**Legend**

- A: Return Radius Point
- B: True Point
- C: Buffer Area
- D: F.B. Line
- E: Frontage Boundary Line
- F: Property Line
- W: Driveway Width
- Y: Driveway Angle
- C: Corner Clearance
- G: Setback
- R: Outside Radius
- U: Inside Radius
- D: Distance Between Connections
- F: Curve

**General Notes**

1. For definitions and descriptions of access connection "Categories" and access "Classifications" of highway segments, and for other detailed information on access to the State Highway System, refer to FDOT Rule Chapter 14-96, "State Highway Connection Permits Administrative Process" and Rule Chapter 14-97, "State Highway System Access Management Classification System And Standards."

2. For this index, the term "turnout" applies to that portion of driveways, roads or streets adjoining the outer roadway. For this index, the term "connection" encompasses a driveway, street or road and their appurtenant islands, separators, transition lanes, auxiliary lanes, traveling lanes, lane, and structures, crossovers, sidewalks, curb cut ramps, signing, pavement marking, required signalization, maintenance of traffic or other means of access to or from controlled access facilities. The turnaround requirements set forth in this index do not provide complete intersection design, construction or maintenance requirements.

3. The location, positioning, orientation, spacing and number of connections and median openings shall be in conformance to these standards, or, in conformance to permits issued during the construction project.

5. Driveways shall have sufficient length and size for all vehicular queuing, stacking, maneuvering, standing and parking to be carried out completely beyond the right of way line. Except for vehicles stopping to enter the highway, the turnout areas and driveways within the right of way shall be used only for moving vehicles entering or leaving the highway.

6. Connections with expected daily traffic over 4000 vpd are to be constructed as intersecting streets or roads. The design requirement of this index and that of the local government will be used to select appropriate connection widths, road and intersection design, subject to the approval of the Department. For connections with expected daily traffic less than 4000 vpd, the Department will determine if a local basis is required in accordance with existing or planned connections. Where radius returns apply, the design requirement of this index and that of the local government will be used to select appropriate connection widths, road and intersection design, subject to the approval of the Department.

For connections that are intended to be accessible to any unit vehicle or single unit vehicle excepting 30' in length, returns will be used in the intersections, unless otherwise called for in the plans or otherwise stipulated in the permits. Where large numbers of multi-unit vehicles will use the connection, the connection width and returns are to be increased and maintained as required by the Department to be used, unless otherwise called for in the plans or otherwise stipulated in the permits. Where large numbers of multi-unit vehicles will use the connection, the connection width and returns are to be increased and maintained as required by the Department to be used, unless otherwise called for in the plans or otherwise stipulated in the permits. Where large numbers of multi-unit vehicles will use the connection, the connection width and returns are to be increased and maintained as required by the Department to be used, unless otherwise called for in the plans or otherwise stipulated in the permits.

7. Where a connection is intended to align with a connection across the highway, the through lanes are to align directly with the corresponding through lanes.

8. For new connections and for connections on new construction and reconstruction projects, the same requirements for "Urban Paved Turnouts" or, that described in "Table 14-5-I" for connections with radius returns and/or auxiliary lanes.

9. The responsibility for the cost of construction or alteration of an access connection shall be in accordance with FDOT Rule Chapter 14-96.

**Design Notes**

1. Prior to the adoption of FDOT Rules Chapters 14-96 and 14-97, connections to the State Highway System were defined and permitted by Classifications. Connections have been refined by Categories under Rule 14-96 and the term "Class" has been applied to the remaining segments of the State Highway System as defined under Rule 14-97.
1. Driveways indicated as "Adverse Applications" are those with slopes that can cause excessive drag for representative standard passenger vehicles under fully loaded conditions, and those with slopes that can cause drivers who are leaving the roadway to slow or pause to the extent that traffic demand volume is impeded.

Driveways indicated as "Marginal Applications" are those with slopes that can cause excessive drag for representative standard passenger vehicles under fully loaded conditions when the driveway is located on the low side of fully superheaved roadways.

Driveways indicated as "General Applications" are those with slopes that can reasonably accommodate representative standard passenger vehicles and those that can accommodate representative standard trucks, vans, buses and recreational vehicles operating under normal, crown and superheave conditions.

2. The standard flared driveways on this page may not accommodate vehicles with low beds, low undercarriage or low appendage features, where such vehicles are design vehicles. Driveways are to have site-specific flare designs on Category III designs.

3. Specific flare type driveways are to be constructed, the type shall be designated in the plans using the assigned alphanumeric designation.
DRIVEWAY SECTIONS ON CURBED FACILITIES WITH SIDEWALKS

SIDEWALK ADJACENT TO CURB

SIDEWALK WITH UTILITY STRIP ON 0.02 SLOPE

SIDEWALK WITH UTILITY STRIP ON 0.04 SLOPE

G 8
G 9
G 10
G 11
G 12
G 13
G 14
G 15
G 16
G 17
G 18
G 19
G 20
G 21
G 22
G 23
G 24
G 25
G 26
G 27
G 28
G 29
G 30
M 3
M 13
M 24
A 2
A 12
A 11
A 22
A 23

TURNOUTS

2010 FDOT Design Standards

Sheet No. 3 of 7
LIMITS OF CLEARING & GRUBBING,
STABILIZING AND BASE AT INTERSECTIONS

Drainage pipe size and length shall be shown on the plans, or as stipulated by permit or, as determined by the Engineer, during construction. The size shall be at least that established by the FDOT District but not less than 10" diameter or equivalent. For minimum cover, cover over drainage pipe see Index No. 205. Pipe arch or elliptical pipe may be required to obtain necessary cover. At minimal cover applications, a modified pavement apron is permitted. See "PERMISSIBLE PAVEMENT MODIFICATION" Index No. 273.

Stabilized material may be required for graded turnout to private property as directed by the Engineer in accordance with Section 102-8 of the Standard Specifications.

The 5' pavement of graded connections is not required where there is paved shoulder 4' or more in width. The 5' pavement requirement may be waived for connections serving one or two homes or field entrances with less than 20 trips per day, or 5 trips per hour as approved by permit or by the Engineer, or when not itemized in the plans.

Paved turnouts are to be constructed for all passing connecting facilities. The connecting point will be determined by the Engineer.

Paved turnouts are to be constructed for all-business, commercial, industrial or high volume residential graded connecting facilities. The connecting point shall be 30' from edge of roadway pavement or at R/W line, whichever is less.

Paved turnouts are to be constructed for all connecting facilities over 4000 vehicles per day. The connecting point shall be at the R/W line.

See "Summary of Geometric Requirements For Turnouts" chart for return radii, lengths and supplemental information.
# Material Types and Thicknesses in Driving Areas for Rural and Urban Connections

<table>
<thead>
<tr>
<th>Course</th>
<th>Materials</th>
<th>Thickness (in.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structural</td>
<td>Asphaltic Concrete</td>
<td>1&quot;</td>
</tr>
<tr>
<td>Access</td>
<td>Optional Base (See Index No. 514)</td>
<td>0.5&quot; or 1.0&quot;</td>
</tr>
</tbody>
</table>

- Minimum thickness.
- All materials shall be approved by the Department prior to being placed.
- Connection structure other than traffic lanes. See Notes 1 and 2 below.
- Traversable lanes (bypass lanes), auxiliary lanes serving more than a single connection, and all median crossings including their auxiliary lanes and/or transition taper. See Notes 1 and 2 below.

## Notes

1. The pavement should be structurally adequate to meet the expected traffic loads and should not be less than that shown above, except as approved by the Department for graded connections. Other Department approved pavement equivalencies may be used at the discretion of the Engineer. For additional information see Index No. 514.

2. Auxiliary lanes and their transition tapers shall be the same structure as the abutting roadway pavement or any of the roadway structures tabulated above, whichever is thicker.

3. In an asphalt base course is used for a turnout, its thickness may be increased to match the edge of roadway pavement in lieu of a separate structural course. 6" of Portland cement concrete will be acceptable in lieu of the asphalt base and structural courses. See Notes 4 and 5 below.

4. A structural course is required for flexible pavements when they are used for auxiliary lanes serving more than a single connection.

5. Connections paved with Portland cement concrete shall be Class NS concrete at least 6" thick. The Department may require greater thickness when called for in the plans or stipulated by permit. Materials and construction are to conform with DOT Standard Specifications Sections 347, 350, and 930.

6. The Department may require other pavement criteria where local conditions warrant.

## Pavement Structure for Turnouts and Auxiliary Lanes

### Table 515-1

## Limits of Construction and Maintenance for Rural Connections

### Notes

1. Auxiliary lane pavements and crossover pavements shall be maintained by the Department.

2. Department maintenance of turnout pavement shall extend out to 5' from edge of the travelway or limits of paved shoulders, and, extend to include auxiliary lanes. The remainder of any turnout paved area on the right of way shall be maintained by the owner or his authorized agent. As a function of routinely reworking shoulders, the Department may grade and shape existing material on improved areas beyond the maintained pavement.

3. Control and maintenance of drainage facilities within the right of way shall be the responsibility of the Department, unless specified differently by Department permit.

4. The maintenance and operation of highway lighting, traffic signals, associated equipment, and other necessary devices shall be the responsibility of a public agency.

5. All pavement markings on the State highways, including acceleration and deceleration lane markings, and signing installed for the operation of the State highway shall be maintained by the Department.

6. All signing and marking installed for the operation of the connection (such as stop bars and stop signs for the connection) shall be the responsibility of the permittee.
STORMWATER RUNOFF AND PROFILE OPTION NOTES

1. Turnouts shall neither cause water to flow on or across the roadway pavement nor cause water ponding or erosion within the State right of way. On all rural access turnouts the transition (L) nearest the roadway should be sloped or crowned to direct stormwater runoff to the roadway ditch. Ditches, swales or other appropriate runoff control devices shall be constructed when runoff volumes are sufficient to cause erosion of the shoulder. Similar runoff control devices shall be constructed as necessary to properly direct and control the stormwater runoff on urban turnouts.

2. Option 1 profile is intended for locations where roadway, turnout taper, and auxiliary lane stormwater runoff volumes are relatively large. The Option 2 profile is intended for locations where runoff volumes are relatively small and/or where there is no roadway ditch.

RURAL TURNOUT PROFILES

- Definition:
  - Grade (3)
  - Almogia Difference In Grades (3)
  - Transition (See Tabulated Lengths)

- Option 1:
  - Maximum Grades: Commercial = 20\(^\circ\), Residential = 15\(^\circ\)

- Option 2:
  - Maximum Grades: Commercial = 20\(^\circ\), Residential = 15\(^\circ\)

- Definitions:
  - Grade (3)
  - Almogia Difference In Grades (3)
  - Transition (See Tabulated Lengths)

- URBAN TURNOUT PROFILES

- When restoring or reconstructing existing commercial turnout connections on new construction or reconstruction projects, the maximum 10% commercial grade may be exceeded provided this does not create any adverse roadway operational or safety impacts. This shall be approved by the District Design Engineer and be supported by documented site specific findings.

RECOMMENDED TURNOUT PROFILE TRANSITION LENGTHS (L) (FT.)

ROADWAY PAVEMENT SLOPES AND SLOPES OF ABUTTING RURAL TURNOUT SURFACES (Gz)

SUPERELEVATION SECTIONS

2010 FDOT Design Standards

Name/Initials Date Name/Initials Date Name/Initials Date

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Last