

# 800 Access Control, R/W Use Permits and Drive Design

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## 801 ACCESS CONTROL

### *801.1 Access Control Directives*

Access policies for highway right-of-way are as set forth in the following directives:

The State Highway Access Management Manual establishes procedures for processing permit applications, defines permissible uses of right of way for various highway classifications and establishes procedures and standards for access provisions adjacent to major commercial and industrial developments.

It is intended that *Section 800* of this manual supplement the State Highway Access Management Manual with respect to access policies and R/W use permits as well as provide the designer with the criteria necessary to design most types of drives.

### *801.2 Access Control Policies*

The policy of permitting access on highways is summarized below:

#### **801.2.1 Interstate Limited Access**

Direct access to an Interstate Highway will not be permitted except as outlined in *Sections 801.2.6* and *801.2.7*. All crossroads and railroad grades shall be separated.

#### **801.2.2 Limited Access**

If a highway is now, or is designated to be an ultimate fully limited access freeway and access rights have been acquired:

1. If the highway has no existing private access points, direct private access to such highway will not be permitted.
2. If the highway has existing private access points and the ultimate freeway design has been determined, temporary access improvements may be permitted. However, at the time the improvement is permitted, the method for deleting the temporary access points must be determined and necessary agreements made with the property owner to facilitate their deletion in the future.
3. If the highway has existing private access points and the ultimate freeway design has not been established, modifications of existing access will not be permitted until the ultimate freeway design has been determined.
4. Provision generally shall be made for future separation of crossroads and railroad grades by purchase of right-of-way as a part of the initial project.

#### **801.2.3 Controlled Access Highways**

Modifications of existing points of access or changes from one location to another within the limits of the applicant's property may be permitted, if such modification or change would be beneficial to both the highway operation and property development. However, new additional points of access will not be permitted. Crossroads and railroads need not be separated unless very high volumes dictate its consideration.

#### **801.2.4 Non-Limited Access Highways**

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Access to a non-limited access highway is permissible in accordance with the State Highway Access Management Manual. However, such access is subject to the conditions prescribed by the Director of Transportation under authority granted by *Section 5515.01* of the Ohio Revised Code.

### 801.2.5 Interchange Controls

No access shall normally be allowed on intersecting highways adjacent to highway interchanges for a minimum of 600 feet at diamond-type interchanges and 1,000 feet at other types of interchanges. This distance applies to each direction along the intersecting highway, measured from the outer-most ramp terminal intersections with the highway. See *Figures 801-1* and *801-2* for additional details.

### 801.2.6 Locked-Gate Access to Freeways and other Limited Access Highways

Locked-gate access to freeways and other limited access highways is considered an access point and requires documentation of the proposal for approval. Locked-gate access to interstates for purposes other than roadside maintenance requires submission to and approval by FHWA. The Office of Roadway Engineering will evaluate submissions for freeways and other limited access highways, and will coordinate submissions with FHWA for interstates.

The typical purpose for locked gate access is for emergency access or roadside maintenance from areas outside of the highway right-of-way. Since the gate is intended for a few select users, they should be inconspicuous to the general travelling public with limited improvements. Key consideration in the location and design of locked-gate access are sight distance where vehicles will be entering the freeway and acceleration of the entering vehicles. The proposal document should clearly describe to whom the access is granted, how the access will be secured, and maintenance responsibilities. Locked-gate access for purposes other than roadside maintenance must be sponsored by a public agency.

Locked-gate access to interstate highways for the purpose of roadside maintenance do not require FHWA submission and approval.

### 801.2.7 Temporary Construction Access to **Limited Access Facilities**

Temporary access to the construction site by way of an L/A break must conform to CMS 107.10. The approving authority depends on whether the access is located on the Interstate System and if the access allows construction vehicles access to the travel lanes. Approvals for all temporary construction access through limited access right-of-way will expire at the conclusion of the project construction and the right-of-way must be fully restored, including replacement of all fencing, as applicable.

#### **801.2.7.1 Temporary Construction Access on the Interstate System**

Temporary access to the construction site on the interstate system by way of an L/A break that does not provide access for construction vehicles to the travel lanes must be reviewed and accepted by the District Construction Engineer, District Real Estate Administrator, and District Environmental Coordinator. Upon acceptance of those three parties, the District Real Estate Administrator will coordinate with the FHWA Ohio Division for final approval.

Temporary access to the construction site on the interstate system by way of an L/A break that provides access for construction vehicles to the travel lanes must be reviewed and accepted by the District Construction Engineer, District Real Estate Administrator, and District Environmental Coordinator prior

to submission to the Office of Roadway Engineering. The Office of Roadway Engineering will review and offer acceptance of the proposed temporary access to and/or from the travel lanes. Upon acceptance by The Office of Roadway Engineering, the District Real Estate Administrator will coordinate with the FHWA Ohio Division for final approval.

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## **801.2.7.2 Temporary Construction Access on non-Interstate Limited Access Facilities**

Temporary access to the construction site on non-Interstate Limited Access Facilities by way of an L/A break that does not provide access for construction vehicles to the travel lanes must be reviewed and approved by the District Construction Engineer, District Real Estate Administrator, and District Environmental Coordinator.

Temporary access to the construction site on non-Interstate Limited Access Facilities by way of an L/A break that provides access for construction vehicles to the travel lanes must be reviewed and accepted by the District Construction Engineer, District Real Estate Administrator, and District Environmental Coordinator prior to submission to the Office of Roadway Engineering. The Office of Roadway Engineering will review and approve the proposed temporary access to and/or from the travel lanes.

## **802 HIGHWAY USE PERMITS**

### **802.1 General R/W Use Criteria**

#### **802.1.1 Approvals and Agreements**

Permission to use highway R/W is required for fencing, storm sewers, sanitary sewers, public utilities, points of access, or other similar types of work. ODOT does not allow non-ODOT agencies to use ODOT right of way for the purpose of locating stormwater Best Management Practices (BMPs). When a request is made to alter, modify or otherwise use highway R/W, Federal and/or State approvals must be obtained and the necessary agreements or permits between the State and applicant must be completed before any work can be initiated.

#### **802.1.2 Authority**

Permits for the use or occupancy of State Highway right-of-way may be granted, upon formal application, by the Director of Transportation. Such permits, when granted, shall be subject to the policies and regulations set forth herein under authority granted by *Section 5515.01* of the Revised Code of Ohio.

#### **802.1.3 Application Procedures**

The procedure for applying for permits is included in the State Highway Access Management Manual.

#### **802.1.4 Right-of-Way Use Prohibitions**

No parking, servicing of vehicles, erection of lights, signs or other advertising devices will be permitted on highway right-of-way. Similarly, no device or structure will be permitted to overhang highway right-of-way. Provisions should be made in the design of driveways or approaches on rural highways so that a vehicle will not be required to back onto the right-of-way or highway pavement to gain access to the highway.

#### **802.1.5 Future Highway Improvement Controls**

When granting permits, consideration should be given to the extent of future highway improvements. The location and design of driveways or public road approaches should then be governed by the general access criteria (*Section 802.2*) of the future highway facility.

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## 802.1.6 Drainage Considerations

When any owner or developer of land adjacent to highway R/W proposes to route site drainage into the highway drainage system, see the Location and Design Manual, Volume 2, Section 1001.4 for guidance.

## 802.2 General Access Criteria

### 802.2.1 Highway Access Considerations

The basic considerations that govern the location and design of highway access shall be to facilitate:

1. The safe and expeditious movement of vehicles on the street or highway.
2. The provision of the best service possible to the private or public facility being served by the drive access.
3. The safe movement of pedestrian traffic.

### 802.2.2 Median Openings

Median openings are normally not permitted on divided highways. Exceptions may be for public roads or streets or traffic generators such as large shopping centers or industrial plants, if satisfactorily justified and in the public interest.

If a median opening exists prior to the construction of a drive, the opening may be further modified, including relocation, to accommodate the turning movements of the expected traffic. The design modifications shall, however, be consistent with the overall design of the highway.

### 802.2.3 Added Highway Lanes

The construction of an additional lane adjacent to the existing highway lanes to serve as right or left turn lanes may be permitted if benefit to the operation of the through highway will result. The design of any added lane must be consistent with the overall design of the highway and *Section 401.6*.

### 802.2.4 Number of Drives Permitted and Their Location

Refer to Section 4.0 of the State Highway Access Management Manual for the acceptable access locations and the number permitted.

### 802.2.5 Joint Drives

A jointly owned drive may be permitted upon joint application by both property owners.

### 802.2.6 Location of Drive in Relation to Side Property Line

*Figure 802-1* shows the controls for locating drives in relation to side property lines.

1. Controls
  - a. 90° Control Line - a line at right angles to the centerline of the highway which extends through the intersection of the side property line with the highway right-of-way line.
  - b. 4-foot Control - maximum width of driveway approach flare as measured along the 90° control line from the highway edge of traveled way.

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2. Curbed Highways - the approach radius may begin at the intersection of the 90° control line with the highway edge of traveled way but may not cross the 90° control.
3. Uncurbed Highways - the approach radius, but not the approach edge extension, may cross the 90° control line within the limits of the 4-foot control.

A permit may be issued for the construction of a driveway which encroaches on the abutting property frontage in excess of the controls set forth above only when written permission from the affected property owner is presented and made a part of the State's record of the permit, and only when such encroachment does not interfere with an existing driveway. It shall be the responsibility of the permit applicant to make all necessary arrangements and agreements with the affected property owners when the relocation of existing driveways is necessary. The expense involved shall be borne by the applicant.

### 802.2.7 Location of Drive in Relation to an Intersection

For acceptable locations of driveways near intersections, see Section 4.0 of the State Highway Access Management Manual.

### 802.2.8 Drive Sight Distance

Wherever possible, drives should be located in accordance with the intersection sight distance criteria in *Section 201.3*.

### 802.2.9 Drives with Restricted Movements

In some situations, it is desirable to control or prohibit certain movements through the use of median islands or channelizing islands. Median islands divide the ingress and egress movements and are used to prevent cross movements of internal traffic (See *Section 304.3.2*, *Section 401.7.3* and *Section 803.6*). Channelizing islands are used to control and direct turning movements on a driveway approach (See *Section 401.7.2*).

## **803 DRIVE GEOMETRIC DESIGN**

### 803.1 Mailbox Facilities

#### 803.1.1 Mailbox Supports

Mailbox installations located within the clear zone shall be installed as shown in *Figure 803-1* using "breakaway" type supports. Satisfactory supports are as follows:

1. Maximum 4 inches by 4 inches square or 4½ inch diameter round timber.
2. Maximum 2 inch diameter (2-3/8" O.D.) Schedule 40 standard strength steel pipe.
3. Any material with breakaway cross section characteristics equivalent to 1 or 2 above.

Group mailbox supports should be placed on three foot centers and the turnout lengthened to accommodate the grouping. No more than two mailboxes shall be placed on each post.

Where guardrail exists, mailboxes and their supports should be located behind the guardrail. Supports must still meet the breakaway requirements listed above.

#### 803.1.2 Mailbox Turnouts

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Where the existing or proposed highway shoulder paving is less than 6 feet wide, mailbox turnouts should be provided as shown in *Figure 803-1* and *SCD BP-4.1*. Mailbox turnouts should be constructed of the same material used in the drive approach and combined with the drive approach where possible.

### **803.2 Rural Residential and Field Drives**

Rural residential drives and field drives should normally conform to the Type 1 design shown in *SCD BP-4.1*.

#### **803.2.1 Drive Intersection Angle**

New drives should intersect the highway at an angle between 70° and 90°. However, in some cases, it may be necessary to retain existing drive angles that vary from these desirable angles.

#### **803.2.2 Drive Widths**

If the project involves existing drives, the existing width is normally retained unless it is less than 12 feet. In which case, it should be widened to provide a 12 foot throat width. In the case of new drives, the width should normally be 12 feet. If the new driveway is a combined drive between two properties, the width should normally not exceed 24 feet. Also, a wider field drive may be used if it will keep the farm equipment operator from encroaching on the opposing traffic lane when entering or exiting the highway.

#### **803.2.3 Drive Radii**

The radii of the Type 1 driveway should normally be 25 feet. The radii may be increased on field drives if it is deemed that the larger values will improve driveway operation and reduce the hazard to the motorists and farm equipment operator.

#### **803.2.4 Curbed Drives**

Driveways abutting uncurbed highways may be curbed. However, the curb shall not extend closer to the mainline edge of traveled way than 8 feet or the treated shoulder width, whichever is greater, to avoid curb obstruction for vehicles, snowplows, etc., using the shoulder and be transitioned in height per *Section 305.4.1*.

### **803.3 Urban Residential Drives**

Either Type 1 or 2 drives, shown in *SCD BP-4.1*, may be used in urban areas. If used in urban areas, the radii and flare dimensions may be reduced so that the apron does not extend past the back of the sidewalk, or past the right-of-way line if there are no sidewalks. The desirable minimum radii for Type 1 drives, when the through highway is curbed, is 15 feet.

Shown on *Figure 803-2* are three methods for designing driveways between the curb line and sidewalk to provide for turning vehicles. Other designs may be used if they are approved for use by the local governmental agencies responsible for maintenance of the project. Additional details are shown in *Figure 803-3* when the tree lawn is less than 6 feet. Residential drives on curbed streets should use a dropped curb as shown in *Section B-B on Figure 803-2*.

### **803.4 Service Station Drives**

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--Section Deleted--

### **803.5 Commercial Drives**

The access requirements of most commercial developments can be served by driveways having standard design characteristics. The exceptions are driveways having high traffic volumes, those being used by large vehicles, or those serving businesses which have traffic patterns unique to the business being conducted.

#### **803.5.1 Standard Commercial Drives (See Figure 803-8)**

1. Radii:
  - a. 15 foot minimum, when the through highway is curbed.
  - b. 25 foot minimum, when the through highway is uncurbed.
  - c. Maximum should be based upon the design vehicle turning template.
2. Width - 35 foot maximum
3. A dropped curb should be used on curbed streets as shown in *Section B-B on Figure 803-2*.

#### **803.5.2 Exceptions to Standard Commercial Drives**

Where access requirements are such that a non-standard driveway is necessary, the design may approximate the design of shopping center driveways as discussed in *Section 803.6* or public road intersections, *Section 401*.

Specially designed radii and a width greater than 35 feet may be permitted, as necessary, to accommodate the type vehicle using the driveway. (Example: A truck stop may require two one-way driveways or a single drive with width greater than 35 feet and radii as great as 75 feet to facilitate turning movements).

### **803.6 Shopping Center and Industrial Drives (See Figure 803-9)**

This section is intended as a guide for the design of driveways to high volume traffic generators such as shopping centers, industrial plants, industrial parks, and other types of developments having similar traffic characteristics. Many of the design features discussed in *Section 401*, Intersections At-Grade, will be applicable. Geometric considerations are listed below:

1. Driveways should intersect the highway at an angle between 70° and 90°.
2. Each driveway traffic lane should have a minimum width of 10 feet, with 12 feet preferred.
3. Major driveways in shopping centers should be constructed to prevent cross movement of internal traffic within 100 feet of the entrance approach. This may be accomplished by use of a raised divider, 6 inches high, 6 feet wide (min.) and 100 feet long, and/or by use of curbing, sidewalk or other barrier along the drive edges for a length of 100 feet (See *Figure 803-9*).
4. Driveways designed for traffic signal operation should have curbed radii and should provide a minimum of two lanes for vehicles entering the highway.

### **804 DRIVE PROFILE DESIGN**

#### ***804.1 Drive Profiles (Uncurbed Roadways)***

Drive profiles on uncurbed roadways shall slope down and away from the edge of traveled way at the same slope as the graded shoulder. Any vertical curve should be developed outside the normal graded shoulder width. Vertical curve lengths should be 10 feet to 20 feet, depending on the grade differential. Under normal circumstances, rural drive grades should not exceed 10 percent with 8 percent considered to be the preferred maximum.

#### ***804.2 Residential Drive Profiles (Curbed Roadways)***

The design vehicle used to develop the profile criteria of this section is shown on *Figure 803-2*. The profile criteria shown provides clearance for this vehicle when its springs are completely compressed. If conditions of a particular driveway do not meet the cross-section criteria listed below, a template of the design vehicle can be used to design the driveway profile.

For tree lawns 6 feet or wider, the ramp grade from the gutter to the edge (the ramp cross-slope rate from the gutter to) of the sidewalk will be 1 inch per foot or less for normal cross-section design. *Figure 803-2* shows this condition for the following cross-section conditions:

1. Sidewalk and tree lawn slope of 1/4 inch per foot, and
2. 6 inch height of curb with pavement slope of 3/16 inch per foot or 1/4 inch per foot, or
3. Type 2 curb and gutter with pavement slope of 3/16 inch per foot.

If the cross-section design does not meet the above conditions (has sharper grade breaks), the profile should be designed using a template of the design vehicle.

For tree lawns less than 6 feet wide, *Figure 803-3* shows the profile treatment. Clearance for the design vehicle is achieved by depressing the sidewalk 1 inch at the driveway. The sidewalk cross-slope of 1/4 inch per foot is retained. The design may be used directly with curbed highways having cross-section criteria as listed above and the profile conditions of *Figure 803-2*. For other cross-sections, a template of the design vehicle may be used to design the profile.

*Figure 803-3* shows an isometric view and profile for a driveway where only a 3-foot tree lawn is available. This design is shown, not because it is desirable, but because right-of-way width and property development may require this type of design. Whenever feasible, the tree lawn should be 8 feet or wider, as discussed in *Sections 306.2.4 and 306.2.5*.

Where the total width of tree lawn and sidewalk is less than 7 feet, the minimum 3-foot apron designs are inappropriate, and cannot be used, as they extend curb or sharp flares into the sidewalk area. For this condition, the sidewalk and curb are transitioned to meet the drive profile as shown on the lower portion of *Figure 803-3*. The profile of the drive meets the 1 inch depressed grade of the sidewalk as shown in the drive profile of *Figure 803-3*.

The tree lawn and walk design shown in *Figures 803-2 and 803-3* will keep storm water, flowing at the curb design height or less, from flowing over the sidewalk. If it is necessary to lower the curb and sidewalk more than 1 inch, the drainage condition should be checked thoroughly.

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### 804.3 Commercial Drive Profiles (Curbed Roadways)

Commercial drive profiles usually use a dropped curb across the approach. However, some commercial drives serving large traffic generators may be designed as at-grade intersections, without dropped curbs, because of their high traffic volumes.

Shown on *Figure 804-1* are the grade controls for commercial driveways. The grade should be as flat as possible and still meet drainage requirements. The 20-foot length between grade breaks is required by the low clearance and the long axle spacing of the commercial design vehicle (*Figure 804-2*). Tree lawn profile design should be in accordance with *Figures 803-2* and *803-3*. The grade break at the face of the curb is critical for some commercial vehicles and the cross-section requirements for residential drives on curbed streets should be used.

## 805 DRIVE PAVEMENT DESIGN

### 805.1 Field Drives

Field driveways should be paved with 6 inches of 411 or 304 aggregate. They shall be paved from the edge of traveled way or treated shoulders, to a point where the grade of the new driveway intersects the grade of the existing driveway, or on relocated driveways to where the grade of the new driveway intersects the existing ground.

### 805.2 Residential Drives

Residential driveways shall be paved from the edge of new pavement to the point where the grade of the new driveway intersects the grade of the existing driveway, or on relocated driveways to the point where the geometric limits of the new driveway meet the existing driveway.

Residence driveways having an existing hard surface or an existing aggregate surface shall be replaced with a pavement of a similar type, insofar as practicable, using one of the following designs for the portion beyond the flared apron:

1.	6 inches	452	Non-Reinforced Concrete Pavement
2.	2 inches	441	AC Surface Course, Type 1, (448), PG64-22
	6 inches	304	Aggregate Base (or 411 Stabilized Crushed Aggregate)
3.	1.25 inches	441	AC Surface Course, Type 1, (448), PG64-22
		407	Tack Coat
	3.5 inches	301	Asphalt Concrete Base, PG64-22
4.	8 inches	304	Aggregate Base (or 411 Stabilized Crushed Aggregate)

For the Item 407 Tack Coat application rate, see CMS 407.06  
The Item 411 Asphalt Concrete may be changed to match the asphalt concrete material specified on the adjacent pavement.

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In uncurbed areas, the apron pavement design depends on the treated shoulder material as follows:

1. The flared portion of residence driveways adjacent to paved shoulders shall be constructed of the same material and composition as used in the treated shoulder paving.
2. The flared portion of residence driveways adjacent to surface treated aggregate shoulders shall be constructed of the same material as used in the treated shoulder, except it shall be surfaced with 2 inches of 441 Asphalt Concrete, Type 1, (448), PG64-22.
3. The flared portion of residence driveways on projects for which earth shoulders are specified shall be paved with either 6 inches 452 Non-Reinforced Concrete Pavement, or with 2 inches of 441 Asphalt Concrete, Type 1, (448), PG64-22 on 6 inches of 411 or 304 aggregate.

### 805.3 Commercial Drives

Commercial driveways shall be paved from the edge of the new pavement to the point where the grade of the new driveway intersects the grade of the existing driveway, or on relocated driveways to the point where the geometric limits of the new driveway meet the existing driveway.

Commercial driveways having an existing hard surface or aggregate surface shall be replaced with a pavement of a similar type insofar as practical, using one of the following designs for the portion beyond the return or apron:

Additional thicknesses may be provided for the above courses where unusual weights or types of vehicles are expected to use the commercial driveway.

Commercial driveway aprons shall be constructed as previously outlined for residential driveway aprons, except that additional thicknesses should be provided to meet nominal pavement design for commercial driveways.

1.	8 inches	452	Non-Reinforced Concrete Pavement
2.	1.25 inches	441	AC Surface Course, Type 1, (448), PG64-22
		407	Tack Coat
	1.75 inches	441	AC Intermediate Course, Type 2, (448)
	8 inches	304	Aggregate Base
3	1.25 inches	441	AC Surface Course, Type 1, (448), PG64-22
		407	Tack Coat
	5 inches	301	Asphalt Concrete Base, PG64-22

For the Item 407 Tack Coat application rate, see CMS 407.06.  
The Item 441 Asphalt Concrete may be changed to match the asphalt concrete material specified on the adjacent pavement.

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### *805.4 Pavement Treatment of Undisturbed Drives*

The preceding treatment of driveways does not apply to resurfacing or widening and resurfacing projects when the existing driveway is not disturbed beyond the edge of proposed pavement. Item 411 or 304 aggregate shall be used to adjust aggregate driveways to meet the new pavement surface for widening and/or resurfacing projects. Asphalt concrete shall be used for adjusting bituminous or concrete driveways to meet the new pavement surface, which adjustment shall be accomplished within a reasonable distance from the edge of the pavement. As a general rule, this can be done within the limits of the roadway shoulders.

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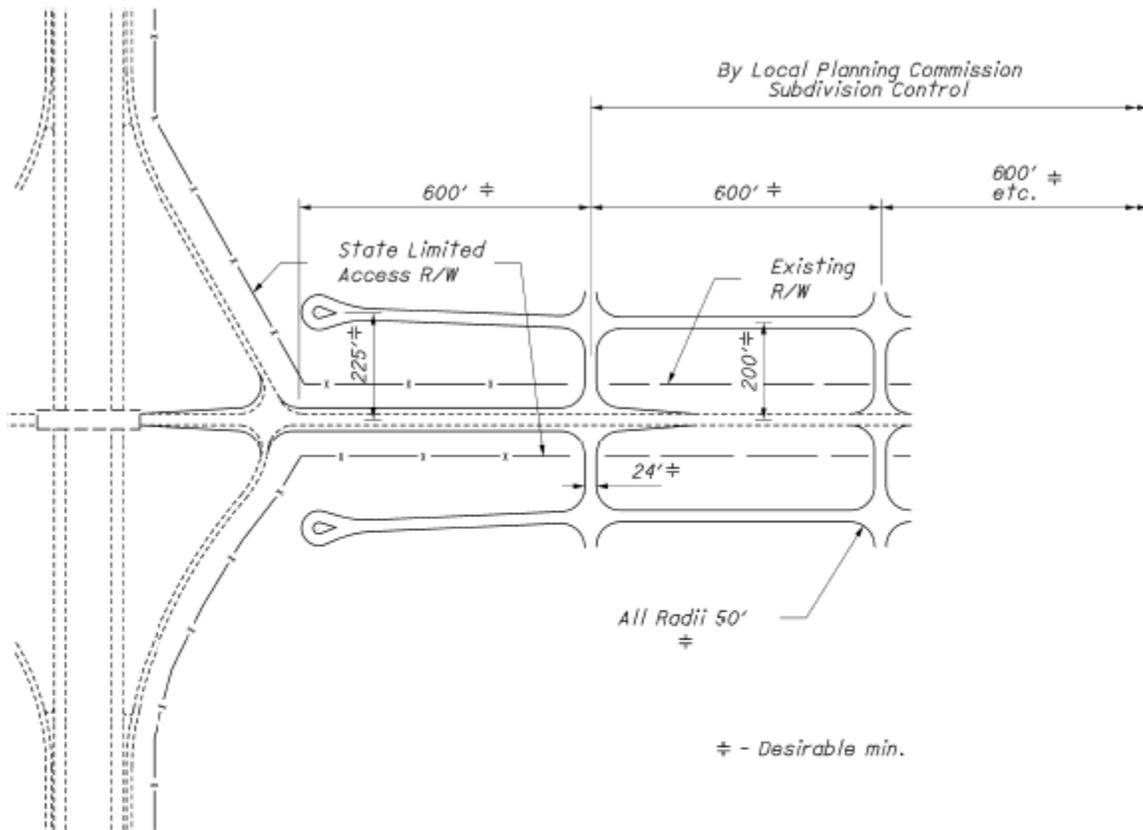
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### LIST OF FIGURES

<i>Figure</i>	<i>Date</i>	<i>Title</i>
801-1	01/2018	Guidelines for Limitation of Access at Diamond Type Interchanges
801-2	01/2018	Guidelines for Limitation of Access at Cloverleaf Type Interchanges
802-1	01/2018	Location of Drives in Relations to Property Lines
803-1	01/2018	Mailbox Facilities
803-2	01/2018	Urban Residential Drive Details
803-3	01/2018	Urban Residential Drive Details
803-8	01/2018	Standard Commercial Drive Designs
803-9	01/2018	Shopping Center & Industrial Drive Designs
804-1	01/2018	Commercial Drive Profile Data
804-2	01/2018	Commercial Design Vehicle

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<b>GUIDELINES FOR LIMITATION OF ACCESS AT DIAMOND TYPE INTERCHANGES</b>	<b>801-1</b>
	REFERENCE SECTION 801.2.5

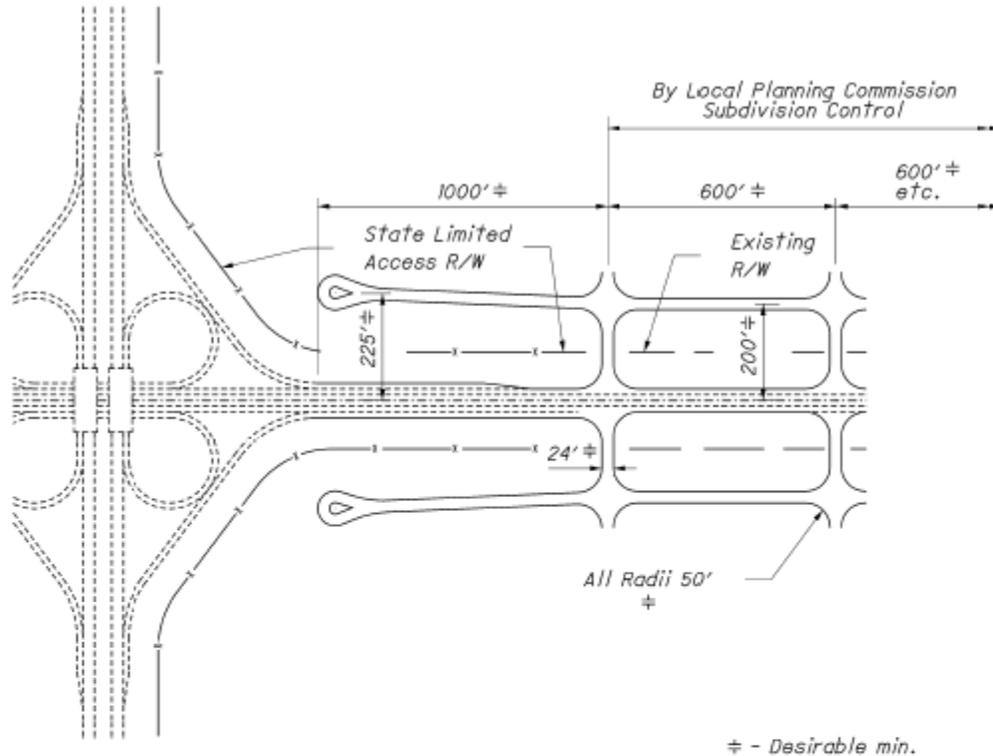


### RURAL INTERCHANGES

*The control of developments, adjacent to diamond type interchanges on limited access highways can be effectively controlled by county, regional, or city planning commissions, through subdivision controls and building developments, and in addition by local zoning commissions as to zoning regulations. County commissioners or township trustees may exercise similar controls in the absence of planning and zoning commissions.*

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<b>GUIDELINES FOR LIMITATION OF ACCESS AT CLOVERLEAF-TYPE INTERCHANGES</b>	801-2
	REFERENCE SECTION
	801.2.5

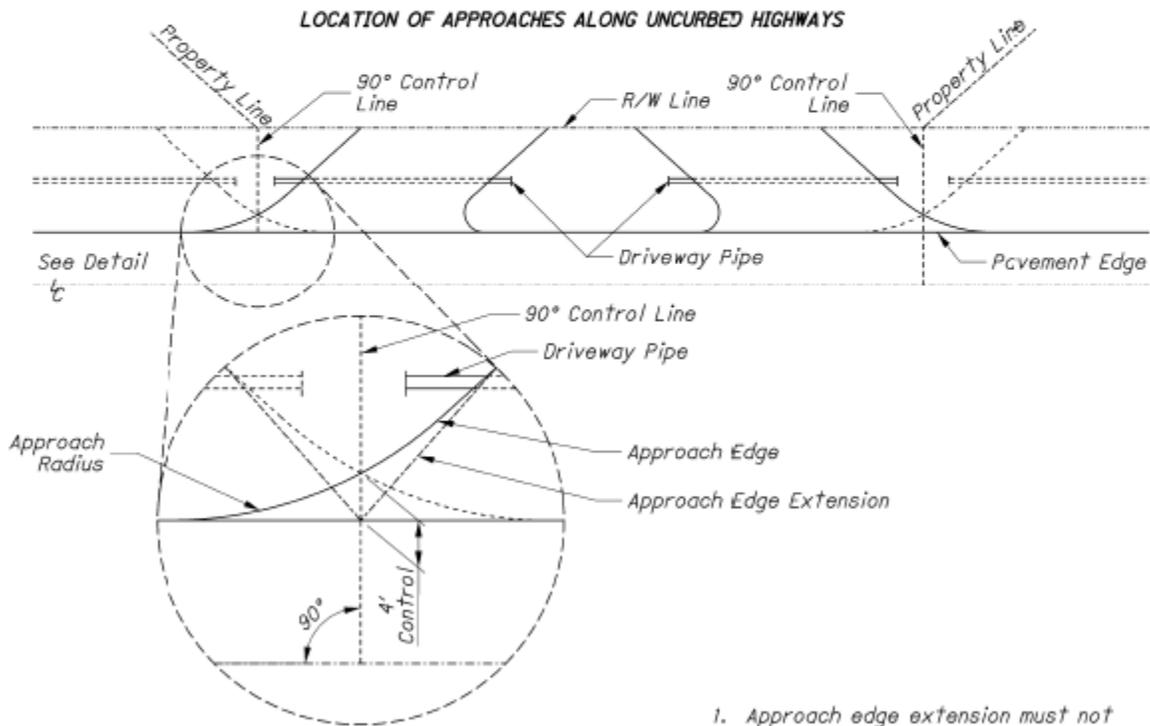
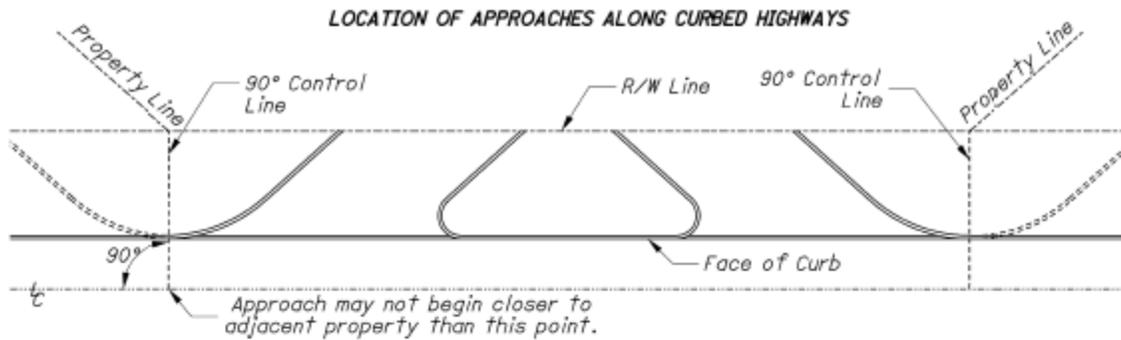


### RURAL INTERCHANGES

*The control of developments, adjacent to cloverleaf type interchanges on limited access highways can be effectively controlled by county, regional, or city planning commissions, through subdivision controls and building developments, and in addition by local zoning commissions as to zoning regulations. County commissioners or township trustees may exercise similar controls in the absence of planning and zoning commissions.*

# 800 Access Control, R/W Use Permits and Drive Design

<b>LOCATION OF DRIVES IN RELATION TO PROPERTY LINES</b>	802-1
	REFERENCE SECTION
	801.2.6

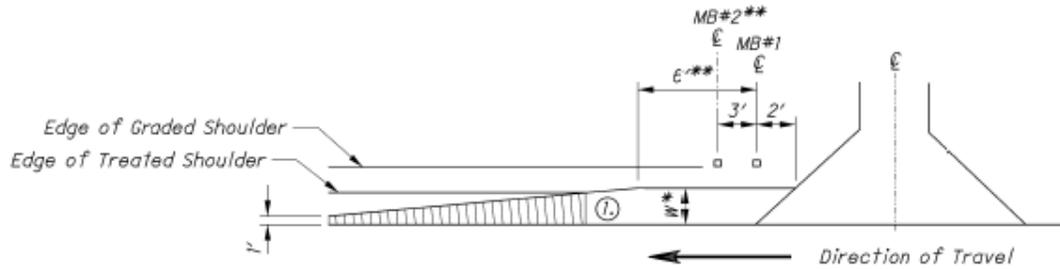


**DETAIL FOR DETERMINING  
MAXIMUM UTILIZATION  
OF HIGHWAY FRONTAGE**

1. Approach edge extension must not cross the 90 degree Control Line
2. Approach Radius may cross the 90 degree Control Line only within the limits of the 4' Control.

# 800 Access Control, R/W Use Permits and Drive Design

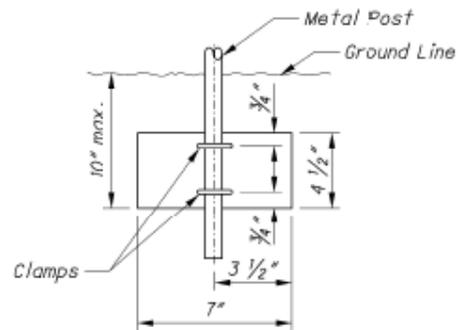
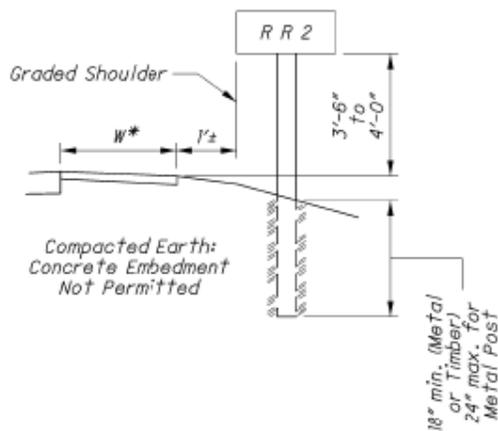
<b>MAILBOX FACILITIES</b>	<b>803-1</b>
	<b>REFERENCE SECTION</b>
	<b>803.1</b>



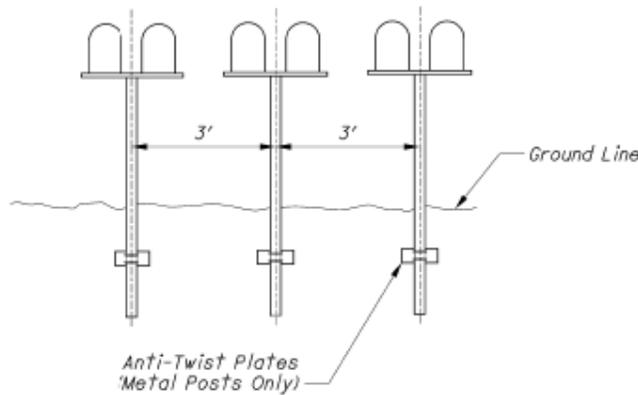
① End mailbox turnout at edge of treated shoulder or  $1'$  which ever is greater

\* Where posts are behind guardrail, turnout shall extend to face of guardrail. Where no guardrail is required, turnout width shall be  $6'$  minimum.

\*\* Add  $3'$  for each additional mailbox



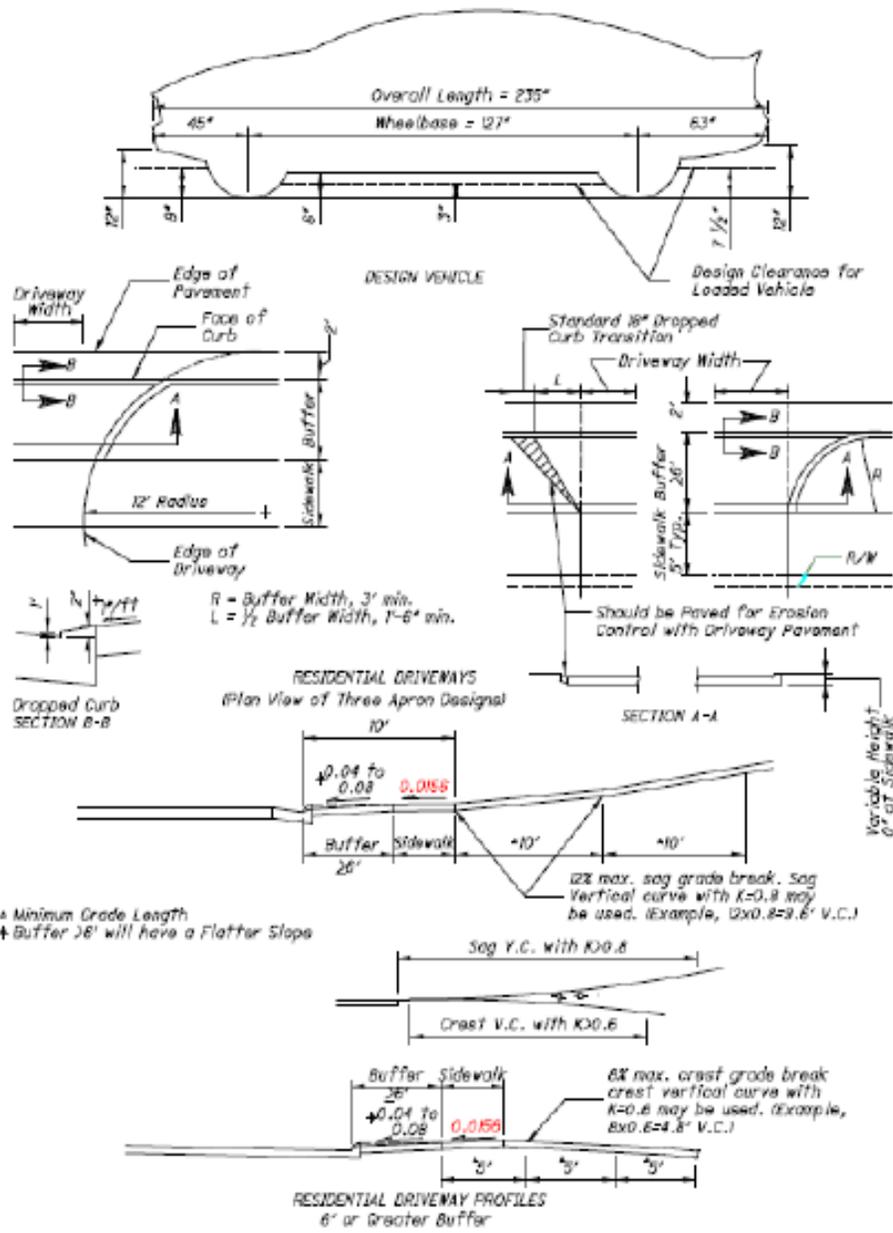
**ANTI-TWIST PLATE**



**GROUP MAILBOX INSTALLATION**

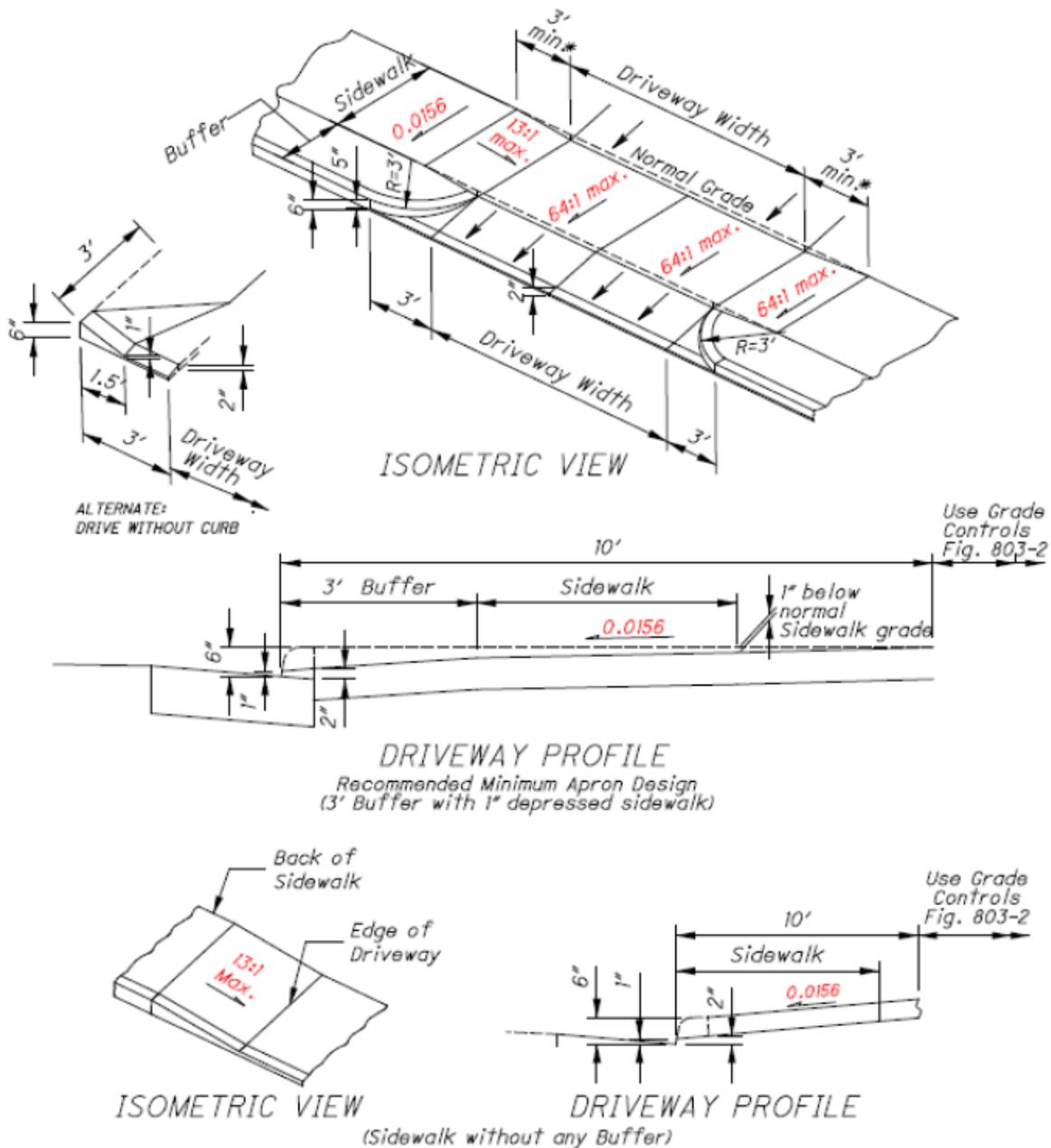
# 800 Access Control, R/W Use Permits and Drive Design

<h2>URBAN RESIDENTIAL DRIVE DETAILS</h2>	803-2
	REFERENCE SECTION
	803.3 & 804.2



# 800 Access Control, R/W Use Permits and Drive Design

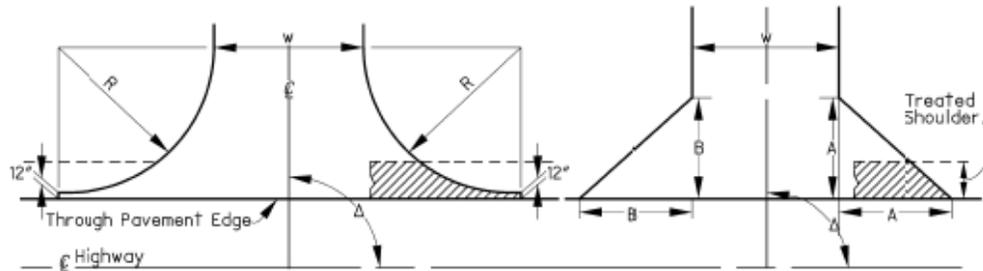
<b>URBAN RESIDENTIAL DRIVE DETAILS</b>	<b>803-3</b>
	REFERENCE SECTION 803.3 & 804.2



# 800 Access Control, R/W Use Permits and Drive Design

<b>STANDARD COMMERCIAL DRIVE DESIGNS</b>	803-8
	REFERENCE SECTION
	803.5

## UNCURBED DRIVEWAY ALONG UNCURBED HIGHWAY



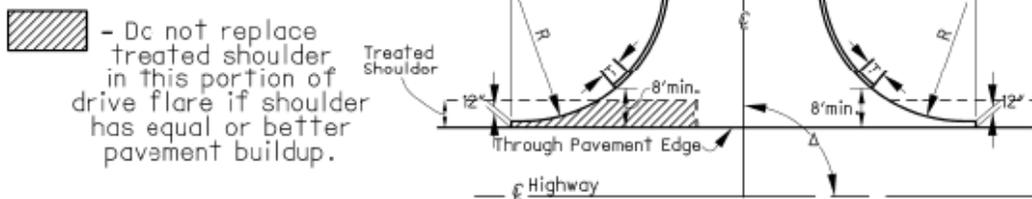
TYPE 1 (STANDARD DRAWING BP-4.1)

TYPE 2 (STANDARD DRAWING BP-4.1)

- W = 35 ft. Maximum
- R = 25 ft. Minimum on Uncurbed Highway  
15 ft. Minimum on Curbed Highway  
Maximum "R" should be based on design vehicle turning template.
- I = Laper Curb Height from 6 in. to 2 in. in. 4 ft.
- $\Delta$  = 70° to 90° (two-way operation)

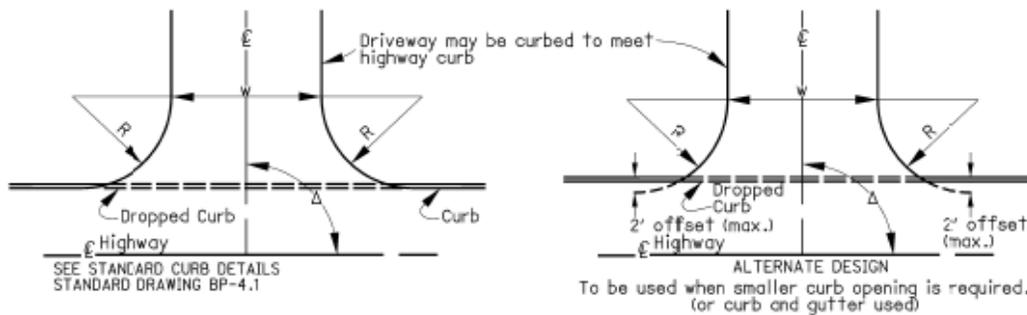
$\Delta$	A	B
85° to 90°	20'	20'
75° to 85°	25'	16'
65° to 75°	28'	13'
55° to 65°	33'	12'

## CURBED DRIVEWAY ALONG UNCURBED HIGHWAY



- Do not replace treated shoulder in this portion of drive flare if shoulder has equal or better pavement buildup.

## CURBED OR UNCURBED DRIVEWAYS ALONG CURBED HIGHWAY



SEE STANDARD CURB DETAILS  
STANDARD DRAWING BP-4.1

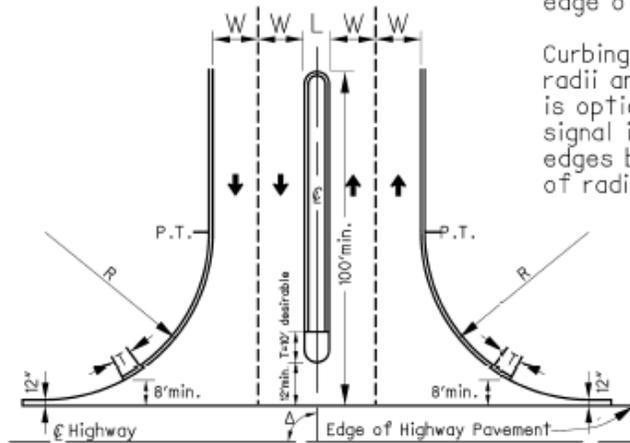
ALTERNATE DESIGN  
To be used when smaller curb opening is required,  
(or curb and gutter used)

# 800 Access Control, R/W Use Permits and Drive Design

<b>SHOPPING CENTER &amp; INDUSTRIAL DRIVE DESIGNS</b>	803-9
	REFERENCE SECTION
	803.6

Note: Divider to be extended to a point at least 100' back from edge of highway pavement.

Curbing shown on approach radii and outer edges of drive is optional, except, when traffic signal is used, the approach edges between 8' offset and P.T. of radius must be curbed.

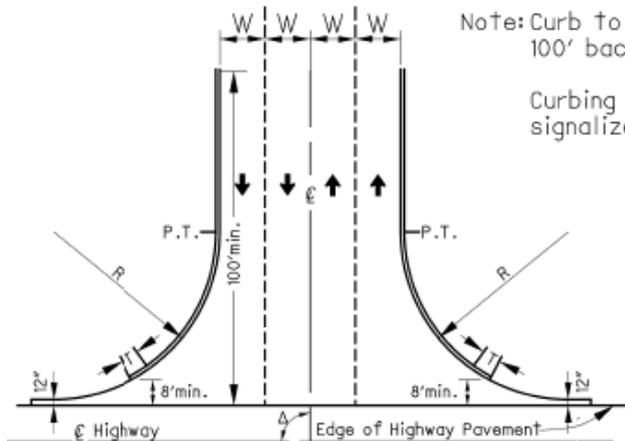


### DIVIDED DRIVE

- W = 10' to 14' per single traffic lane.
- R = 35' Minimum, 50' Desirable (or as determined by design vehicle turning template).
- T = Taper Curb Height from 6 in. to 2 in. in 4 ft. or greater.
- L = Median Width, 6' Minimum.  
(Median must be curbed for 8' to 15' widths)
- $\Delta = 70^\circ$  to  $90^\circ$

Note: Curb to be extended to a point at least 100' back from edge of highway pavement.

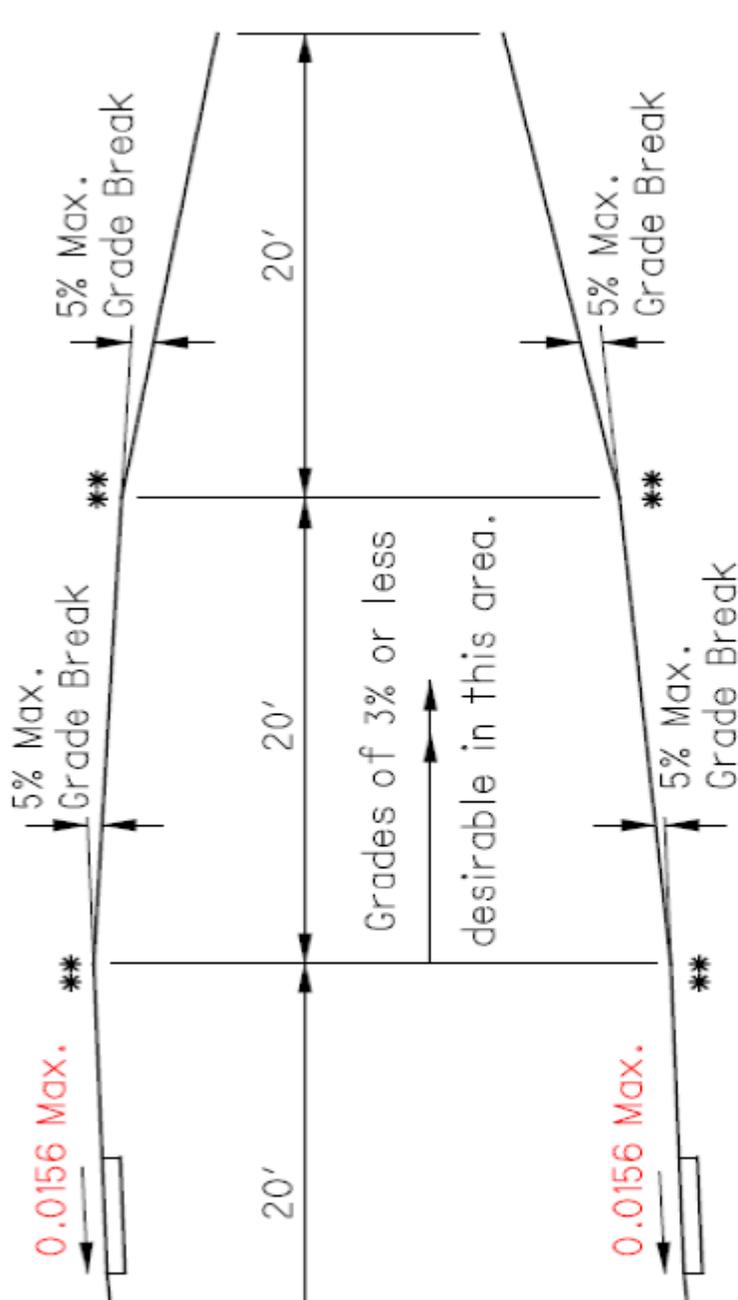
Curbing shown must be used for both signalized and unsignalized driveways.



### UNDIVIDED DRIVE

# 800 Access Control, R/W Use Permits and Drive Design

<b>COMMERICAL DRIVE PROFILE CRITERIA</b>	804-1
	REFERENCE SECTION
	804.3



See Fig. 803-2 & 803-3 for Buffer and Sidewalk treatment.

Although the use of grade breaks is allowable, a 10' rounding is desirable at these locations.

# 800 Access Control, R/W Use Permits and Drive Design

COMMERCIAL DESIGN VEHICLE	804-2
	REFERENCE SECTION
	804.3

