

be obtained, by and at the expense of the applicant, from the affected property owners on a form prescribed by the Department, available on the Department's website. The releases must be notarized and recorded, by and at the expense of the applicant, in the County Office of the Recorder of Deeds.

(e) *Multiple driveways.* Multiple driveways serving the same property must be separated by a minimum **tangential** distance of 15 feet measured along the right-of-way line and 20 feet measured along the shoulder, ditch line[,] or curb. When the **tangential** distance between multiple driveways is 50 feet or less measured along the shoulder or ditch line, the **Department may require the** area between **[shall] to** be clearly defined by permanent curbing. This curb shall be placed in line with existing curb or **[two] 2** feet back of the shoulder or ditch line on uncurbed highways. It shall be extended around the driveway radii to the right-of-way line.

(f) *Site requirements.* Site requirements shall be as follows:

(1) **[All nonresidential] Nonresidential** buildings shall be located a sufficient distance from the right-of-way line to provide ample driving area and parking off the right-of-way to prevent storage of vehicles on the **[access]** driveways and to prevent the back-up and turning of vehicles on the highway pavement.

* * * * *

(h) *Sight distance.* **[Conditions for sight distance shall be as follows:**

(1) Access driveways shall be located at a point within the property frontage limits which provides at least the minimum sight distance listed in the appropriate following table:

Table 1—Safe Sight Distance for passenger cars and single unit trucks exiting from driveways onto two-lane roads.

Posted Safe Sight		Safe Sight
Speed Distance—Left ¹		Distance—Right ¹
(mph)	(feet)	(feet)
25	250	195
35	440	350
45	635	570
55	845	875

¹ Measured from a vehicle ten feet back of the pavement edge.

Table 2—Safe Sight Distance for buses and combinations exiting from driveways onto two-lane roads.

Posted Safe Sight		Safe Sight
Speed Distance—Left ¹		Distance—Right ¹
(mph)	(feet)	(feet)
25	400	300
35	675	625
45	1225	1225

55 2050 2050

¹ Measured from a vehicle ten feet back of the pavement edge.

Table 3—Safe Sight Distance for passenger cars and single unit trucks exiting from driveways onto four and six-lane roads.

Posted Safe Sight		Safe Sight
Speed Distance—Left ¹		Distance—Right ²
(mph)	(feet)	(feet)
25	175	195
35	300	350
45	500	570
55	785	875

¹ Measured from a vehicle ten feet back of the pavement edge to a vehicle approaching in the outside lane.

² Measured from a vehicle ten feet back of the pavement edge to a vehicle approaching in the median lane.

Table 4—Safe Sight Distance for buses and combinations exiting from driveways onto four and six-lane roads.

Posted Safe Sight	Safe Sight
Speed Distance—Left¹	Distance—Right²
(mph) (feet)	(feet)
25	300
35	625
45	1225
55	2050

¹ Measured from a vehicle ten feet back of the pavement edge to a vehicle approaching in the outside lane.

² Measured from a vehicle ten feet back of the pavement edge to a vehicle approaching in the median lane.

Table 5—Safe Sight Distance for passenger cars and single unit trucks entering driveways by left turns.

Posted Speed Safe Sight Distance in Feet¹

(mph)	2-Lane	4-Lane	6-Lane
25	190	205	220
35	300	320	345
45	445	470	500

55 610 645 680

¹ Measured from the point where a left-turning vehicle stops to a vehicle in the outside lane.

Table 6—Safe Sight Distance for buses and combinations entering driveways by left turns.

Posted Speed Safe Sight Distance in Feet¹

(mph)	2-Lane	4-Lane	6-Lane
25	330	360	390
35	485	530	575
45	690	750	810
55	905	990	1075

¹ Measured from the point where a left-turning vehicle stops for a vehicle in the outside lane.

(2) In using Tables 1 through 6 the following additional requirements shall apply:

(i) Tables 2, 4, and 6 shall be used in lieu of Tables 1, 3, and 5 only when combination traffic exceeds 5.0% of the total traffic using the proposed driveway.

(ii) Posted speeds shall be used unless operating speeds vary from the posted speed by more than ten miles per hour, in which case the Department may require that operating speeds be used.

(iii) The sight distances in Tables 1 through 4 apply only when highway grades are zero to 3.0%, either up or down.

(A) When the highway grade in the section to be used for acceleration, after leaving the driveway, ascends at 3.0—5.0%, the sight distance in the direction of approaching ascending traffic may be increased by a factor of 1.4.

(B) When the highway grade ascends at greater than 5.0%, sight distance may be increased by a factor of 1.7.

(C) When the highway grade in the section to be used for acceleration after leaving the driveway descends at 3.0—5.0%, sight distance in the direction of approaching descending highway traffic may be reduced by a factor of 0.6.

(D) When the road descends at greater than 5.0%, sight distance may be reduced by a factor of 0.5.

(iv) The sight distance values in Tables 1 through 6 are desirable for safe operation of the driveway. Sight distance values less than desirable will be accepted only if it is impossible to achieve the desirable value by locating the driveway at any point within the property frontage boundaries. The minimum acceptable sight distance values shall be computed from the following formula:

$$\text{SSSD} = 1.47 V_t \frac{V^2}{30 (f+g)}$$

SSSD = Minimum safe stopping sight distance (feet).

V = Velocity of vehicle (miles per hour).

t = Perception time of motorist (average = 2.5 seconds).

f = Wet friction of pavement (average = 0.30).

g = Percent grade of roadway divided by 100.

(3) If sight distance requirements as specified in this chapter cannot be met, the Department may:

- (i) prohibit left turns by exiting vehicles;**
- (ii) restrict turning movements to right turns in and out of a driveway;**
- (iii) require installation of a right turn acceleration lane or deceleration lane;**
- (iv) require installation of a separate left turn standby lane;**
- (v) alter the horizontal or vertical geometry of the roadway; or**
- (vi) deny access to the highway.]**

~~Achieving optimal sight distance along the property frontage must be considered when determining the location of the driveway. The following shall apply:~~

(1) For intersection sight distance, a driveway must be located at a point within the property frontage limits which provides at least the minimum intersection sight distance as required by 23 CFR 625.4 (relating to standards, policies, and standard specifications), and as set forth in the Department's Design Manual Part 2.

(2) For stopping sight distance, the stopping sight distance formula, as required by 23 CFR 625.4 and as set forth in the Department's Design Manual Part 2, may be used to determine the minimum acceptable sight distance values for a driveway only if it is impractical or infeasible to achieve intersection sight distance values by locating the driveway at any point within the property frontage boundaries. IF IT IS IMPRACTICAL OR INFEASIBLE TO ACHIEVE INTERSECTION SIGHT DISTANCE VALUES BY LOCATING THE DRIVEWAY AT ANY POINT WITHIN THE PROPERTY FRONTAGE BOUNDARIES, THE STOPPING SIGHT DISTANCE FORMULA, AS REQUIRED BY 23 CFR § 625.4 AND AS SET FORTH IN THE DEPARTMENT'S DESIGN MANUAL PART 2, MAY BE USED TO DETERMINE THE MINIMUM ACCEPTABLE SIGHT DISTANCE VALUES FOR A DRIVEWAY. **For the purpose of measuring the available sight distance, the driver's eye, when exiting from the driveway, should be assumed to be a minimum 10 feet back from the near edge of the traveled way.**

(3) IF SIGHT DISTANCE REQUIREMENTS AS SPECIFIED IN THIS CHAPTER CANNOT BE MET, THE DEPARTMENT MAY DO ANY OF THE FOLLOWING:

- (i) PROHIBIT LEFT TURNS BY EXITING VEHICLES.**
- (ii) RESTRICT TURNING MOVEMENTS TO RIGHT TURNS IN AND OUT OF A DRIVEWAY.**
- (iii) REQUIRE INSTALLATION OF A RIGHT TURN ACCELERATION LANE OR DECELERATION LANE.**

(iv) REQUIRE INSTALLATION OF A SEPARATE LEFT TURN STANDBY LANE.

(v) ACCEPT ENGINEERED PLANS THAT DEPICT GRADING OR MODIFICATIONS REQUIRED TO ACHIEVE SIGHT DISTANCE REQUIREMENTS.

(vi) ALTER THE HORIZONTAL OR VERTICAL GEOMETRY OF THE ROADWAY.

(vii) DENY ACCESS TO THE HIGHWAY.

(i) *Grade of [access] driveway.* [Grade of access] The grade of the driveway shall be constructed in the following manner:

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(2) Where a drainage ditch or swale exists, the permittee shall maintain an adequate swale across the driveway or install an adequate pipe under the driveway in accordance with [Form 408] the Department's Design Manual Part 2 and the Department's specifications. Drainage pipe installed under driveways shall be at least 15 inches in diameter.

(3) The side slopes for driveway embankments within the right-of-way shall not be steeper than [ten to one. See Figure 6] 10:1, unless the roadway slope is steeper than 3:1 and guide rail exists at the top of the roadway slope.