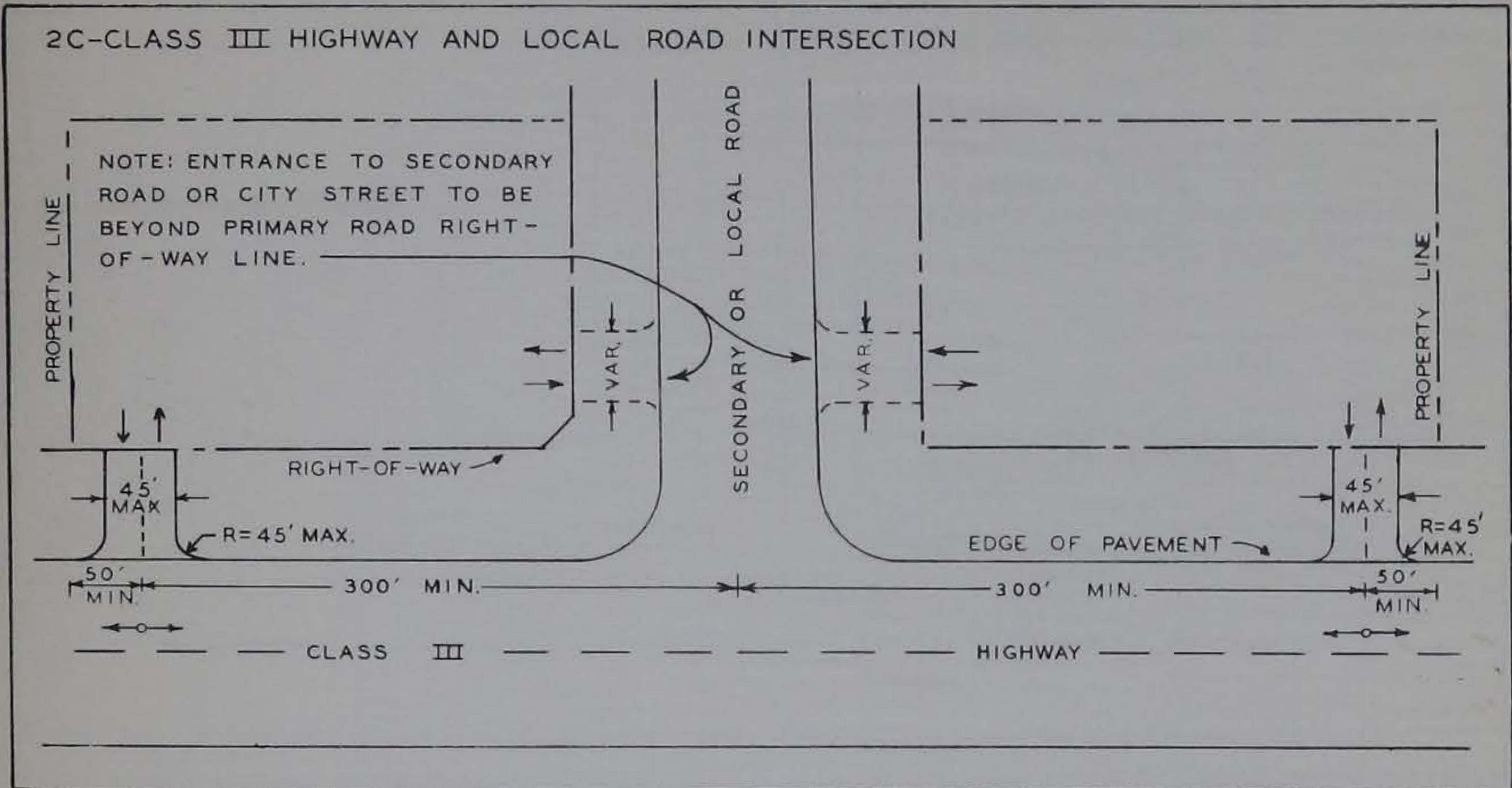
SIGHT DISTANCE REQUIREMENTS

○→ ONE DIRECTION ONLY

←○→ BOTH DIRECTIONS

POSTED SPEED LIMIT	MINIMUM SIGHT DISTANCE
70 MPH	950 FT.
60 MPH	750 FT.
50 MPH	550 FT.
40 MPH	450 FT.

**I. TYPICAL SERVICE STATION ENTRANCES
IN RURAL OR FRINGE AREAS
WHERE ACCESS HAS NOT BEEN ACQUIRED**

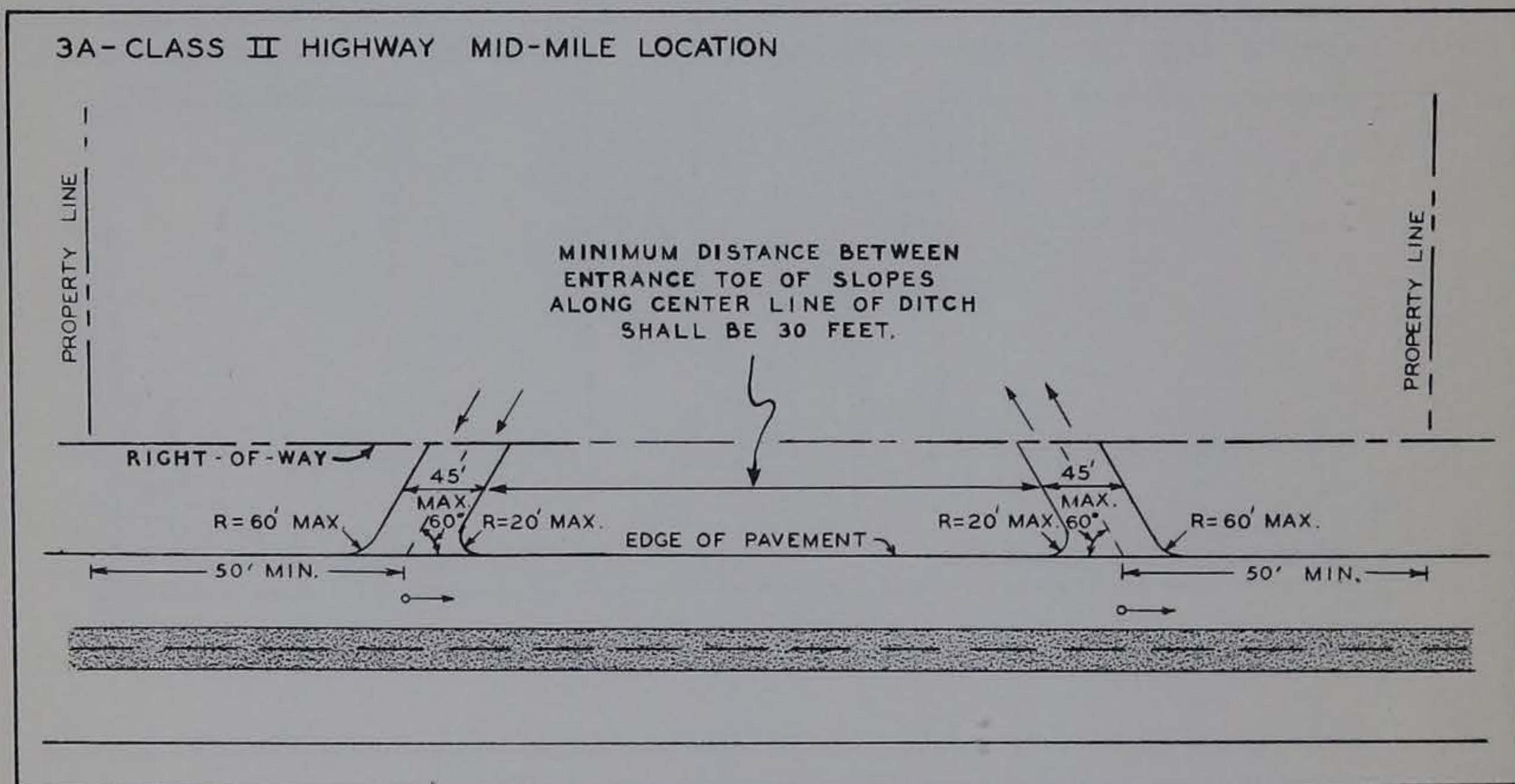
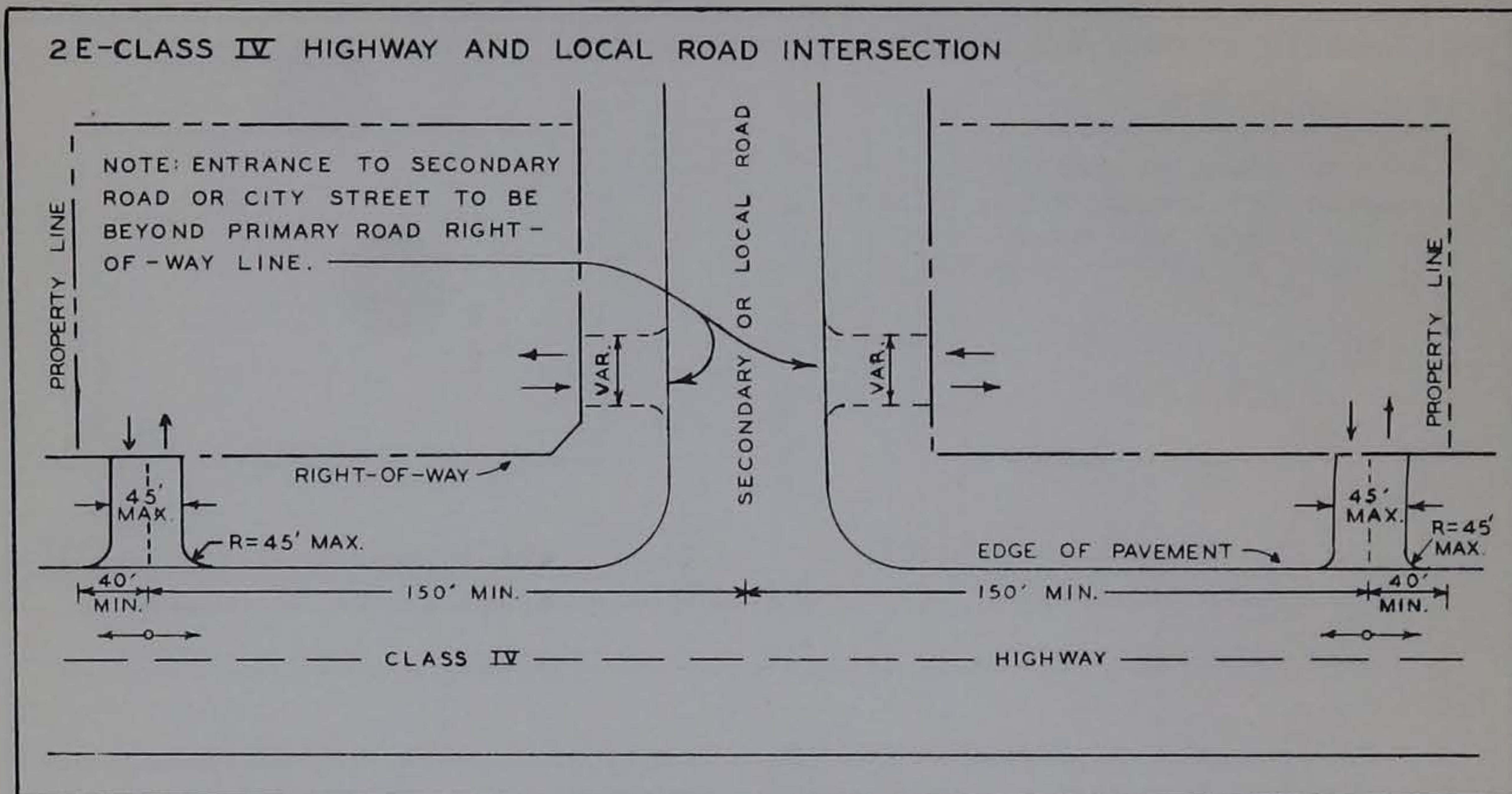


SIGHT DISTANCE REQUIREMENTS

- → ONE DIRECTION ONLY
- ↔ BOTH DIRECTIONS

POSTED SPEED LIMIT	MINIMUM SIGHT DISTANCE
70 MPH	950 FT.
60 MPH	750 FT.
50 MPH	550 FT.
40 MPH	450 FT.

I. TYPICAL SERVICE STATION ENTRANCES
IN RURAL OR FRINGE AREAS
WHERE ACCESS HAS NOT BEEN ACQUIRED



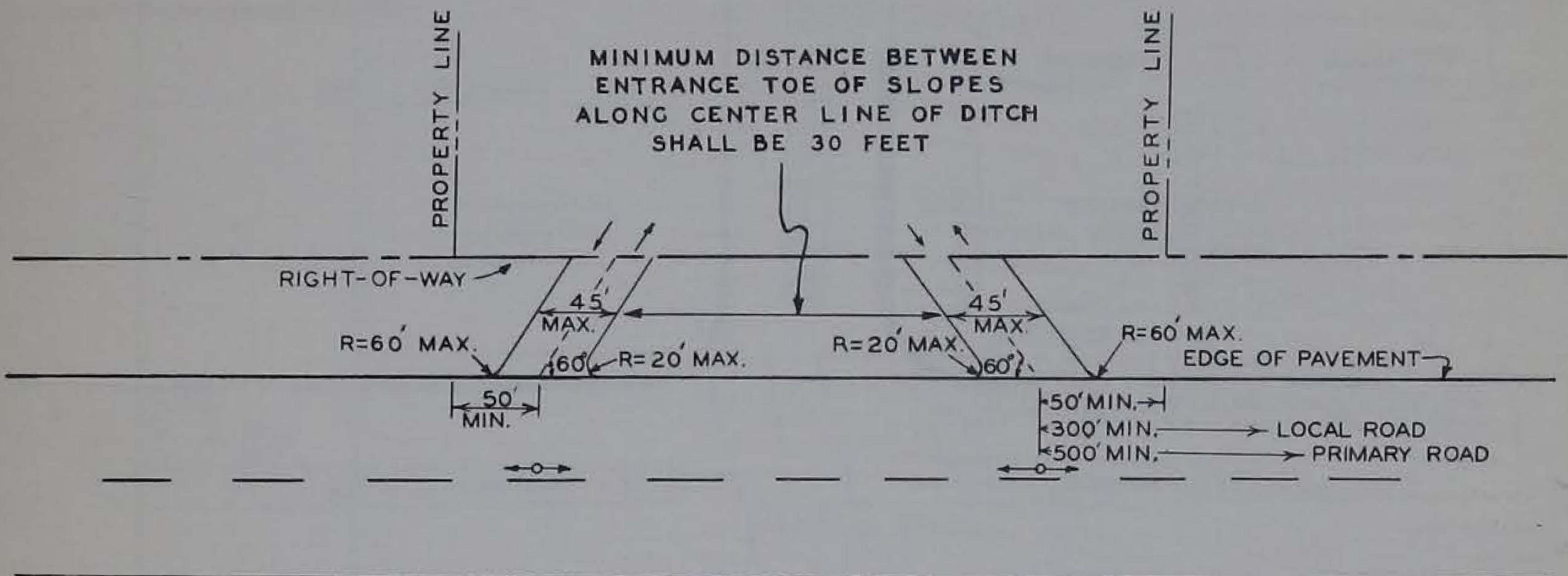
SIGHT DISTANCE REQUIREMENTS

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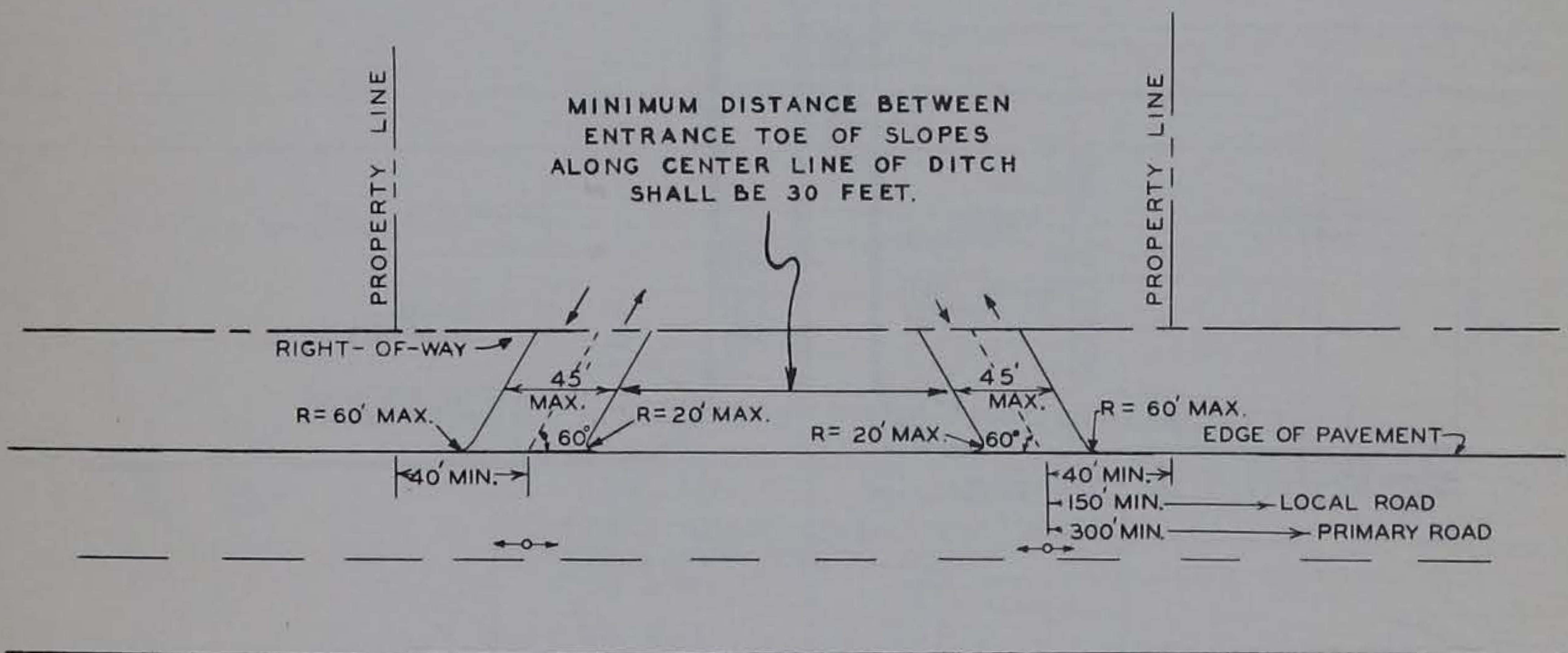
POSTED SPEED LIMIT	MINIMUM SIGHT DISTANCE
70 MPH	950 FT.
60 MPH	750 FT.
50 MPH	550 FT.
40 MPH	450 FT.

I. TYPICAL SERVICE STATION ENTRANCES
IN RURAL OR FRINGE AREAS
WHERE ACCESS HAS NOT BEEN ACQUIRED

3B - CLASS III HIGHWAY MID-MILE LOCATION



3C - CLASS IV HIGHWAY MID-MILE LOCATION

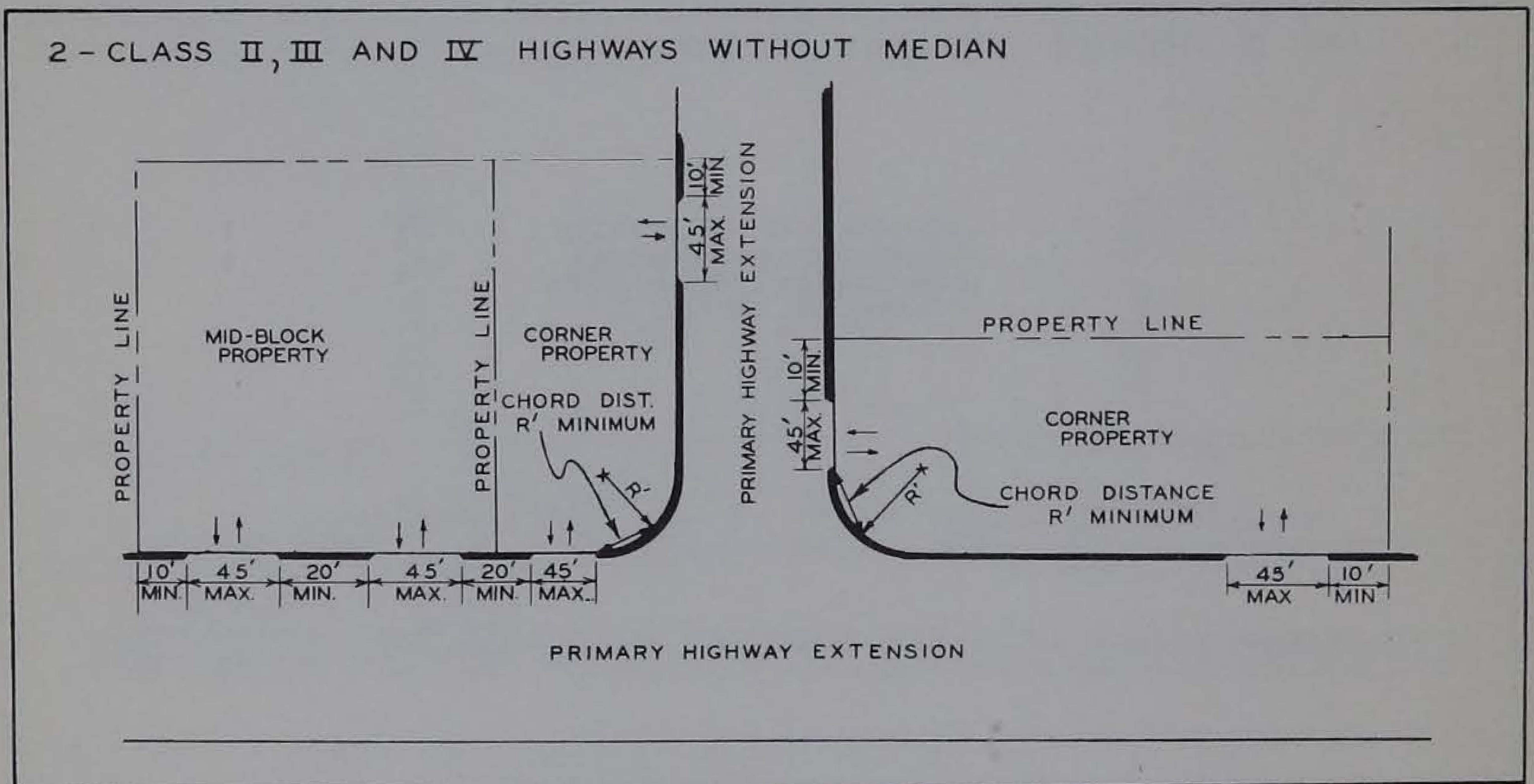
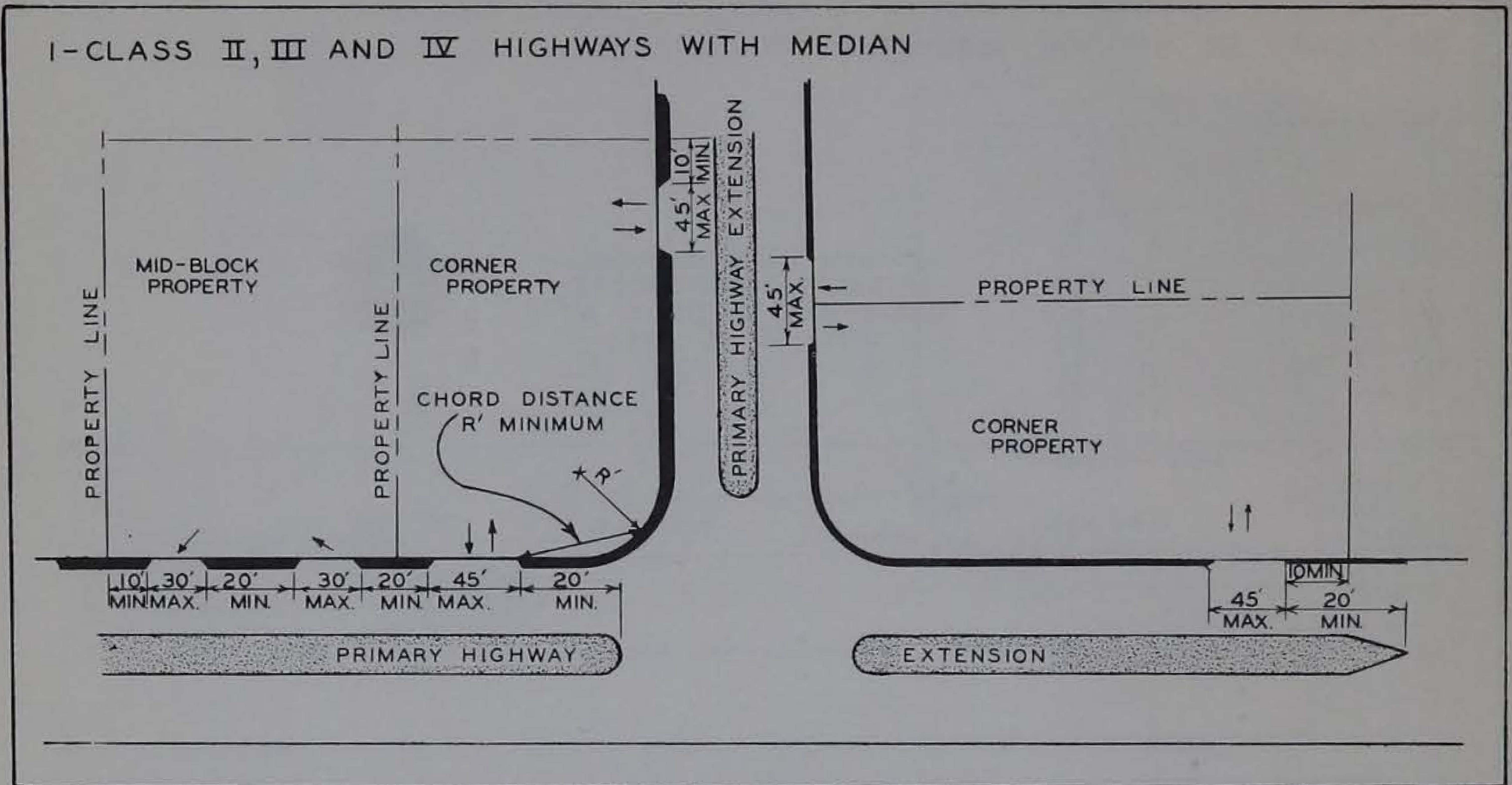


SIGHT DISTANCE REQUIREMENTS

- ONE DIRECTION ONLY
- ←○→ BOTH DIRECTIONS

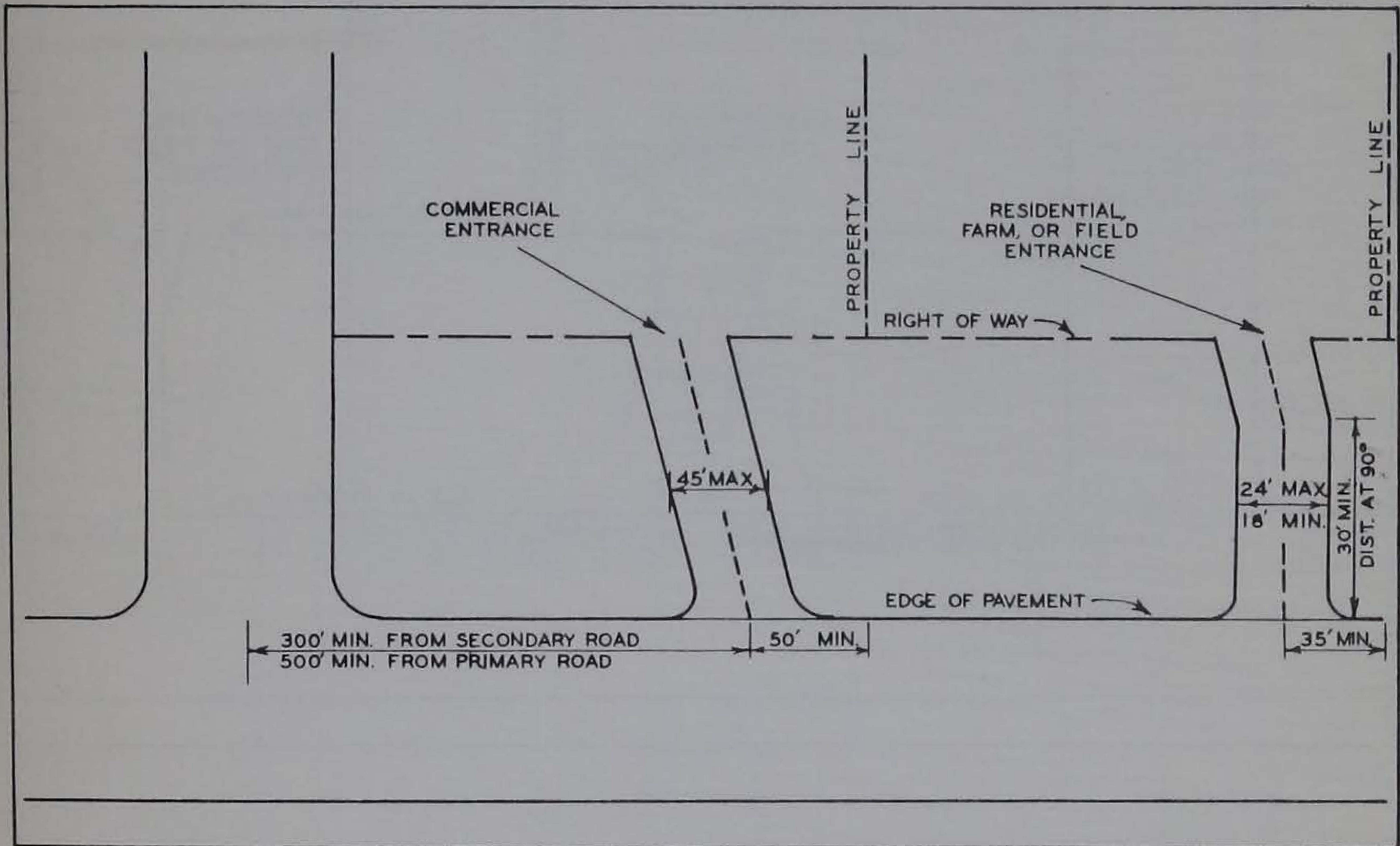
POSTED SPEED LIMIT	MINIMUM SIGHT DISTANCE
70 MPH	950 FT.
60 MPH	750 FT.
50 MPH	550 FT.
40 MPH	450 FT.

I. TYPICAL SERVICE STATION ENTRANCES
 IN BUILT UP AREAS
 WHERE ACCESS HAS NOT BEEN ACQUIRED



NOTE: THE MINIMUM CHORD DISTANCE FROM THE MIDPOINT OF THE STREET RETURN TO A PRIMARY HIGHWAY CURB DROP IS EQUAL TO THE RADIUS (R) OF THE STREET RETURN.

**II. TYPICAL COMMERCIAL OR RESIDENTIAL ENTRANCES
TO CLASS II HIGHWAYS
IN RURAL OR FRINGE AREAS
WHERE ACCESS HAS NOT BEEN ACQUIRED**

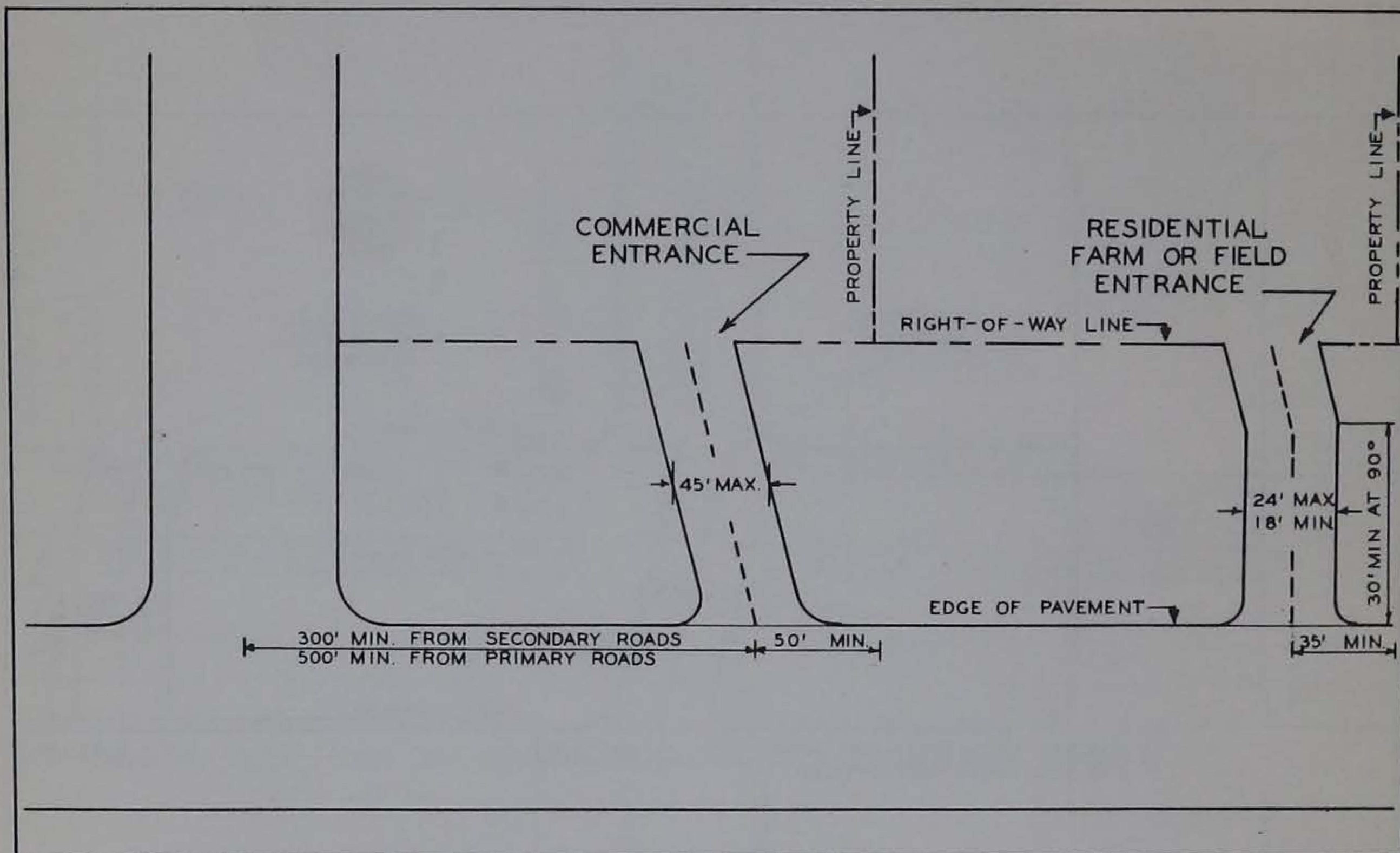


I. MINIMUM SIGHT DISTANCE REQUIREMENTS

POSTED SPEED LIMIT	MINIMUM SIGHT DISTANCE
70 MPH	950 FT.
60 MPH	750 FT.
50 MPH	550 FT.
40 MPH	450 FT.

II. OTHER DESIGN REQUIREMENTS -- SEE TABLE 3 PAGE 22

**II. TYPICAL COMMERCIAL OR RESIDENTIAL ENTRANCES TO
CLASS III HIGHWAYS IN RURAL OR FRINGE AREAS
WHERE ACCESS HAS NOT BEEN ACQUIRED**

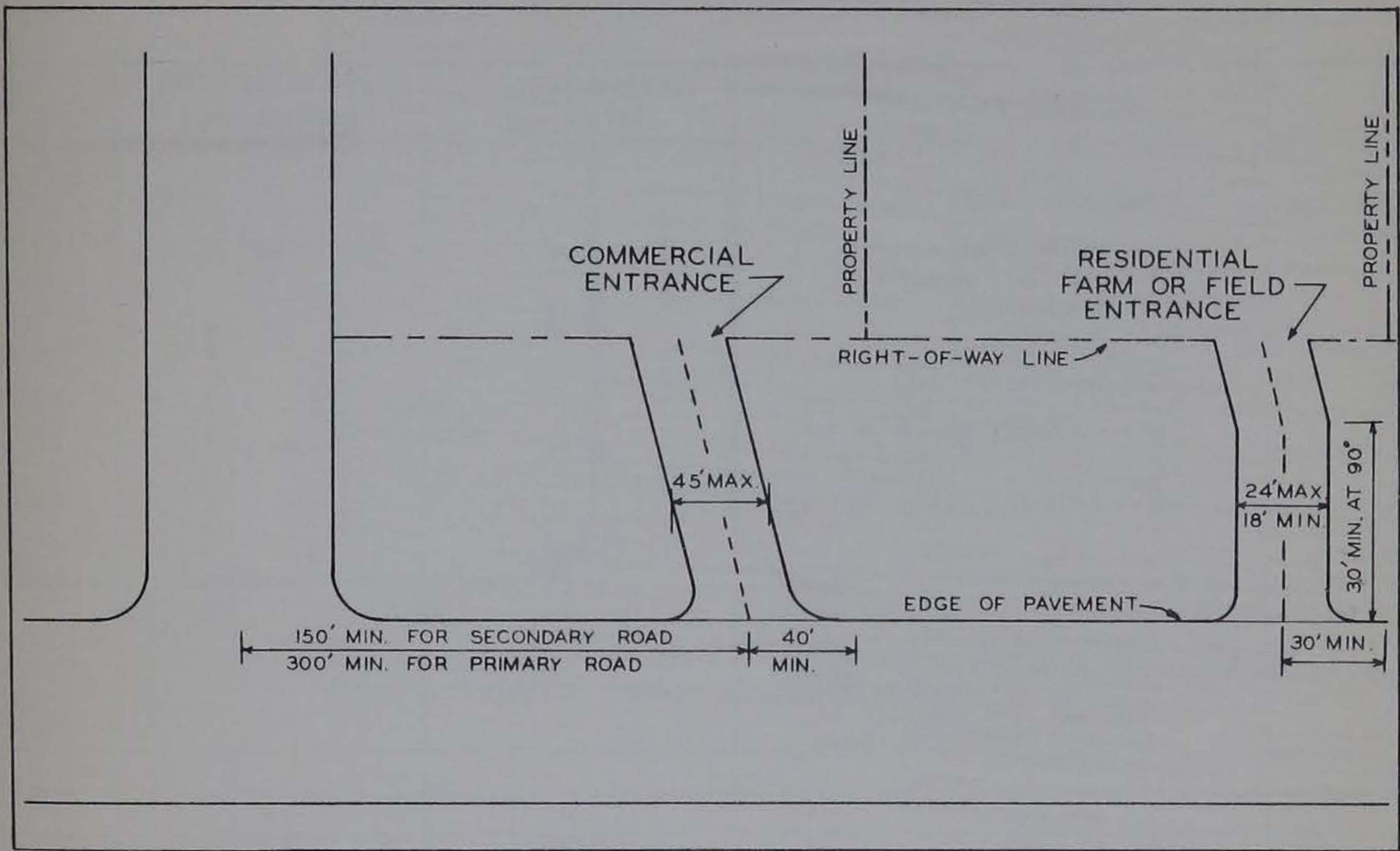


I. MINIMUM SIGHT DISTANCE REQUIREMENTS

POSTED SPEED LIMIT	MINIMUM SIGHT DISTANCE
70 MPH	950 FT.
60 MPH	750 FT.
50 MPH	550 FT.
40 MPH	450 FT.

II. OTHER DESIGN REQUIREMENTS -- SEE TABLE 3 PAGE 22

**II. TYPICAL COMMERCIAL OR RESIDENTIAL ENTRANCES TO
CLASS IV HIGHWAYS IN RURAL OR FRINGE AREAS
WHERE ACCESS HAS NOT BEEN ACQUIRED**



I. MINIMUM SIGHT DISTANCE REQUIREMENTS

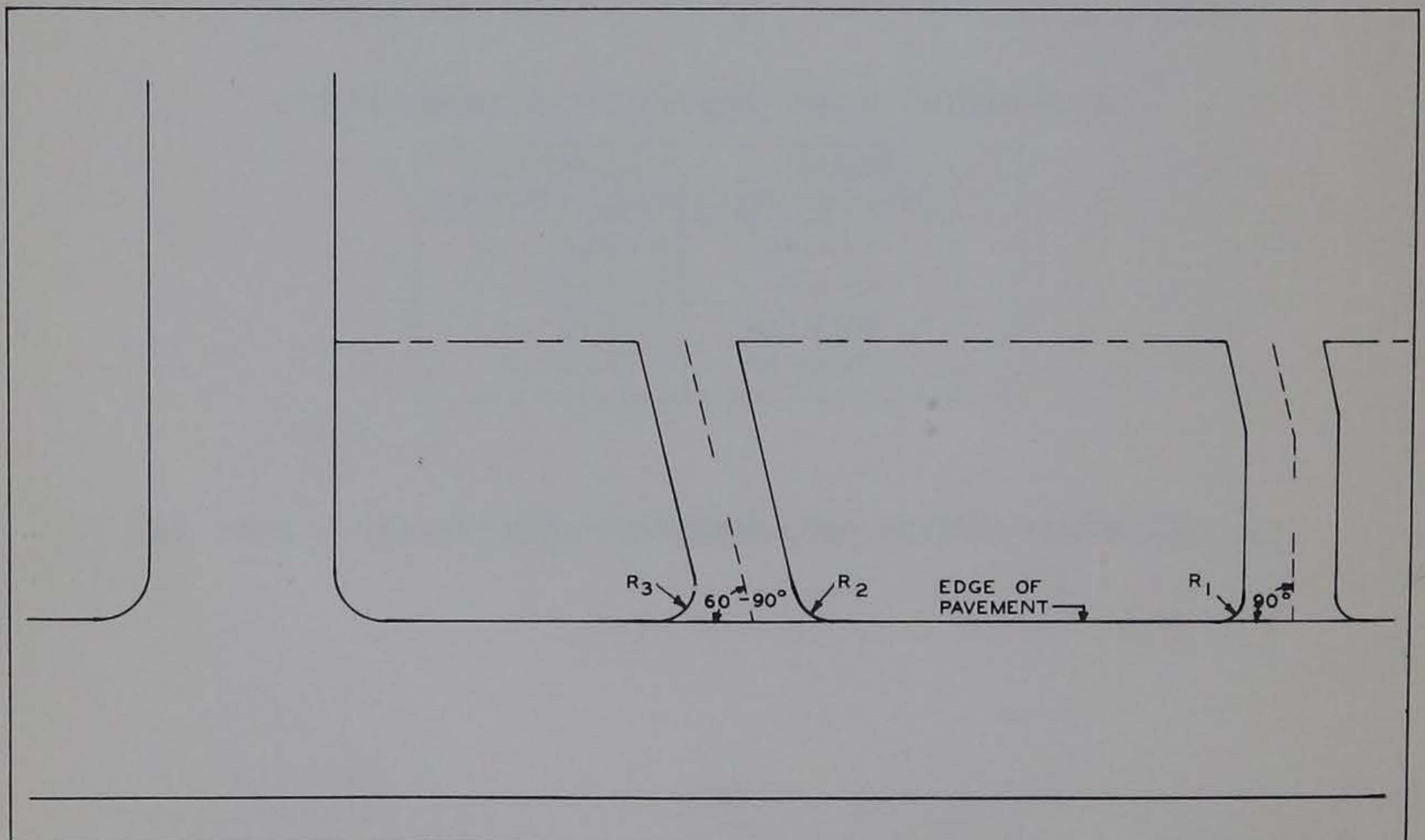
POSTED SPEED LIMIT	MINIMUM SIGHT DISTANCE
70 MPH	950 FT.
60 MPH	750 FT.
50 MPH	550 FT.
40 MPH	450 FT.

II. OTHER DESIGN REQUIREMENTS -- SEE TABLE 3 PAGE 22

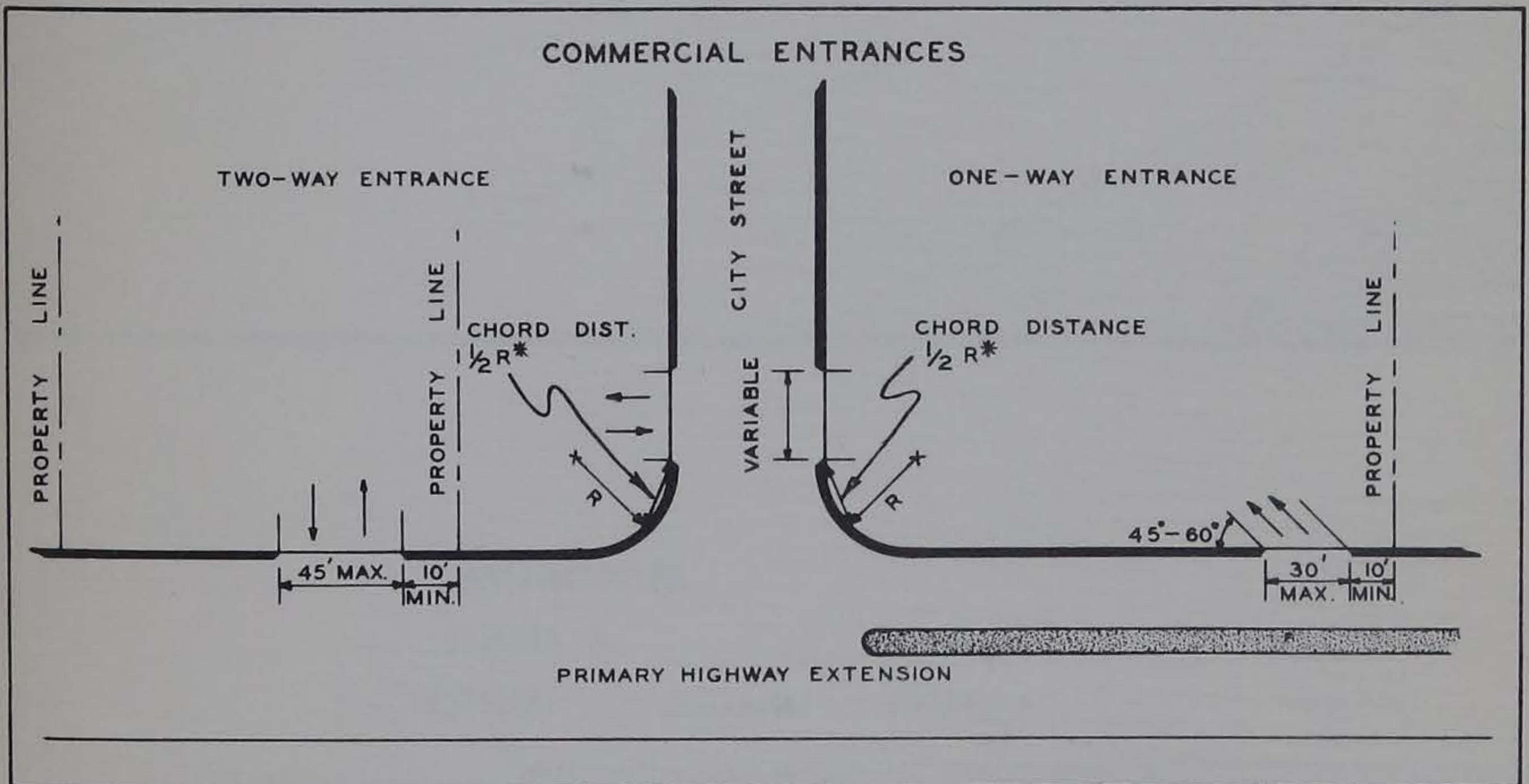
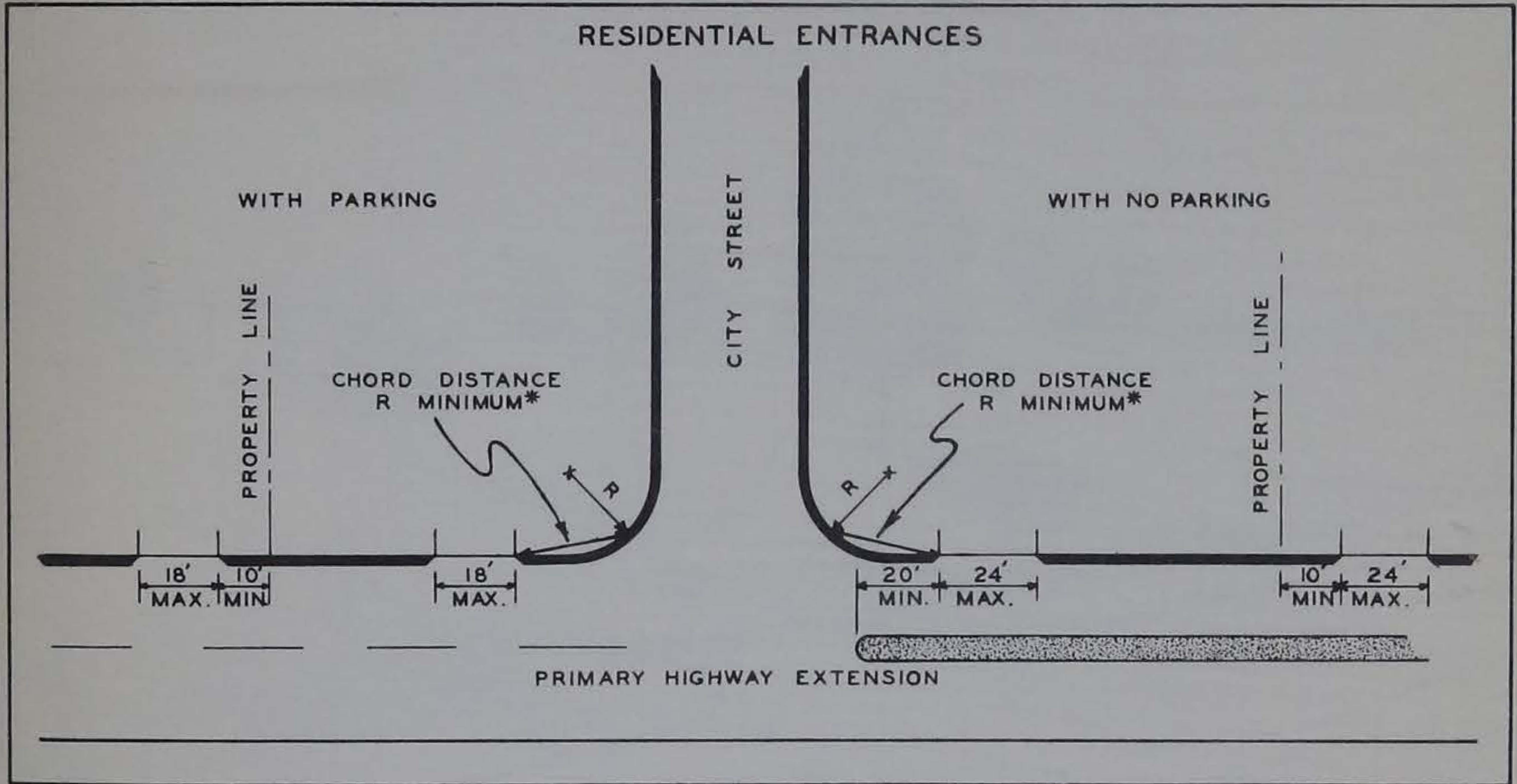
TABLE 3

OTHER MINIMUM STANDARDS FOR ENTRANCES TO
CLASS II, III, & IV, HIGHWAYS IN RURAL OR FRINGE AREAS
WHERE ACCESS HAS NOT BEEN ACQUIRED

DESIGN FEATURE	COMMERCIAL ENTRANCE	NON-COMMERCIAL ENTRANCE
I. ENTRANCE ANGLE		
A. TWO WAY OPERATION	60°-90°	90°
B. ONE-WAY OPERATION		
1. ENTRANCE	45°-60°	--
2. EXIT	60°-90°	--
II. MAXIMUM RETURN RADIUS		
A. ENTRANCE ANGLE OF 90° R ₁ =	45 FT.	15 FT.
B. ENTRANCE ANGLE NOT 90°		
1. R ₂ =	60 FT.	--
2. R ₃ =	20 FT.	--
III. MAXIMUM SIDESLOPES OF ENTRANCE	2:1	2:1
IV. ELEVATION DIFFERENCE BETWEEN SHOULDER LINE AND POINT ON ENTRANCE CENTERLINE ABOVE CULVERT PIPE.		
A. MINIMUM	4 IN.	4 IN.
B. MAXIMUM	8 IN.	8 IN.

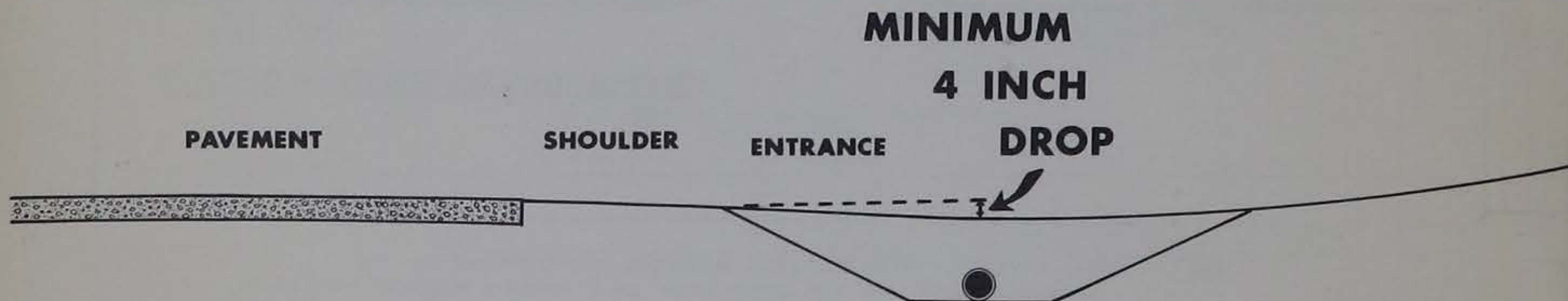


**II. TYPICAL ENTRANCES TO CLASS II, III, AND IV HIGHWAYS
IN BUILT - UP AREAS
WHERE ACCESS HAS NOT BEEN ACQUIRED**



NOTE:* THE MINIMUM CHORD DISTANCE BETWEEN THE MIDPOINT OF THE STREET RETURN AND THE CURB DROP ON A PRIMARY HIGHWAY EXTENSION, IS EQUAL TO THE RADIUS (R) OF THE STREET RETURN; ON A CITY STREET, THE MINIMUM CHORD DISTANCE IS ONE HALF OF THE RADIUS ($\frac{1}{2}R$).

**CROSS SECTION STANDARDS FOR ENTRANCES
TO HIGHWAYS IN RURAL AND FRINGE AREAS
WHERE ACCESS HAS NOT BEEN ACQUIRED**



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