



**Gwinnett County**  
Department of Transportation

**Traffic Calming Design Guide**

Prepared for:

**Gwinnett County Department of Transportation**  
**Traffic Engineering and Planning Division**

Prepared by:



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**Suite 400**  
**Atlanta, GA 30339**

**August 2006**

**Revision 1 (June 2008 by GCDOT)**

## **Traffic Calming Design Guide**

Prepared for:

**Gwinnett County Department of  
Transportation, Traffic and Transportation  
Planning Division**

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Date:

**August 14, 2006**

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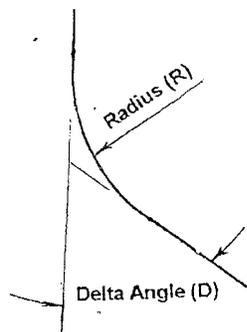
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**1. Summary**

Gwinnett County Development Regulations require traffic calming measures for new public residential streets to encourage and maintain maximum vehicle operating speeds in the 25-30 miles per hour (mph) range. In order to achieve this objective, the maximum length of roadway section between speed control points shall be 500 feet.

A speed control point is defined as any one of the following:

1. Any design condition that requires a complete stop such as the intersection of a local residential street with a collector or Arterial Street, or a "T" intersection between local streets. (Note: Stop sign control at the intersection between local streets does not qualify).
2. A horizontal curve with the following design features:



Low Speed Curve Values

Delta Angle (D) Must be Greater than 30°	Radius (R)
Between 30° and 40°	100 Feet
Between 41° and 50°	120 Feet (Minimum) – 130 (Maximum)
Greater than 51°	120 Feet (Minimum) – 150 Feet (Maximum)

3. A traffic calming device, the design of which is subject to review and approval by the Gwinnett County Department of Transportation. Seven traffic calming measures that are recommended for use in Gwinnett County, their appropriate use, typical/minimum design requirements, and construction details are provided in this guide. The list will be modified and measures may be added or deleted through operating experience. This guide may be modified and measures may be added or deleted through operating experience at any time without prior notification.

For each new subdivision, a nonstandard<sup>1</sup> “TRAFFIC CALMED AREA/PROCEED SLOWLY/Devices that Control Speed in Use” sign should be installed within 100 feet to 150 feet of all entrances. A nonstandard “SPEED CONTROL DEVICES AHEAD” sign and a standard advisory speed “20 MPH” sign should be installed within 200 feet to 250 feet of entrances. Nonstandard sign details and typical installations are shown in the following standard drawing:

- TC-01 Nonstandard Signs and Installations Details

## **2. Horizontal Traffic Calming Measures**

The horizontal measures discussed in this guide include low speed curves, traffic circles, median islands, roundabouts, and lateral shifts.

### **2.1 Low Speed Curves**

Curvilinear street design can help maintain vehicle operating speeds within a desired range. Low speed curves are recommended in subdivision street design.

Recommended values for low speed curve design are shown in the following standard drawing:

- TC-02 Low Speed Curve

The distance between the point of tangent of the first curve and the point of curve of the second should not exceed 500 feet. There are no requirements for the minimum tangent length between curves. When compound curves are used, a maximum ratio of the flatter radius to the sharper radius of 1.75:1 is desired.

### **2.2 Traffic Circles**

Traffic circles are raised circular islands placed in intersections, around which traffic circulates. Typically, they are landscaped with ground cover and bushes to enhance the aesthetic appeal. The horizontal displacement associated with a traffic circle requires vehicles to reduce travel speed. The amount of speed reduction is positively correlated with the radius of the traffic circle and vehicle entry angle.

Traffic circles effectively reduce conflict points at intersections. They can be used at cross-intersections or T-intersections that have a propensity for traffic collisions. Traffic circles are not recommended to be installed at intersections of streets that have a

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<sup>1</sup> For the purposes of this document, “nonstandard” means that the sign legend may not be included in the MUTCD. All sign material, posts, reflectivity, etc., shall conform to FHWA, GDOT, & GCDOT specifications.

significant percentage of large vehicles (trucks and buses) in daily traffic. A large vehicle making a left turn generally cannot circulate around the island and has to make the turn in front of the island, increasing the potential for an accident.

Typically, the center island should be constructed with a minimum diameter of 14 feet, including a 2-foot-wide mountable truck apron with a 3 to 4 percent slope. Mountable curb should be constructed to discourage passenger cars from traveling on the apron, while still allowing large vehicles, such as moving vans, infrequent use of the apron to make turns.

Advanced circular intersection and advisory speed signs shall be installed. The advisory speed should be 15 mph. The sign placement location is dependent on site conditions and other signing, but should provide adequate advance warning for drivers.

The outside right-of-way line shall be in accordance with development regulations. The inside right-of-way line shall be 3 feet from the edge of the concrete apron.

Installation details for traffic circles are shown in the following standard drawings:

- TC-03 Traffic Circle Installation Details
- TC-04 Traffic Circle Signage

### **2.3 Median Islands**

Median islands are raised islands placed along the roadway centerline to divert travel direction at that location. Typically, they are landscaped with ground cover to enhance aesthetic appeal and visibility. The horizontal displacement associated with the median island requires vehicles to reduce travel speed.

Two types of median islands are described in this guide: straight islands with half-circle noses (option 1) and oval islands or ease-a-bouts (option 2). Both types of median islands should be constructed with a truck apron. Typically, the truck apron should be 2 feet wide with a 3 to 4 percent slope. Mountable curb should be constructed to discourage passenger cars from traveling on the apron, while still allowing large vehicles to use the apron to make turns. Straight islands also can be used at intersections to control vehicle operating speed.

Typically, the length of a straight island with half-circle noses is 40 feet and the minimum width is 9 feet. A typical oval island has a length of 40 feet and a width of 16 feet. An object marker shall be installed at each end of the island to guide traffic to pass only to the right of the island. When straight islands are installed at an intersection, "Stop" signs shall be used for side streets.

The outside right-of-way line shall be in accordance with development regulations. The inside right-of-way line shall be 3 feet from the edge of the concrete apron.

Installation details for median islands are shown in the following standard drawings:

- TC-05 Median Island Installation Details and Signage (Option 1)
- TC-05A Median Island Installation Details and Signage (Option 1) at Intersections
- TC-06 Median Island Installation Details and Signage (Option 2)

## **2.4 Roundabouts**

Similar to traffic circles, roundabouts require traffic to circulate counterclockwise around a center island. However, roundabouts are larger than traffic circles. Roundabouts can be used at cross-intersections or T-intersections of streets that have a propensity for traffic collisions.

The center island, including the concrete truck apron, of a roundabout typically extends a minimum of 28 feet from the center. The concrete truck apron typically has a width of 2 feet. The inscribed circle diameter should be between 88 and 200 feet. Typically, the circulating roadway has a width of 14 feet to 19 feet.

Roundabout design should follow the guidelines presented in *Roundabouts: An Informational Guide*, U.S. Department of Transportation, Federal Highway Administration, Publication No. FHWA-RD-00-067.

The outside right-of-way line shall be in accordance with development regulations. The inside right-of-way line shall be 3 feet from the edge of the concrete apron.

Installation details for a typical roundabout are shown in the following standard drawings:

- TC-07 Roundabout Installation Details
- TC-08 Roundabout Markings and Signage

## **2.5 Lateral Shifts**

Lateral shifts are a type of curb extension placed on otherwise straight streets that make travel lanes bend one way and then bend back the other way to the original travel direction. Lateral shifts can be used on streets with relatively high volumes and posted speed limits that preclude more abrupt measures.

To significantly reduce speeds, the deflection degree should be at least 45 degrees and the lateral shift should be at least one lane width. A center island is needed to prevent drivers from cutting straight paths across the centerline, and the minimum length of the island should be 40 feet. Typically, a 2-foot-wide truck apron should be constructed for large vehicles. Mountable curb should be constructed to discourage passenger cars from traveling on the apron, while still allowing large vehicles to use the apron to make turns. An object marker shall be installed at each end of the island to mark the island within the roadway.

The outside right-of-way line shall be in accordance with development regulations. The inside right-of-way line shall be 3 feet from the edge of the concrete apron.

Installation details for lateral shifts are shown in the following standard drawing:

- TC-09 Typical Lateral Shift Installation Details and Signage

### **3. Vertical Traffic Calming Measures**

Two types of vertical traffic calming measures are discussed in this guide: speed humps and raised crosswalks.

#### **3.1 Speed Humps**

Speed humps are short, raised sections of roadway that require vehicles to travel at reduced speeds. Speed humps can be used along streets that have demonstrated speed problems and few crossing intersections. When used in a series on a street, the distance between adjacent speed humps should be between 300 feet and 500 feet. A typical speed hump is 3 and 5/8 inches high and 22 feet long in the direction of travel. Its sides taper off at the gutter/shoulder line.

Installation details for speed humps are shown in the following standard drawing:

- TC-10 Speed Hump Construction Details
- TC-10A Speed Hump Pavement Marking Details
- TC-10B Speed Hump Signing Details

(Please refer to Gwinnett County Speed Hump Program Manual (June 2007) for additional details and installation criteria)

### **3.2 Raised Crosswalks**

Raised crosswalks are elevated pedestrian crosswalks that are constructed similarly to speed humps. They can be used at locations that are likely to have pedestrian demand to cross the street, such as neighborhood recreation areas and trails.

Raised crosswalks extend from curb to curb. Wheelchair ramps shall be installed at each end in accordance with Gwinnett County standards. Drop inlets are required on the uphill side of the raised crosswalk for drainage purposes. All other geometric requirements for speed humps apply to raised crosswalks. Raised crosswalks should be marked as regular crosswalks. Pedestrian crossing signs should be installed at raised crosswalks for both directions.

Installation details for raised crosswalks are shown in the following standard drawing:

- TC-11 Raised Crosswalk Installation Details

## **4. General Guidelines for Implementing Traffic Calming Measures**

When traffic calming devices are used, they must be incorporated in the development plan submitted for review by Gwinnett County. This section provides general guidelines regarding the implementation of traffic calming devices.

### **4.1 Use of Multiple Types of Traffic Calming Devices**

To allow flexibility in design and development and to reduce visual redundancy for residents, different types of traffic calming devices can be used in a single development or along an individual street segment.

### **4.2 Maintaining Emergency Vehicle Operations**

Emergency vehicle operations are important in residential areas. The approved options for traffic control devices are intended to allow emergency vehicle access with a minimum of added delay. Traffic calming devices should be incorporated into the overall development in a manner that is not detrimental to emergency vehicle operations. For example, the developer must provide access to fire hydrants that allows two-way traffic flow to be maintained around the emergency vehicle during minor emergencies.

### **4.3 Design and Construction Standards**

Design and construction of traffic calming devices will be performed in accordance with this guide and current versions of the following standards:

- Gwinnett County Development Regulations

- Gwinnett County Department of Transportation Standard Specifications
- Gwinnett County Speed Hump Program Manual
- Georgia Department of Transportation Standard Specifications
- A Policy on Geometric Design of Highways and Streets (American Association of State Highway and Transportation Officials [AASHTO] Green Book)
- Manual on Uniform Traffic Control Devices (MUTCD) (Federal Highway Administration)
- Roundabout: An Informational Guide (Federal Highway Administration, Publication No. FHWA-RD-00-067)

When design standards from these sources are in conflict, the Gwinnett County Department of Transportation (GCDOT) will determine the appropriate standard.

#### **4.4 Landscaping and Maintenance of Traffic Calming Devices**

Any desired landscaping of traffic calming devices will be provided by the developer as part of the initial construction. Landscaping shall conform to the current edition of the Gwinnett County Development Regulations and shall not restrict sight distance for vehicles traveling on main street or side street approaches. Maintenance of landscaping is the responsibility of the maintaining authority, which is either the developer or a legally constituted homeowners association. Failure to properly maintain landscaping will result in it being replaced by the County with either grass or paving.

#### **4.5 Spacing and Location**

Traffic calming devices within a series should normally be placed 300 to 500 feet apart. The distance between devices should be measured between the points at which the devices become effective in physically controlling speeds.

The first traffic calming device in a series should usually be located in a position where it cannot be approached at a high speed from either direction. To achieve this objective, the first in a series of traffic calming devices should be installed within 100 to 200 feet of a low speed curve (as previously defined) or a stop condition. Spacing and location guidelines are shown in the following drawing:

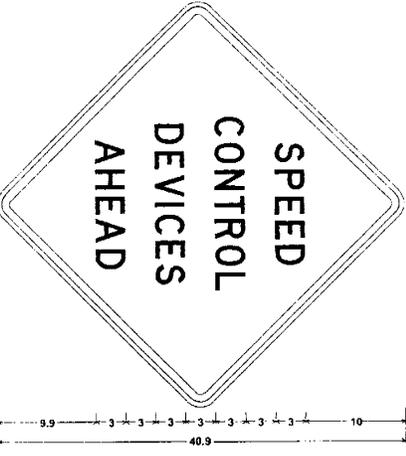
- TC-12 Spacing of Traffic Calming Devices

**5. Standard Drawings**

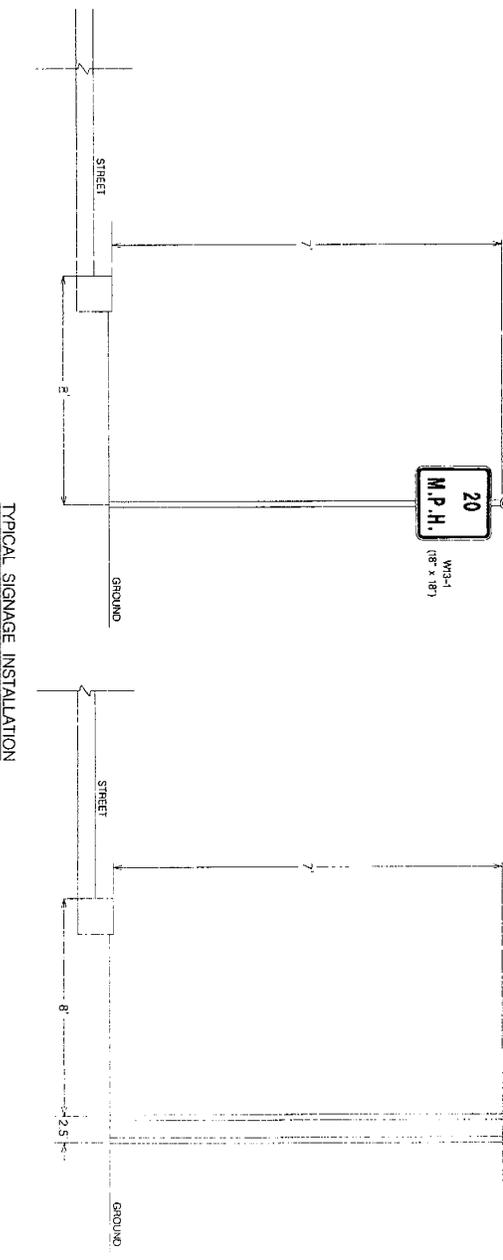
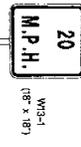
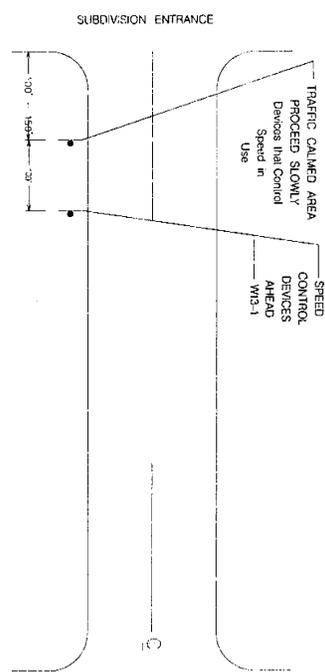
- TC-01 Nonstandard Signs and Installation Details
- TC-02 Low Speed Curve
- TC-03 Traffic Circle Installation Details
- TC-04 Traffic Circle Signage
- TC-05 Median Island Installation Details and Signage (Option 1)
- TC-05A Median Island Installation Details and Signage (Option 1) at Intersections
- TC-06 Median Island Installation Details and Signage (Option 2)
- TC-07 Roundabout Installation Details
- TC-08 Roundabout Markings and Signage
- TC-09 Typical Lateral Shift Installation Details and Signage
- TC-10 Speed Hump Construction Details
- TC-10A Speed Hump Pavement Marking Details
- TC-10B Speed Hump Signing Details
- TC-11 Raised Crosswalk Installation Details
- TC-12 Spacing of Traffic Calming Devices



2 1/2" Static 0.8" Border, 0.5" Inset, Black, Yellow;  
 TRAFFIC CALMED AREA B 60% spacing; (PROCEED SLOWLY) B 20% spacing;  
 (Devices that Control Speed in use) B 30% spacing;  
 REFLECTIVE SHEETING SIGN

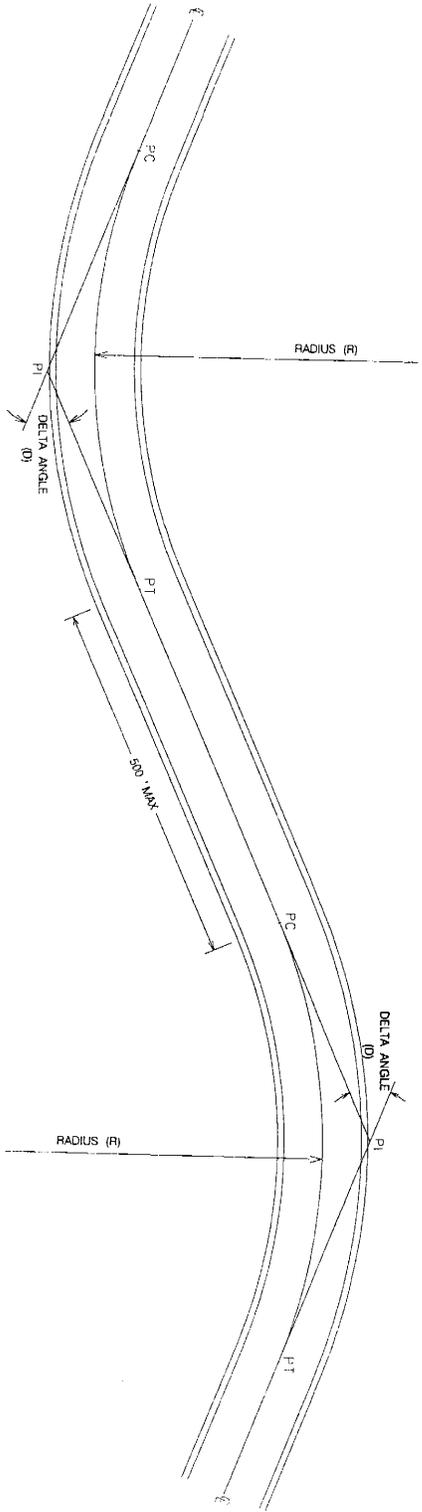


SPEED CONTROL DEVICES AHEAD  
 30.0" across sides, 1.5" Radius, 0.8" Border, 0.5" Inset, Black on Yellow;  
 (SPEED) D Georgia; (CONTROL) D Georgia; (DEVICES) D Georgia;  
 (AHEAD) D Georgia;  
 REFLECTIVE SHEETING SIGN



GWINNETT COUNTY TRAFFIC CALMING DESIGN GUIDE  
 NONSTANDARD SIGNS AND INSTALLATION DETAILS  
 APRIL 2006  
 DRAWING NO. TC-01

NOT TO SCALE

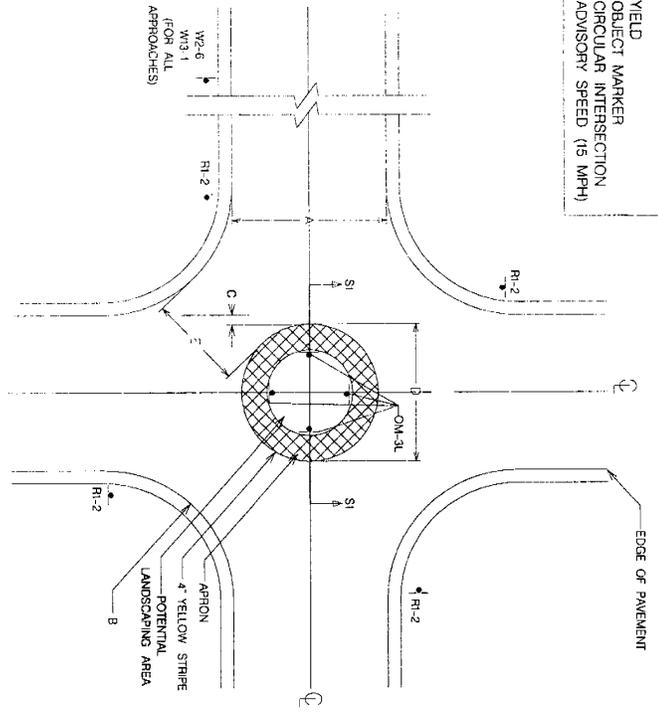


LOW SPEED CURVE VALUES

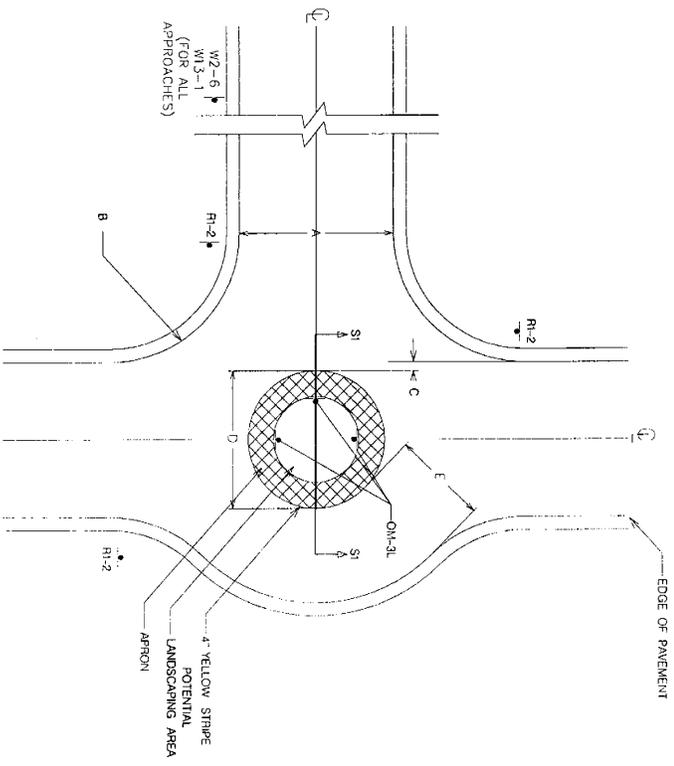
DELTA ANGLE (D) (30 MIN)	RADIUS (R)
30 - 40	100'
41 - 50	120' (MIN) - 130' (MAX)
> 51	120' (MIN) - 150' (MAX)

NOTE: 1. WHEN COMPOUND CURVES ARE USED, THE MAXIMUM RATIO OF THE FLATTER RADIUS TO THE SHARPER RADIUS SHOULD BE 1.75:1.  
 2. ENSURE INTERSECTION SIGHT DISTANCE IS MAINTAINED AT ALL ROADS & DRIVEWAYS.

SIGN DESCRIPTION:  
 RI-2 YIELD  
 OM-3L OBJECT MARKER  
 W2-6 CIRCULAR INTERSECTION  
 W3-1 ADVISORY SPEED (15 MPH)

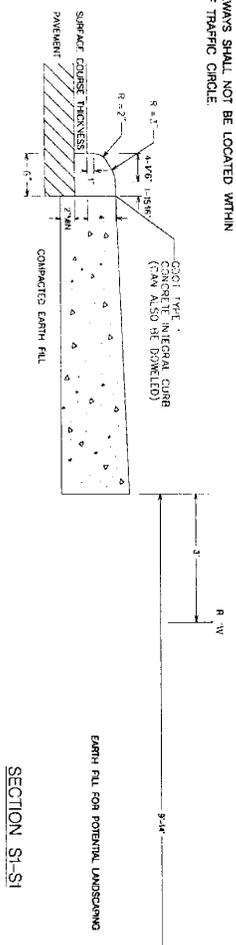


PLAN VIEW (FOUR-LEG INTERSECTION)

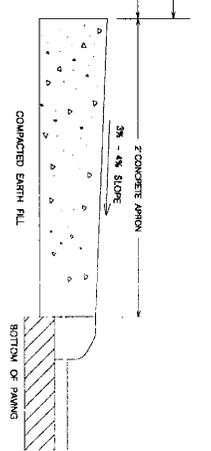


PLAN VIEW (THREE-LEG INTERSECTION)

NOTE: 1 TRAFFIC CIRCLES SHALL BE USED ONLY IF ALTERNATE ROUTES ARE PROVIDED TO ALL GENERATORS BEYOND TRAFFIC CIRCLES.  
 2 DRIVEWAYS SHALL NOT BE LOCATED WITHIN 20' OF TRAFFIC CIRCLE.



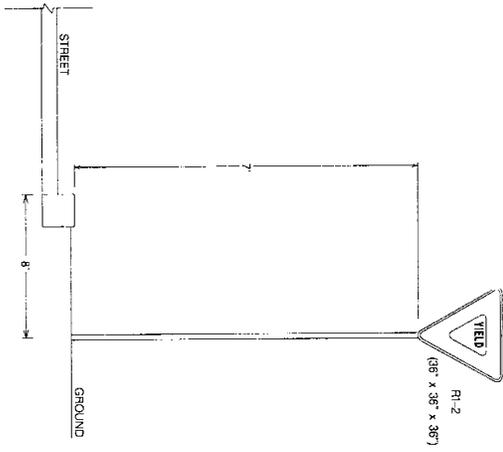
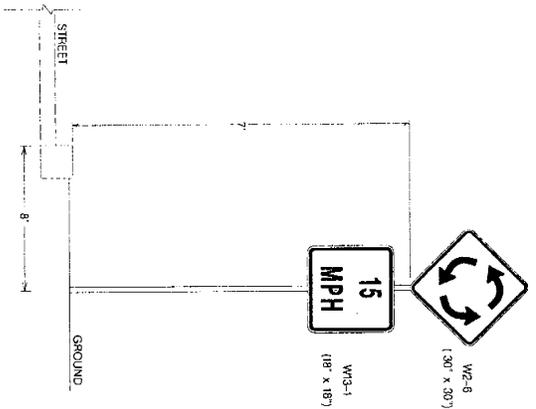
SECTION S1-S1



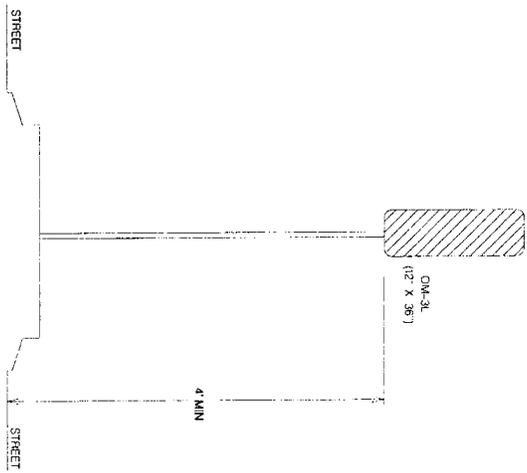
SECTION S1-S1

5. RFLT. WIDTH, RFL. RETURN RADIUS (FEET)	OFFSET DISTANCE (FEET)	CIRCLE DIAMETER (FEET)	OPENING WIDTH (FEET)
A	B	C	D
19	30 MIN	2.5	14
21	30 MIN	2.5	16
23	25	2.5	18
30	20	2.0	19

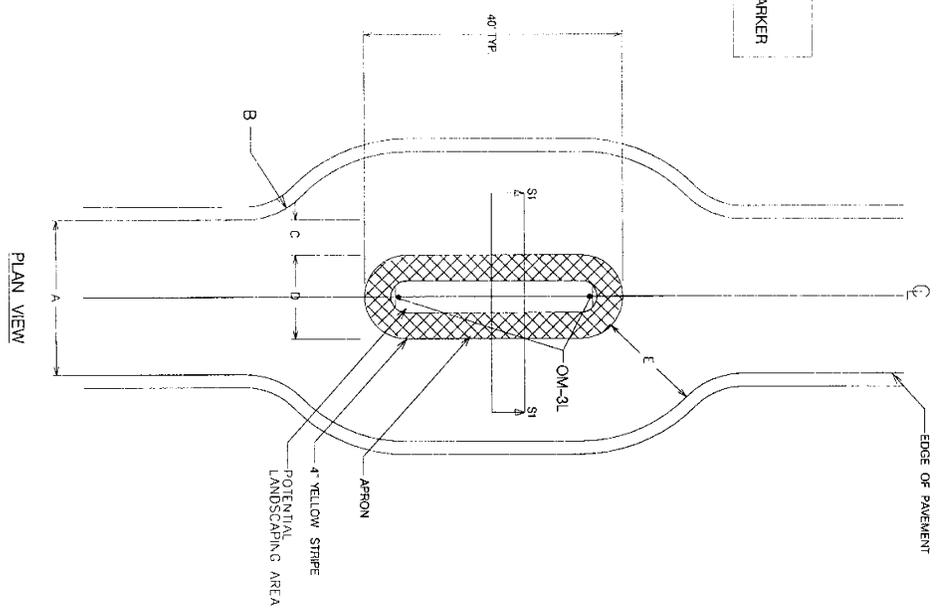
TRAFFIC CIRCLE DIMENSIONS



TYPICAL SIGNAGE INSTALLATION

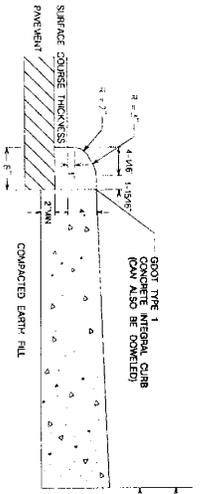
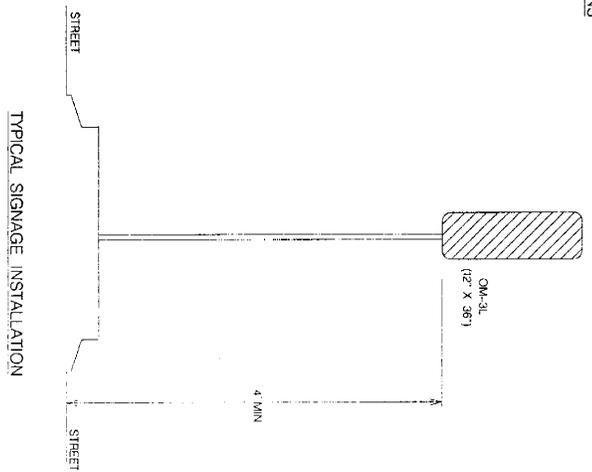


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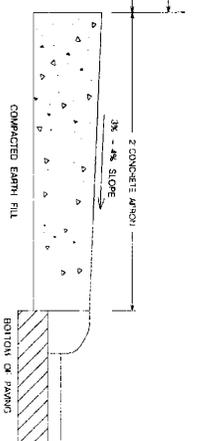
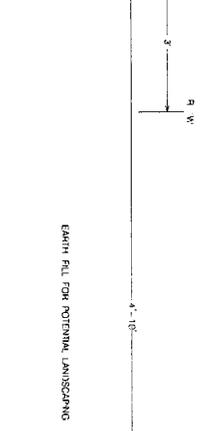


MEDIAN ISLAND (OPTION 1) DIMENSIONS

STREET WIDTH (FEET)	CURB RETURN RADIUS (FEET)	OFFSET DISTANCE (FEET)	CIRCLE DIAMETER (FEET)	OPENING WIDTH (FEET)
A	B	C	D	E
19'	20' (MIN)	5.0'	9'	16'
	25' (MAX)	4.0'	11'	17'
21'	20' (MIN)	5.0'	11'	16'
	25' (MAX)	4.0'	13'	17'
23'	20' (MIN)	5.0'	13'	16'
	25' (MIN)	4.0'	15'	17'



SECTION S1-S1

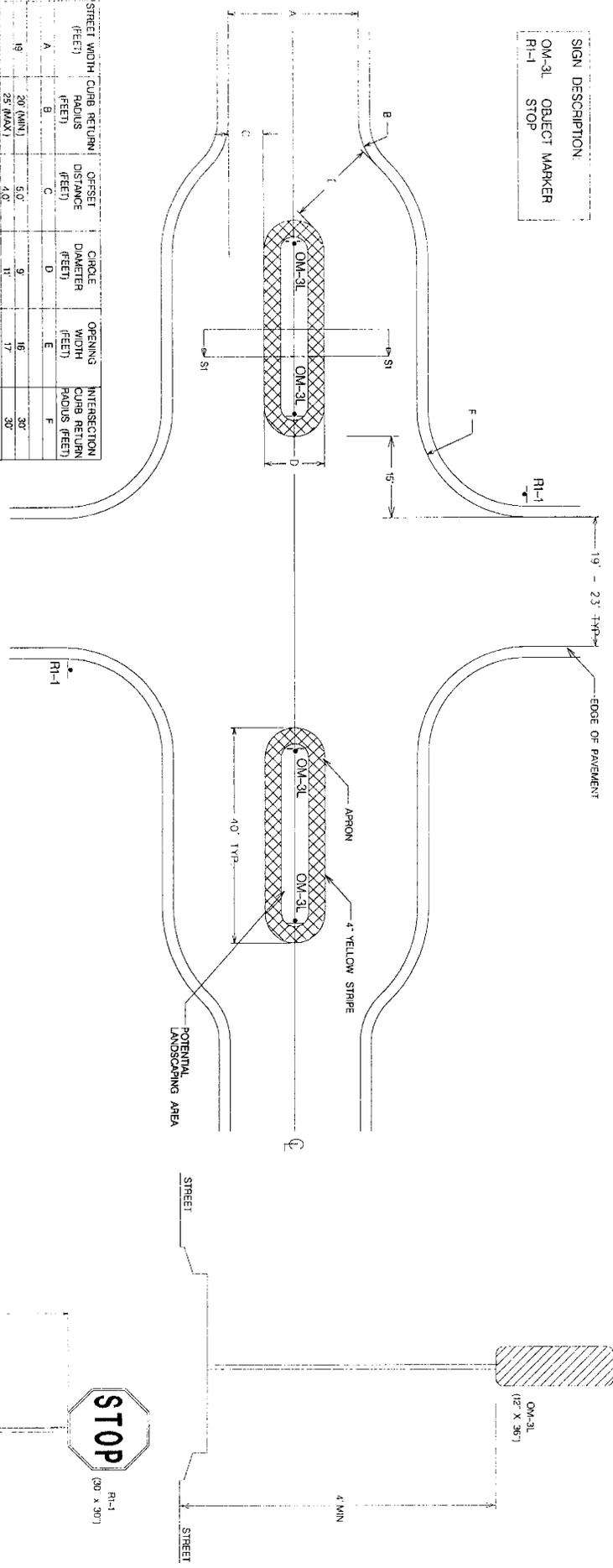


TYPICAL SIGNAGE INSTALLATION

NOTE 1 DRIVERS SHOULD NOT BE LOCATED WITHIN 20' OF MEDIAN ISLAND

NOT TO SCALE

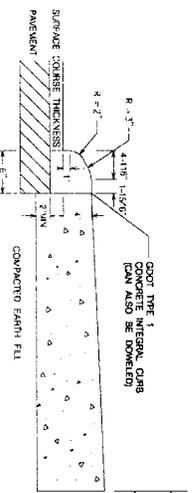
SIGN DESCRIPTION  
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 R1-1 STOP



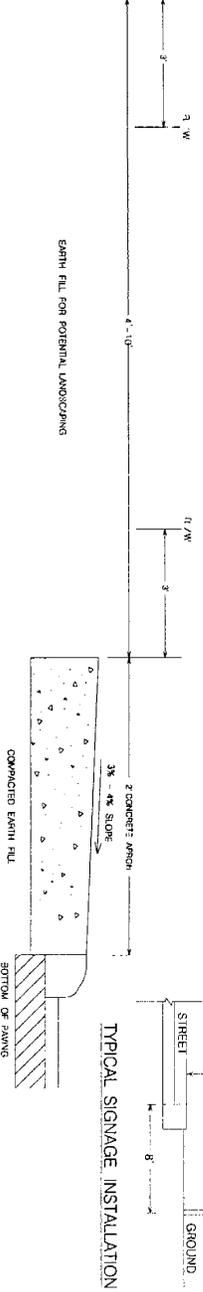
STREET WIDTH (FEET)	CURB RETURN RADIUS (FEET)	OFFSET DISTANCE (FEET)	CIRCLE DIAMETER (FEET)	OPENING WIDTH (FEET)	INTERSECTION CURB RETURN RADIUS (FEET)
A	B	C	D	E	F
19	20 (MIN)	5.0	9	16	30
20	25 (MAX)	4.0	11	17	30
21	20 (MIN)	5.0	11	16	30
22	25 (MAX)	4.0	13	17	30
23	20 (MIN)	5.0	13	16	30
	25 (MAX)	4.0	15	17	30

MEDIAN ISLAND (OPTION 1) DIMENSIONS  
 (WHEN USED AT INTERSECTIONS)

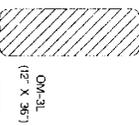
- NOTE
1. ENSURE INTERSECTION SIGHT DISTANCE IS MAINTAINED.
  2. MEDIAN ISLANDS SHALL BE USED AT INTERSECTIONS ONLY IF ALTERNATE ROUTES ARE PROVIDED TO ALL GENERATORS BEYOND THESE MEDIAN ISLANDS.
  3. DRIVEWAYS SHALL NOT BE LOCATED WITHIN 20' OF MEDIAN ISLAND.



SECTION S1-S1



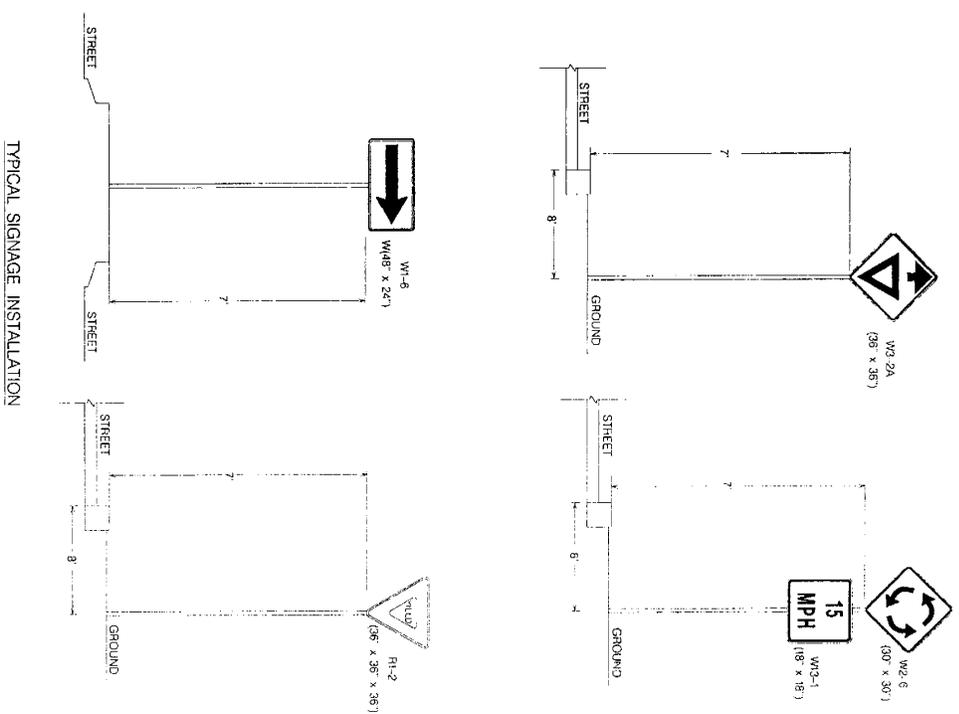
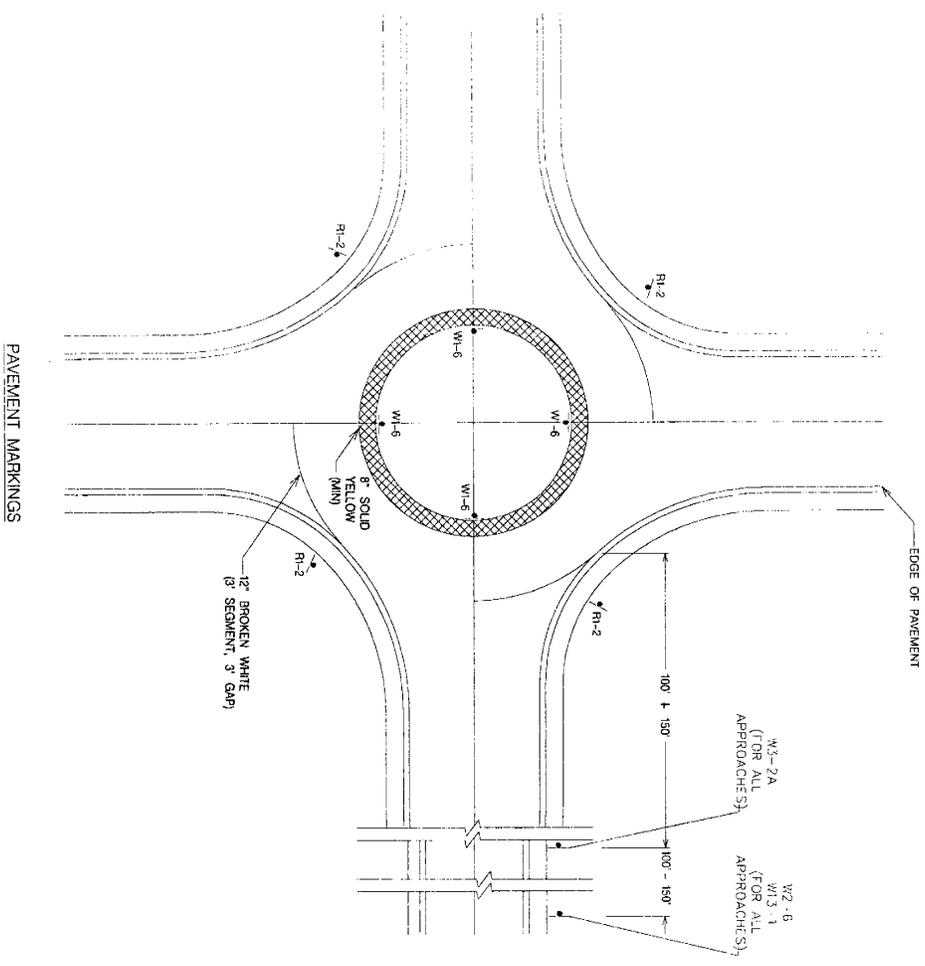
TYPICAL SIGNAGE INSTALLATION



GWINNETT COUNTY TRAFFIC CALMING DESIGN GUIDE		NOT TO SCALE
MEDIAN ISLAND INSTALLATION DETAILS AND SIGNAGE (OPTION 1) AT INTERSECTIONS		APRIL 2006
		DRAWING NO. TC-05A



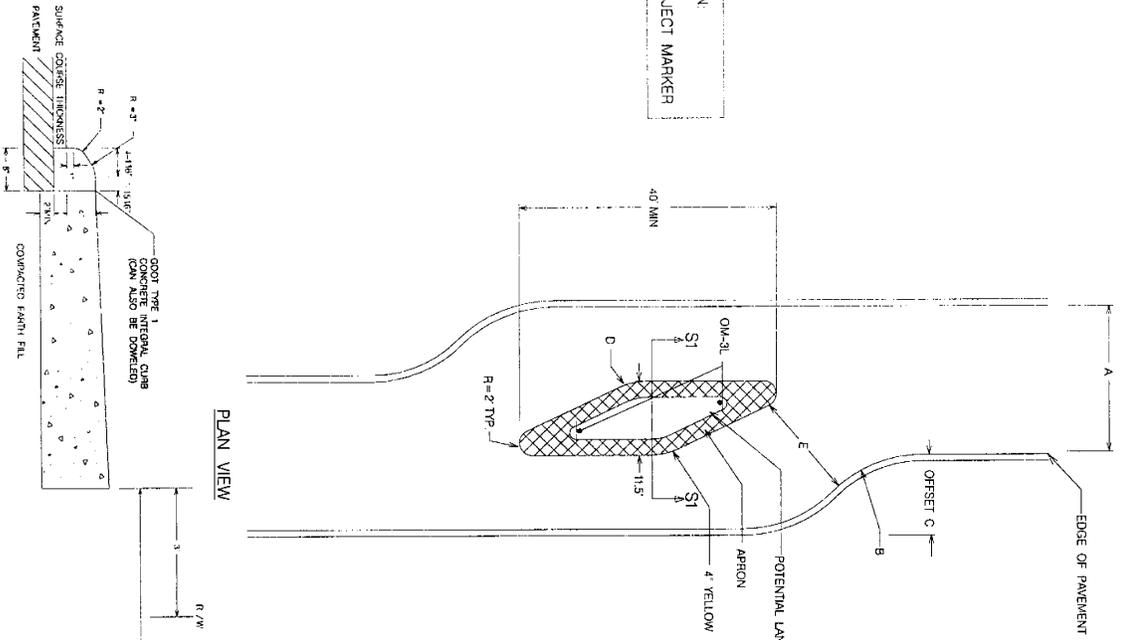




GWINNETT COUNTY TRAFFIC CALMING DESIGN GUIDE	
ROUNDBOUT MARKINGS AND SIGNAGE	
APRIL 2006	DRAWING NO. TC-08

NOT TO SCALE

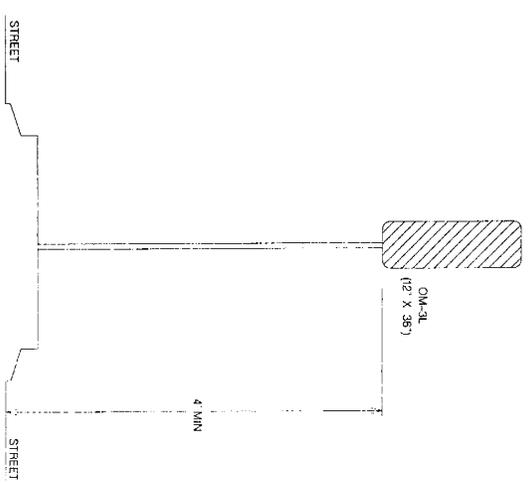
DESCRIPTION:  
OM-3L OBJECT MARKER



STREET WIDTH (FEET)	STREET RETURN RADIUS (FEET)	OFFSET DISTANCE (FEET)	ISLAND CURVE RADIUS (FEET)	OPENING WIDTH (FEET)
19	A	C	D	E
21	B	NOT RECOMMENDED	NOT RECOMMENDED	
23		11.5 MIN	10 MIN	16.5

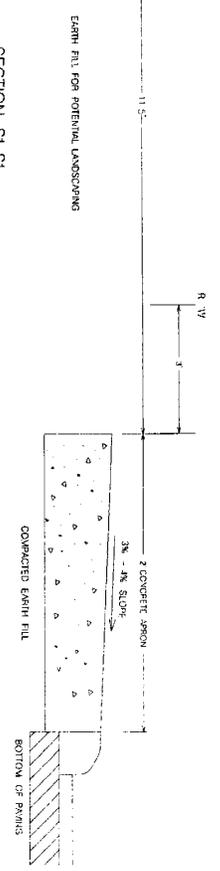
LATERAL SHIFT DIMENSIONS

NOTE 1 DRIVEWAYS SHALL NOT BE LOCATED WITHIN 20' OF A FEED SHIFT.



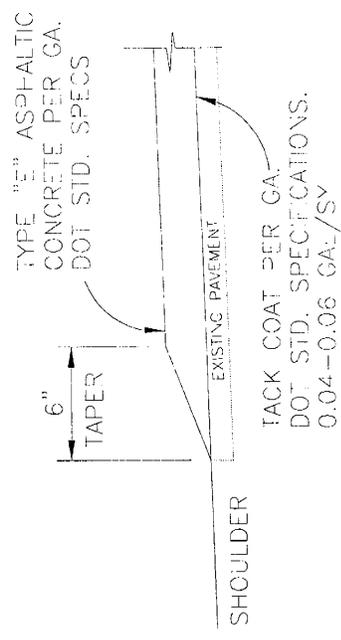
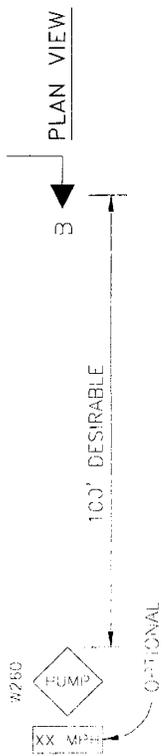
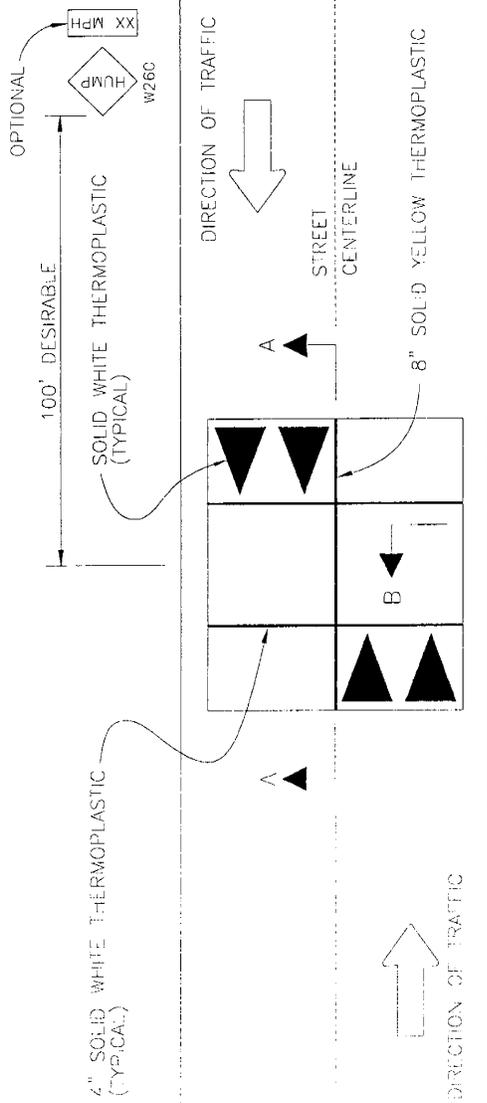
TYPICAL SIGNAGE INSTALLATION

SECTION S1-S1

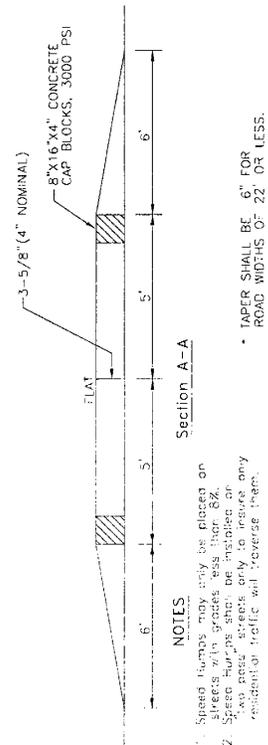
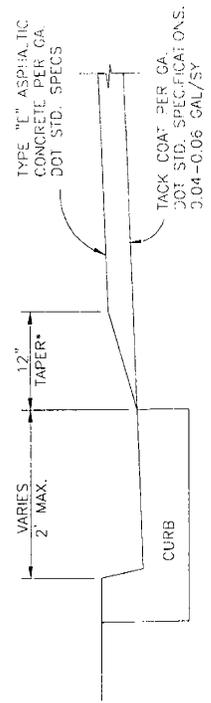


GWINNETT COUNTY TRAFFIC CALMING DESIGN GUIDE  
TYPICAL LATERAL SHIFT INSTALLATION DETAILS AND SIGNAGE

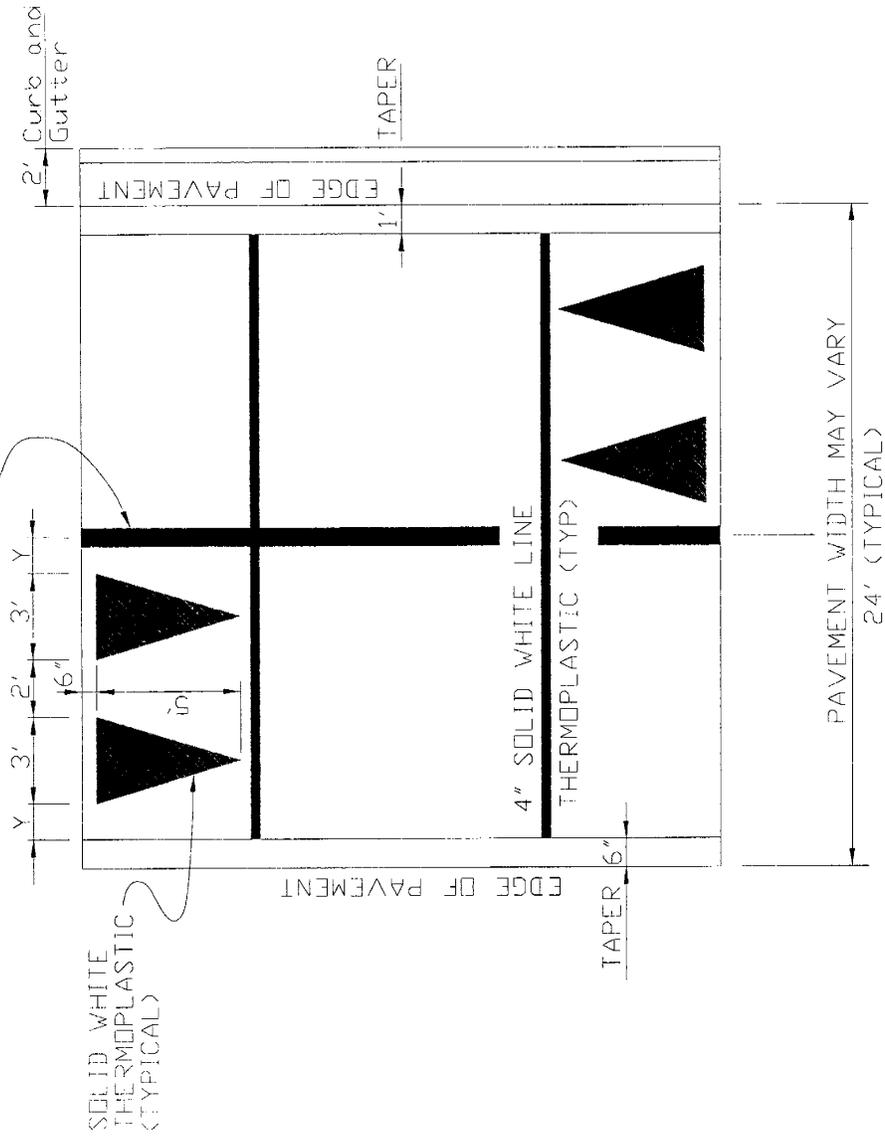
NOT TO SCALE  
APRIL 2006  
DRAWING NO. TC-09



**SHOULDER DETAIL FOR STREETS WITHOUT CURBS**



CENTER ROAD STRIPE SHALL BE YELLOW THERMOPLASTIC. MATCH EXISTING WIDTHS AND SPACING.



HALF LAYOUT WITHOUT CURB AND GUTTER

9'-0" ROAD

HALF LAYOUT WITH CURB AND GUTTER

NOT TO SCALE

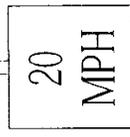
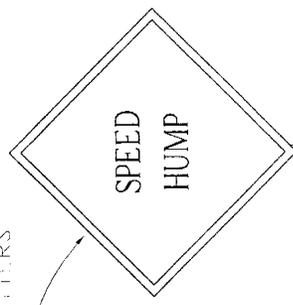
GWINNETT COUNTY TRAFFIC CALMING DESIGN GUIDE

MAY 2008

DRAWING NO. TC-10A

SPEED HUMP PAVEMENT MARKING DETAILS

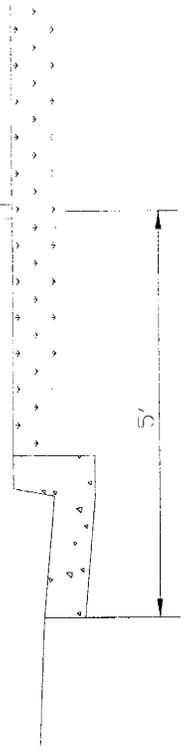
W17-1 (MUTCD)  
YELLOW WITH  
BLACK LETTERS  
(TYP)



SPEED HUMP

DISTRICT SIGN (TYP)

SIGN LOCATION DIAGRAM



NOT TO SCALE

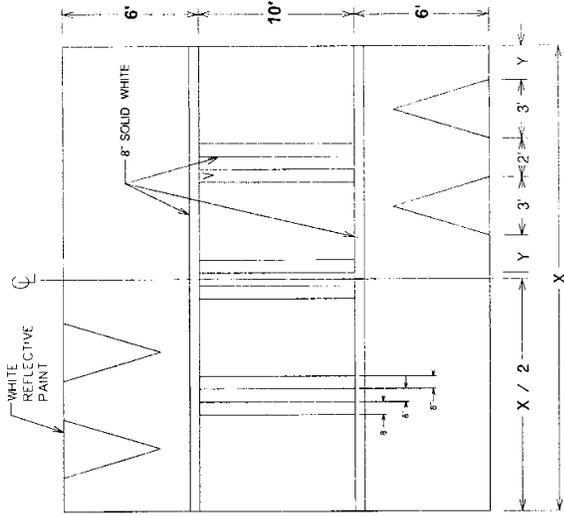
GWINNETT COUNTY TRAFFIC CALMING DESIGN GUIDE

MAY 2008

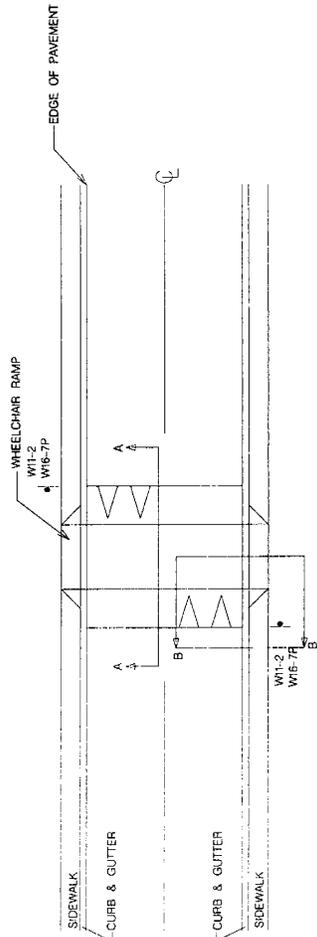
DRAWING NO.

SPEED HUMP SIGNING DETAILS

TC-10B

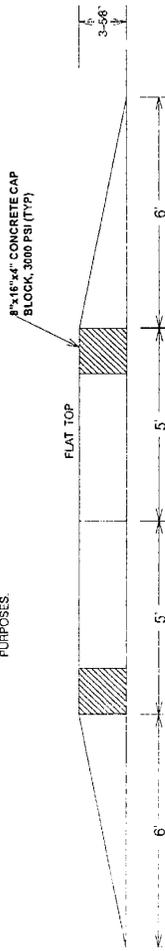


RAISED CROSSWALK MARKING DETAIL



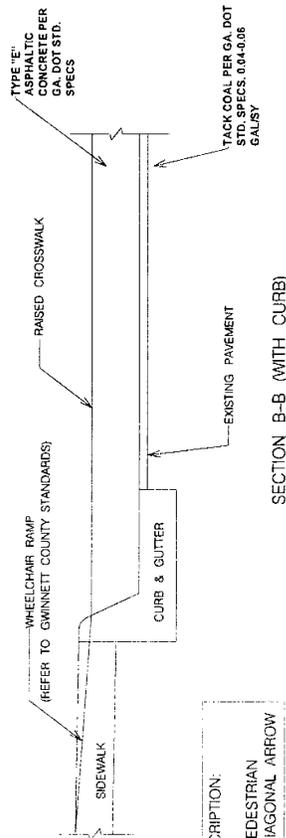
PLAN VIEW

NOTES: 1. DROP INLETS ARE REQUIRED ON THE UPHILL SIDE OF THE RAISED CROSSWALK FOR DRAINAGE PURPOSES.



SECTION A-A

NOTES: 1. REVISED CROSSWALK MAY ONLY BE INSTALLED IN STREETS WITH GRADES LESS THAN 8%

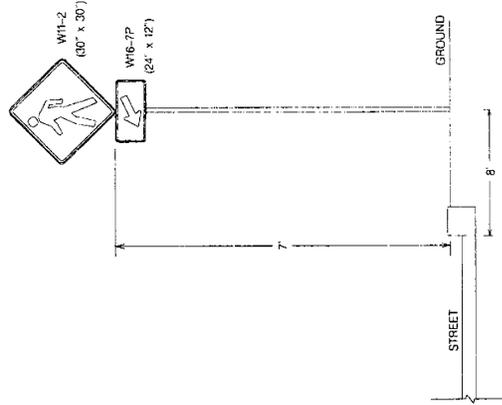


SECTION B-B (WITH CURB)

SIGN DESCRIPTION:

- W1-2 PEDESTRIAN
- W16-7P DIAGONAL ARROW

NOTE: DRIVEWAYS SHALL NOT BE LOCATED WITHIN 20' OF RAISED CROSSWALK.



TYPICAL SIGNAGE INSTALLATION

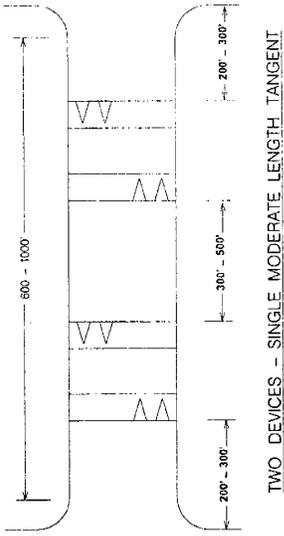
NOT TO SCALE

MAY 2008

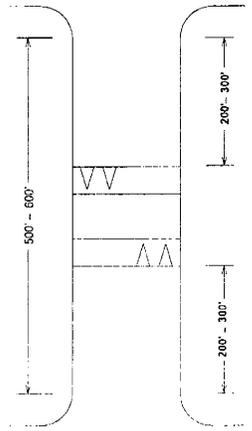
DRAWING NO. TC-11

GWINNETT COUNTY TRAFFIC CALMING DESIGN GUIDE

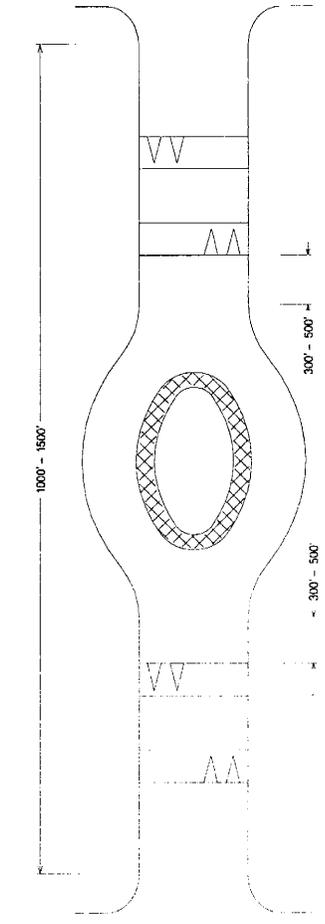
RAISED CROSSWALK INSTALLATION DETAILS



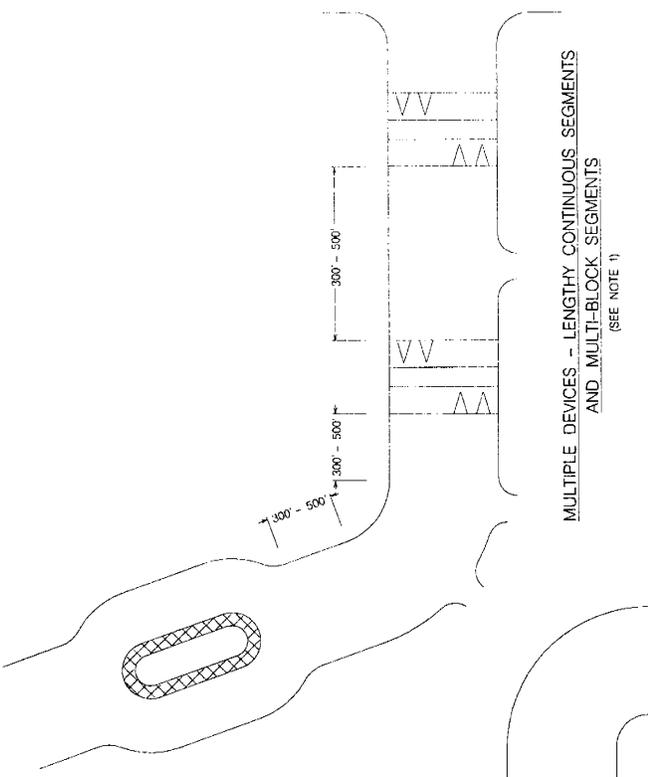
TWO DEVICES - SINGLE MODERATE LENGTH TANGENT



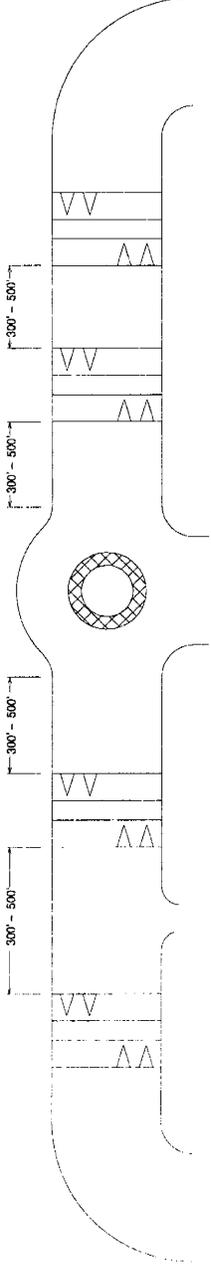
ONE DEVICE - SINGLE SHORT LENGTH TANGENT



THREE DEVICES - SINGLE LONG LENGTH TANGENT



MULTIPLE DEVICES - LENGTHY CONTINUOUS SEGMENTS AND MULTI-BLOCK SEGMENTS (SEE NOTE 1)



MULTIPLE DEVICES - LENGTHY CONTINUOUS SEGMENTS / MULTI-BLOCK SEGMENTS WITH INTERSECTING STREETS (SEE NOTE 1)

NOTES: 1 FOR MULTI-BLOCK SEGMENTS, AT LEAST ONE DEVICE PER BLOCK FOLLOW SPACING CONCEPTS ABOVE WITHIN EACH COMPONENT BLOCK. MAXIMUM AND MINIMUM SEPARATION AND "FIRST DEVICE" CRITERIA MAY BE RELAXED SOMEWHAT TO CONFORM TO PARTICULAR SITE CONDITIONS.

NOT TO SCALE

GWINNETT COUNTY TRAFFIC CALMING DESIGN GUIDE

MAY 2008

DRAWING NO.

SPACING OF TRAFFIC CALMING DEVICES

TC-12

## **Appendix A**

Review Checklist

## Review Checklist

To ensure that the traffic calming plans submitted by developers conform to the Traffic Calming Guide, the following review checklist has been developed.

### 1. Low Speed Curve

- a. Are the geometric data values conform with the data on the standard drawing?
- b. Does the distance between two adjacent curves conform to the spacing requirements?
- c. When compound curves are used, is the ratio of the flatter radius to the sharper radius less than 1.75:1?

### 2. Traffic Circle

- a. Does the curb return radius, diameter of the circle, offset distance, and opening width conform to that listed in the Traffic Circle Dimensions table?
- b. Is the truck apron slope between 3%and 4%?
- c. Is the height of the mountable curb 4 inch?
- d. Are “YIELD” signs and object markers installed?
- e. Are advanced “Circular Intersection” and “Advisory Speed” signs used?
- f. Does the sign installation conform to the Gwinnett County Standards?
- g. Are the pavement markings shown correctly?

### 3. Median Island

- a. Does the curb return radius, diameter of the median nose, offset distance, and opening width conform to that listed in the Median Island Dimensions table?
- b. Is the truck apron slope between 3%and 4%?
- c. Is the height of the mountable curb 4 inch?
- d. Are object markers installed? When used at an intersection, are “Stop” signs installed for side streets?
- e. Does the sign installation conform to the Gwinnett County Standards?
- f. Are the pavement markings shown correctly?

#### **4. Roundabout**

- a. Is the circulating roadway width between 14' and 19'?
- b. Are the entry radii, exit radii, and inscribed circle diameter design requirements satisfied?
- c. Is the truck apron slope between 3% and 4%?
- d. Is the height of the mountable curb 4 inch?
- e. Are "YIELD" signs used appropriately?
- f. Are advanced "Circular Intersection", "Advisory Speed" and "Yield Ahead" signs used?
- g. Are "One Direction Large Arrow" signs installed?
- h. Does the sign installation conform to the Gwinnett County Standards?
- i. Are the pavement markings shown correctly?

#### **5. Lateral Shift**

- a. Is the deflection angle not less than  $45^{\circ}$ ?
- b. Is the lateral shift distance not less than the width of one lane?
- c. Is the truck apron slope between 3% and 4%?
- d. Is the height of the mountable curb 4 inch?
- e. Are object markers used?
- f. Are the pavement markings shown correctly?

#### **6. Speed Hump**

- a. Is the total length of the hump 22 feet long?
- b. Is the height of the hump 3-5/8 inches?
- c. Is the flat top 10 feet wide?
- d. Is the taper 12" long?
- e. Are the pavement markings shown correctly?

f. If multiple speed humps are used, does the spacing conform to the requirements in the guide?

g. Is the design per the current edition of the Gwinnett County Speed Hump Program Manual?

**7. Raised Crosswalk**

a. Is the total length of the raised crosswalk 22 feet long?

b. Is the height of the raised crosswalk 3-5/8 inches?

c. Is the flat top 10 feet wide?

d. Is the taper 6" long?

e. Are the pavement markings shown correctly?

f. Are drop inlets on uphill side of the raised crosswalk installed?

g. Are wheelchair ramps installed?

## **Appendix B**

Policy and Guidelines

**Policy and guidelines for Landscaping center islands, traffic circles, small roundabouts and other treatments within the rights-of-way of new residential streets.**

**SCOPE**

This policy will detail the landscaping in center islands, traffic circles, small roundabouts and other devices placed in the rights-of-way of new residential subdivision streets for the purpose of traffic calming and aesthetics. The policy will be easy to understand and apply and will be defined by the following items:

1. Trees-height and diameter
2. Shrubs-height
3. Sprinkler Systems-limitations
4. Maintenance of Landscaping-Responsibilities

**GENERAL GUIDELINES**

1. If center islands, dividers and other traffic calming devices are landscaped in accordance with this planting guide they should fully meet intersection sight distance requirements at all intersections with level or near level approaches. Some cases of horizontal and vertical alignment on one or more approaches may, however, introduce sight distance problems. In such cases, these intersections must be designed and or landscaped to meet intersection sight distance requirements contained in either AASATO or Gwinnett County development regulations.
2. The maximum diameter tree permitted within center islands, traffic circles, small roundabouts and other devices will be 6". This diameter should be the expected maturity size, not the planted size. Shrubs and small trees should be maintained so that they will have no branches blocking sight distance within seven (7') from ground. Small shrubs, vines and other plants intended as ground cover which attain a mature height greater than 30" (measured from the road surface) are not permitted as these have the potential to interfere with clear sight distance.
3. Trees and shrubs will not be permitted to block or obstruct pedestrians or sidewalks. They must be properly trimmed and set back to insure there are no clearance problems.
4. No landscaping will be placed or allowed to grow such that it blocks regulatory or informational signs.

5. Sprinklers may be installed by developers or neighborhood associations. The cost to install and maintain will be the responsibility of the developers or neighborhood associations. Sprinklers should operate only between the months of March through October to insure that no runoff will freeze on the road. They should not be allowed to spray or overspray into the adjacent roadway.
6. A partial list of plant material which meet the criteria contained in these guidelines is as follows.

Trees Smaller than 4" Caliper Measured 3' above the ground:

Crape Myrtle

Wax Myrtle

Tree Form Burford Holly

Japanese Maple

Trident Maple

Japanese Black Pine

Shrubs 17" or less in height:

Helleri Holly

Parsoni Juniper

Dwarf Barberry

Gumpo Azalea

Shrubs 30" or less in height:

Dwarf Chinese Holly

Carissa Holly

Dwarf Yaupon Holly

Rependens Holly

Ground Covers

Liriope

English Ivy

Blue Rug Juniper

Asiatic Jasmine