



Leon County Driveway and Street Connection Guidelines and Procedures Manual

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PURPOSE

To protect the safe use of the public roadways by managing the number and type of connections to the public roadways.

I. INTRODUCTION

The provisions of this Manual shall apply to the installation, modification, and maintenance of all new or existing connections to the public street system of Leon County. A connection is a driveway, street (public or private), turnouts for future development, sidewalks, trails or other means for providing access of vehicles, pedestrians or bicycles to or from the public road system. A public street is a roadway that is owned and/or maintained by Leon County, City of Tallahassee or the Florida Department of Transportation (FDOT). This Manual outlines the standards for connections to public streets owned and maintained by Leon County. Connections to the State Highway System are governed by the FDOT. This Manual is intended to be in substantial conformance with the applicable Florida Statutes and the latest edition of the FDOT Driveway Information Guide. If this guide is silent as to a requirement, the criterion defaults to FDOT's. If this guide's criteria conflicts with FDOT's, this Manual governs.

Connections to designated Canopy Roads require adherence to the standards outlined in this manual and may require review by the Canopy Road Citizens' Committee and final approval by the Board of County Commissioners. The Director of Environmental Services or designee may waive requirements if deemed in the best interest for preservation of the tree canopy or protected slopes.

When in conflict, the Tallahassee-Leon County Comprehensive Plan and the Leon County Land Development Code (LDC) supersede the criteria outlined in this manual.

II. DEFINITIONS

The following words, terms and phrases, when used in this document, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning. Other applicable definitions are found in the LDC.

Access - Ability to enter or leave land connecting to the County road system.

ADA - Americans with Disabilities Act - Requirements of the Federal government governing construction standards to guarantee access for persons with disabilities.

ADT - Average Daily Traffic - The average 24 hour volume, being the total volume during a stated period divided by the number of days in that period. Normally, this would be periodic daily traffic volumes over several days, not adjusted for days of the week or seasons of the year.

Arterial Roadway - Shall mean a street and highway facility, including full and partial access controlled highways and major interstate, inter-county, intra-county and urban area entrance highways, which are designed to carry the highest traffic volumes and the longest trips

through and within the county.

Collector Roadway, Major – Shall mean a street that channels traffic between arterials, from other collector streets to the arterial system, and from a major activity center to the arterial street system. Major collector roadways may sustain retail and other commercial establishments along its route and may carry relatively high traffic volume.

Collector Roadway, Minor – Shall mean a street that conducts traffic from a number of minor streets to the major collector/arterial system, between other collectors, and from activity centers to a street of higher classification. Minor collectors are predominately residential in nature, generally with lower volumes, shorter trip lengths, and fewer trips than major collectors.

Connections - Driveways, streets, turnouts for future development, sidewalks, trails or other means of providing access to vehicles, pedestrians or bicycles to and from the public street system.

Construction Plans - Plan and profile drawings with sufficient detail to clearly demonstrate that the proposed connection or modification to an existing connection is in compliance with this Manual.

Corner Clearance or Corner Setback - The distance between the nearest point of the connection and the edge of the travel lane of the intersecting street.

Culvert Pipe - A pipe or box conduit installed under a connection, appropriately sized to convey the stormwater from the contributing basin.

Curb Cut - A connection that requires the removal of curb from the roadway edge to construct the connection.

Director – The Director of Development Support and Environmental Management (DSEM) or designee, the Director of Environmental Services.

Driveway - Shall mean a private road or way giving access from a public or private right-of-way to an adjacent or abutting property.

Driveway Angle - The angle between the driveway connection centerline and the edge of the travel way.

Driveway Separation - The distance between driveways measured along the right-of-way lines between driveway tangent points.

Driveway Width - The narrowest width of the driveway measured perpendicular to the centerline of the driveway, or the edge of travel way to edge of travel way. Width does not include any taper or radius needed to facilitate turning movements.

DSEM - Development Support and Environmental Management, the County department

responsible for the coordination of the review, issuance, inspection, and closeout of driveway and connection permits.

Engineer - A Professional Engineer licensed in Florida in accordance with Chapter 471, Florida Statutes.

Entrance Throat Depth - The distance along the driveway from the right-of-way line to the first internal decision point for traffic.

FDOT - Florida Department of Transportation - the agency responsible for managing and permitting access onto the State Highway System and whose standards this manual follows.

Flare - A triangular-shaped pavement surface that transitions the driveway pavement from the property/right-of-way line to the edge of pavement to facilitate turning movements.

Frontage - Shall mean the length of the property line of any one premises along a street on which it borders.

Frontage Road - Typically a public street which is situated parallel to and adjacent to arterial and/or collector roadways and which provide access to abutting properties while providing separation from through traffic.

Integrated Access System - A transportation system which includes joint driveways, acceleration/deceleration lanes, turn lanes, limited access driveways, and frontage/service roads to minimize level of service impacts to the abutting roadway.

Intersection Setback - The distance from the right-of-way line of the intersecting street to the edge of the nearest adjacent driveway connection.

Island - A physical barrier which separates traffic lanes for the purposes of limiting and/or directing traffic flow to a specific direction.

Local Road - Shall mean a street which collects traffic from adjacent land uses and channels it to the collector/arterial roadway system. Local streets are intended to carry the lowest traffic volumes. Local streets can provide access to small homogeneous residential, commercial, office or industrial land uses.

Median - The portion of the divided roadway that separates opposing lanes of traffic.

Median Cut - A break in the median to allow some level of access.

Operational Analysis - Utilizes site-specific traffic counts, through movements, turning movements, distribution of traffic, traffic projections to review the adequacy of the adjacent roadway system for safety and the need for various roadway improvements such as, but not limited to, acceleration or deceleration lanes, turn lanes, stop signs, traffic signals, median modifications, access modifications, etc. Depending on the scale of the development and projected traffic distribution, the operational analysis may extend beyond

the roadway immediately adjacent to the property.

Permit - A document issued by DSEM which allows the construction of a new or modification of an existing connection to a county-maintained roadway and may include the conditions of approval associated with the connection.

Private Street - Shall mean any street which has not been dedicated to a public body for public use and which provides access to more than one landowner's property, and whose primary function is traffic circulation rather than access to individual parking spaces.

Property Line - The line between two separate parcels of land or the boundary between a parcel of land and the road right-of-way.

Public Street - Shall mean any street designed to serve more than one owner's property which is dedicated for public use and protected for maintenance by the Board of County Commissioners or other public body.

Right-of-Way (ROW) - Shall mean a strip of land taken or dedicated for use as a public way or such use as is set forth in the instrument establishing the right-of-way.

Service Road - Typically a private street which is situated parallel to and adjacent to arterial and/or collector roadways and which provide access to abutting properties while providing separation from through traffic.

Setback - Shall mean the shortest distance between a building or structure and the lot line, whether front, side or rear, measured from the lot line to vertical exterior walls.

Shoulder - A portion of the roadway contiguous to the travel way for the accommodation of stopped vehicles, for emergency use, and for edge of pavement protection.

Sidewalk - A hard-surfaced walkway or pathway constructed of concrete, or other durable material, built to specifications of Leon County, for purposes of facilitation pedestrian access along a thoroughfare or internal to a development.

Sight Triangle - Shall mean the length of road visible to a driver on a side street or driveway to observe oncoming objects on the main street, as defined in the LDC.

Standard Indexes - The FDOT's Publication of Roadway and Traffic Design Standards, latest edition.

State Highway - A roadway which is part of the official State of Florida Highway System and is owned and maintained by FDOT.

Structure - Shall mean anything constructed, installed or portable, the use of which requires a location on a parcel of land. This term also includes billboards, swimming pools, poles, pipelines, transmission lines, tracks and advertising signs.

Temporary Connection Permit - A permit which authorizes connection to the public road

system for a limited period of time, typically for a construction entrance.

Trail - A pedestrian, bicycle, or horse path that may connect to a public roadway. The trail may be improved or unimproved.

Travel Way - The portion of the roadway used for the movement of vehicles. It does not include shoulders, bicycle lanes, turn lanes, etc.

Tree - Shall mean any self-supporting woody plant having at least one well-defined stem a minimum of two inches DBH, and which normally grows to a minimum height of 25 feet in the county area.

Trip Generation - The number of trips projected to be generated from a proposed land use onto the adjacent roadway. Trips are estimated based on the latest edition of the Institute of Transportation Engineers (ITE) Manual.

Urban Service Area - Shall mean that area which includes all of the City of Tallahassee and a portion of the county which is to be developed at urban levels of density or intensity either immediately or over the course of the planning period. The boundaries of the urban service are as established in the Comprehensive Plan, as amended.

VPD - Vehicles per day.

VPH - Vehicles per hour.

III. CONNECTION CLASSIFICATIONS

Roadway and driveway connections are classified based on expected traffic volume using the connection. The permitting criteria and the information needed to review a connection permit are dependent on the classification. The level of plan detail requirements will increase as the connection class increases. DSEM shall determine the classification of connections. The total number of new trips generated at the proposed connection will be based on the generation rates from the latest edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual.

Class 1: Residential Connection or Sidewalk/Trail. This driveway connection classification is for a single-family home, duplex or multi-family dwelling of four (4) or fewer units. This class shall also apply to connections used for access to agricultural land and to all proposed sidewalk and trail connections. Commercial connections, regardless of the number of trips estimated to be generated by the proposed land use, are classified as a Class 2 or higher connection.

Class 2: Minor Connection. This is a connection that services the equivalent of more than four (4) residential units or any commercial use, regardless of the minimum trips. The total estimated trip generation associated with a proposed Class 2 connection is between 40 and 1,000 trips per day. This class does not apply to a proposed connection that requires median modifications, turn lanes or an operational traffic analysis, regardless of the

estimated number of trips associated with the proposed land use. All Class 2 connection requests are required to be designed by an engineer. Class 2 driveway connection permit applications shall be submitted concurrent with the project's site plan application submittal.

Class 3: Major Connection. This connection is projected to generate more than 1,000 vehicle trips per day. Examples of this connection class are high traffic commercial generators such as shopping centers, office parks, apartment or condominium complexes, or lower trip generators that have requested a median cut or other roadway modification such as, but not limited to, turn lanes and acceleration or deceleration lanes. A Class 3 permit application shall be prepared and submitted by an engineer. An operational traffic analysis of the proposed connection may be required regardless of the traffic concurrency status. The operational analysis shall review the functionality and safety of the proposed connection and not the operational level of service based on capacity. A Class 3 driveway connection permit application shall be submitted concurrent with the project's site plan application submittal and shall be reviewed by Public Works.

Class 4: Public or Private Roads. This classification level includes all new public or private road connections proposed to connect to an existing public roadway. A Class 4 permit application shall be prepared and submitted by an engineer. An operational analysis may be required, depending on the roadway connection location and projected trip generation. The operational analysis shall review the functionality and safety of the proposed connection, including any signalization requirements.

IV. POLICY ON THE COST OF CONSTRUCTION

The total cost of new connection construction or alteration to an existing connection, including required stormwater, shall be the responsibility of the applicant. The total cost of any offsite work required by the County due to altered traffic patterns or changes on the site that make the connection inefficient or unsafe, shall be the responsibility of the applicant. Any ROW disturbance or damage caused by the applicant during the construction of a roadway or connection shall be corrected to the original condition within the timeframe specified by the Director.

If the County Public Works Department revises traffic patterns or completes roadway work that is not attributed to the development that has been issued a connection permit, the County shall bear the cost to adjust/modify the connection(s) to accommodate the modified roadway condition.

V. CONNECTION PERMIT PROCEDURES

A. When to Apply for a Permit:

1. Before any connection to the public road system of Leon County is initiated or modified, DSEM shall issue a permit for the work. The connection permit shall be submitted at the time of the building permit for a Class 1 driveway connection or concurrent with the submittal of a site plan application for Class 2 or higher connections. A single connection permit

should be issued for the entire development site for the most comprehensive review of roadway impacts.

2. Issuance of a connection permit does not relieve the applicant from complying with the applicable provisions of the Comprehensive Plan or the LDC.
3. For all proposed, non-county public road connections to county roads by governmental entities, a connection permit is required from the entity proposing the connection.
4. A connection permit is not required for new connections to private roads or modifications to existing connections to private roads.
5. A permit is required for any modification to a connection to a county road.

B. Where to Apply for a Connection Permit:

All connection permit applications shall be submitted to DSEM.

C. Information Required for a Connection Permit:

1. All connection permits require the following information:
 - a. A general location map, a legal description of the site or sites upon which any and all portions of the development will be located, a tax parcel identification number, and evidence of ownership.
 - b. The name, local address and telephone number of an individual who shall be the designated contact for the project, and shall have adequate authority within the project administration to ensure compliance with this permit.
 - c. A narrative indicating the intent and scope of the proposed project.
 - d. A site plan illustrating the following:
 - i. grading plan;
 - ii. location of the proposed connection, and existing/adjacent driveways, roadways, street intersections and railroads, if applicable;
 - iii. existing and proposed structures;
 - iv. culvert pipe specifications, if applicable;
 - v. sight triangle;
 - vi. environmental constraints (e.g. wetlands, trees, floodplain, slopes, etc.); and
 - vii. utilities.
 - e. Sufficient details must be included so the connection can be constructed using the submitted drawings.

- f. Based on the proposed activity associated with the connection permit, a Maintenance of Traffic (MOT) plan may be required. The MOT plan must be reviewed and approved by Public Works.
2. In addition to the information outlined above, all Class 2, 3 and 4 connection permit applications shall include the following:
 - a. All ROW, property and easement lines;
 - b. Existing roadway pavement and median widths;
 - c. Surveyed elevations;
 - d. Complete engineering design;
 - e. Typical cross section of the driveway showing the pavement design;
 - f. Proposed stormwater culvert which denotes size, type of pipe, invert elevations, and end treatments, along with engineering calculations to verify that the proposed pipe size is adequate to safely convey the flow from offsite/upstream contributing basin for the required design storm based on the classification of the adjacent roadway;
 - g. Proposed grading to ensure that the connection will not have any adverse impacts;
 - h. Existing or proposed retaining walls, utility poles, sidewalks, bike paths, drainage structures, utilities and any other physical feature that might affect the driveway location;
 - i. All trees in the right-of-way that will be removed to construct the proposed connection or to provide an adequate sight triangle;
 - j. Adequate sight triangles must be demonstrated for each proposed connection; and
 - k. All utilities within 50 feet of the proposed connection shall be identified.
3. Class 3 and 4 connection permit applications shall include, in addition to all information required above, the following:
 - a. Safety analysis to determine if acceleration or deceleration lanes are required;
 - b. Vehicle turning movement counts for the proposed condition;
 - c. Vehicle trip generations and operational splits for intersection

operational analysis. The analysis shall review the functionality and safety of the proposed connection and not the operational level of service based on capacity. A pre-submittal meeting is encouraged to determine the needed scope of the traffic operational analysis.

4. Class 3 and 4 permits shall obtain an environmental permit that includes approval from DSEM and Public Works.
5. Temporary connection permit applications must provide the information required for a Class 1 connection permit, and in addition provide the following:
 - a. Sight distance at the driveway connection along the roadway;
 - b. Distance from the proposed connection to intersecting roads, railroad, median openings and existing driveways within 300 feet on both sides of the street where the temporary connection is proposed;
 - c. Existing or proposed retaining walls, utility poles, sidewalks, bike paths, drainage structures, utilities, trees and any other physical features that may affect the driveway location;
 - d. A temporary driveway connection does not have to be paved; however, the connection must be stabilized and/or improved in such a manner as to not create an erosion or sedimentation issue;
 - e. Demonstration of adequate stormwater conveyance is required; and
 - f. Based on the proposed activity associated with the temporary connection permit, an MOT plan may be required.

D. Review Procedure:

1. Class 1 connection permits will be reviewed concurrent with the project's building and environmental permit application.
2. Class 2 through 4 connection permits will be reviewed concurrent with the project's site plan and environmental permit application.
3. Proposed projects that do not require site plan review or a building permit, as determined by DSEM (e.g. temporary or modification connection permits), shall be issued within ten (10) working days after submittal of a complete application.

E. Final Inspection

The applicant shall request an inspection prior to placement of material (e.g.

pouring concrete or placement of asphalt). A final inspection approval is required for all connection permits issued by the county when the improvements are completed and prior to the expiration of the permit. All approved connection permits shall be valid for 6 months or until the work covered by the permit is completed. If the connection permit is issued in conjunction with a development approval, the connection permit shall remain valid consistent with the development approval.

VI. CONNECTION DESIGN REQUIREMENTS

The recommended design standards for construction and modifications of connections to the County road system are generally consistent with those implemented by FDOT. The Director of DSEM or designee may adjust the requirements based on site specific criteria.

A. General Guidelines and Criteria:

1. Construction plans for Class 2, 3 and 4 driveway connections shall be designed by an engineer.
2. Sight distance measurement shall meet the most recent requirements in the FDOT Green Book based on the posted speed limit. In all cases, connections shall be located to either meet or maximize the available sight distance for the property. Please refer to Appendix 4 for current sight distance requirements.
3. Existing roadway and natural features must be considered for the location of the proposed connection. Roadway features include, but are not limited to, median lanes, turn lanes, proximity to intersections, connections, traffic signals, pedestrian crossings, and utilities. Natural features include, but are not limited to, slopes, trees, wetlands, stormwater, floodplain, etc.
4. In the interest of public safety, the proposed connection may not be permitted at the applicant's requested location based on the following:
 - a. To prevent the creation of unsafe or improper traffic movements, a connection will not be permitted along a particular frontage if the parcel has access to other public roadways.
 - b. An applicant may be required to provide on-site accommodations to allow vehicles to turn around and avoid backing into the street from the proposed connection.
 - c. A proposed modification to an existing connection may not be permitted if traffic patterns, points of connection, roadway geometries, or traffic control devices cause disruption of traffic or create safety hazards.
5. A connection shall not be allowed within the radius return of intersecting roadways.

6. The minimum setback from a roadway radius return to the edge of a Class 1 connection taper shall be 50 feet; a Class 2 or higher shall be 100 feet.
 7. A connection shall not be located within acceleration or deceleration lanes, or within tapers.
 8. The connection must be constructed in such a manner that entering and exiting movements will be accomplished with minimum disruption to the roadway traffic flow.
 9. Class 2 or higher connections along major collectors or arterials shall be located at least 275 feet apart, measured from the closest edge of the two connections.
 10. For any proposed Class 2 and above connection, the parcel shall be limited to one connection unless the frontage of the parcel is more than 330 feet. Based on site-specific conditions, two connections may be allowed if the parcel frontage is greater than 330 feet.
 11. Along major collectors or arterial roadways, additional connections may be permitted if the total project traffic volume is projected to be more than 5000 VPD. Such a connection request requires the submittal of a detailed traffic study conducted by an engineer, which clearly demonstrates the need for additional connections. It is recommended that the applicant meet with DSEM and Public Works to discuss the scope and methodology for the traffic analysis, specifically regarding the operational safety aspects of the adjacent and nearby roadway systems.
 12. Compliance with ADA requirements is mandatory for all connections.
 13. The connection angle shall be 90 degrees or as specified in Appendix 1.
 14. The minimum separation for a Class 1 connection is 40 feet. In cases where narrow lots exist, site-specific design criteria shall be applied to minimize the number of driveways connected to the street.
 15. Entrance throat depth setback for Class 2 or higher connections is critical so that traffic does not slow down or impede through movements on the adjacent roadway. The minimum throat depth shall allow for at least two cars.
 16. Improvements or modifications to existing connections shall conform to the standards for new connections, to the greatest extent possible.
- B. Connection Specifications
1. All proposed connections shall comply with the specifications outlined in Appendix 1.

C. Driveway Grades:

1. Connection grades will affect the ability of vehicles to safely exit or enter a property. Therefore, the following criteria shall be implemented:
 - a. The applicant shall consider site requirements and sight distance;
 - b. The connection shall be designed for the prevention of stormwater from either entering or exiting the site;
 - c. FDOT guidelines for maximum grade changes and connection profiles shall be followed;
 - d. To prevent vehicle drag, vertical curves at least 5 feet long or short tangents at least 3 feet long shall be considered with grade changes over 6%. For connections to roadways with curb and gutter, no vertical curves shall be permitted through the gutter line unless the roadway drainage is properly accommodated; and
 - e. The maximum grade in the ROW shall be limited to 6% regardless of the class of connection, when possible.
2. On arterial roadways, the following design factors shall be considered:
 - a. The connection shall slope upward from the gutter line without a vertical curve to provide stormwater control;
 - b. No drop curb shall be permitted within the limits of the curve radii, except as required for curb cut ramps for ADA compliance.

D. Stormwater/Drainage:

1. The following minimum standards shall apply if a culvert is required for the proposed connection:
 - a. A culvert is part of the driveway system and is sized and constructed at the property owner's expense. Minimum size culvert pipe is 18 inches unless a variance is approved by the County Engineer. In no cases shall the culvert pipe be less than 15 inches in a public ROW.
 - b. A culvert pipe shall meet FDOT standards with a minimum of a 50-year design life. For Class 4 connections, only reinforced concrete pipe (RCP) is permitted.
 - c. A culvert pipe must be of adequate size to carry the contributing flow for the 5-, 10- or 25- year, one-hour storm, depending on the roadway classification as follows:
 - i. local road - 5 year;

- ii. collector road - 10 year; and
 - iii. major collector/arterial or special development zone - 25 year.
- d. The culvert pipe flow line shall be a minimum of 2 feet below the edge of pavement at either end of the connection if possible, based on site specific conditions.
 - e. Culvert pipe ends must be protected with either an end wall, mitered end section or flared end sections. All construction shall meet the latest edition of FDOT Design Standard Indexes for these components.

E. Canopy Roads Review Criteria:

1. Any removal of a protected tree associated with a proposed connection will require the applicant to obtain a permit from DSEM.
2. Clear sight distance must be provided between vehicles on a canopy road within dimension "d" (as shown in Table 1).
3. The driver eye setback for the limit of clear sight shall be between 8 and 10 feet, depending on site-specific conditions. Observations are made in both directions along the line of sight at an elevation 3.5 feet above respective pavements.

Table 1
Canopy Road Sight Distance Requirements*

Design Speed	d	dL	dR
30	200	135	79
35	225	151	88
40	275	184	107
45	325	216	126
50	400	264	155
55	450	296	173

* Sight distance "d" is measured along the canopy roadway from the center of the entrance lane of the connection to the center of the approach lane of the canopy roadway. Distances dL and dR are measured from the center of the entrance lane of the connection to a point on the edge of the near side traffic lane on the canopy road.

VII. CONNECTION PAVEMENT MATERIALS AND REQUIREMENTS

Driveway Construction Materials

All driveway connections (except temporary) inside the Urban Service Area (USA) or

designated rural community shall be stabilized with asphalt or concrete to the ROW line. Commercial driveways shall be designed for asphalt or concrete of sufficient cross section to support the proposed traffic loads. Residential connections outside the USA or a rural community must utilize the same material for a minimum of 5 feet from the edge of pavement or to the back of ditch, whichever is further, in order to protect the edge of pavement and preserve the stormwater conveyance.

Class 1. The connection apron shall be a minimum of 6 inches thick - 3000 psi concrete with fiber mesh reinforcement or asphaltic concrete. If asphaltic concrete is used, the minimum compacted thickness shall be 1 inch with 4 inches of limerock base (LBR 100).

Class 2. The connection shall be, at a minimum, 6 inches of 3000 psi fiber mesh concrete or greater, if required for the traffic loads, or an asphalt road surface designed to handle the traffic volume and load. The minimum cross section shall be 12 inches of stabilized sub-base LBR40, 6 inches of limerock or crushed concrete base with an LBR of 100 and 2 inches of SP 12.5 or 9.5. All pavement cross sections shall be designed for the site loadings to determine if the minimum requirements meet the site conditions.

Class 3. The connection shall be, at a minimum, 6 inches of 3000 psi fiber mesh concrete or greater, if required for the traffic loads, or an asphalt road surface designed to handle the traffic volume and load. The minimum cross section shall be 12 inches of stabilized sub-base LBR40, 6 inches of limerock or crushed concrete base with an LBR of 100 and 2 inches of SP 12.5 or 9.5. All pavement cross sections shall be designed for the site loadings to determine if the minimum requirements meet the site conditions.

Class 4. The minimum cross-section shall be 12 inches of stabilized sub-base LBR40, 6 inches of limerock or crushed concrete base with an LBR of 100 and 2 inches of SP 12.5 or 9.5. All pavement cross-sections shall be designed for the site loadings to determine if the minimum requirements meet the site conditions.

VIII. TRAFFIC CONTROL DEVICES

The installation of signage and pavement markings at private roadways, residential or commercial connections and/or the installation of traffic signals at Class 2 through 4 connections may be required for the safe and efficient movement of traffic. All traffic control devices shall be designed and installed in accordance with the latest edition of the Manual of Uniform Traffic Control Devices (MUTCD), FDOT standards and Leon County standards. All traffic control devices shall be approved by the County Engineer.

The approval to install traffic signals shall be based on a traffic engineering analysis following FDOT/MUTCD standards which addresses the warrants, the design and operation of the signals. The responsibility for the study shall rest with the applicant. If a signal is installed, only mast arms are allowed and all elements shall be designed for efficient maintainable signal operation. Additional signage, pavement markings, etc., within the County right-of-way may be required with or without a traffic signal. The applicant shall be responsible for all costs of the design, materials and installation. The County partners with the City of Tallahassee to operate and maintain its signal system; therefore, the County

requires City specific controllers.

IX. MAINTENANCE AND ACCESS MANAGEMENT

A. Connection Maintenance

1. The property owner shall be responsible for all driveway connection maintenance, except sidewalk surfaces and drainage facilities.
2. All traffic control devices, signals, pavement markings, and signage installed in the public ROW to control traffic shall be maintained by the County. Any traffic control devices required to be installed outside the public ROW shall be maintained by the property owner.

B. Access Management:

Based on the traffic analysis for a proposed development, modification, reconstruction and construction of median openings and/or auxiliary lanes may be necessary to minimize the effect of the development on the operational levels of service on the adjacent roadway network.

1. Medians:

- a. The spacing of median openings shall be governed by FDOT standards, based on the type and classification of the roadway. The median openings shall have clear sight distance for the speed and type of roadway. A traffic analysis shall demonstrate if turn-lane storage is required. Protected left turn storage shall be provided with all new or proposed median openings.
- b. Median spacing may be adjusted based on site-specific factors such as sight distance, median width, and drainage.
- c. New median openings shall be allowed when a specific need is justified based on a traffic study provided by the applicant's engineer, and when it can be documented that the opening provides benefits to the overall traffic flow and improves safety and efficiency of the existing public road. The applicant shall give primary consideration to alternate ingress/egress, such as intersecting streets, frontage roads, common exits, etc.

2. Auxiliary Lanes

- a. Auxiliary lanes shall be provided when a specific need is justified based on a traffic study provided by the applicant's engineer.
- b. The construction of auxiliary lanes may require additional right-of-way, which shall be secured by the applicant at no expense to the County.
- c. Auxiliary lanes shall provide a minimum of 2-minute storage, or a

minimum of 2 passenger vehicles, whichever is larger. If the oversized vehicle volume exceeds 10% of the traffic to the development, the minimum storage length shall be provided for one passenger car and one WB-50 truck

X. ENFORCEMENT

The provisions of this Article shall be enforced by the Department of Development Support and Environmental Management consistent with the procedures outlined in Chapter 10 of the Leon County Code of Laws.

XI. VARIANCES

Variances to the design requirements for Class 1 or 2 permits may be granted by the Director of Environmental Services. A variance to the minimum culvert size shall be approved by the County Engineer. Variances for a Class 3 or Class 4 permit require the approval of the Development Review Committee. All variance requests shall be submitted in writing by the applicant. All variances granted shall be consistent with the Comprehensive Plan.

A variance request must demonstrate that full compliance with these standards will result in a hardship for the property owner. A hardship is not an inconvenience or denial of the preferred access.

XII. APPEALS

Appeals of a permit denial or an administrative interpretation shall be filed in writing to DSEM and shall be heard by the Board of Adjustment and Appeals.

XIII. APPLICATION REVIEW FEES

A review fee will be charged for each connection permit application at the time of submission. The review fee shall be based on the class of permit, consistent with the Board-adopted application review fee schedule.

APPENDIX

**APPENDIX 1
ROADWAY CONNECTION LAYOUT REQUIREMENTS***

Urban – curb & gutter Rural - highway		Class 1		Class 2				Class 3			
		Urban	Rural	Urban		Rural		Urban		Rural	
				1-way	2-way	1-way	2-way	1-way	2-way	1-way	2-way
Driveway Width (W)		#1 9' min 24' max		14' min 24' max	24' max 40' max	14' min 24' max	24' min 40' max	14' min 24' max	24' min 48' max	14' min 24' max	24' min 48' max
Flare (Return radii "R" or Drop Curb)		Drop Curb #2	Return Radii #2	Drop Curb #3		Return Radii #3		Return Radii 15' Min. 35' Max. (or 3-centered curves)		Return Radii 25' Min. 50' Max. (or 3-centered curves)	
	Local Street Min. Collector	10' Min.	5' Min. 15' Max.	10' Min.		15' Min. 25' Max.					
	Maj. Collector Arterial Street	N/A	10' Min. 25' Max.	N/A		15' Min. 35' Max.					
Angle of Drive (Y)		#4 75 - 90	#4 75 - 90	#4 45 - 90	#4 75 - 90	#4 45 - 90	#4 75 - 90	#4 45 - 90	#4 75 - 90	#4 45 - 90	#4 75 - 90
Edge Clearance (E)		0' Min.	#5 0' Min.	3' Min.		#5 8' Min.		#6 10' Min.		#6 10' Min.	
Corner Clearance (C)	Local Street	#7 0' Min.	10' Min.	#7 0' Min.		15' Min.		#8 N/A		#8 N/A	
	Minor Collector	0' Min.	10' Min.	15' Min.		25' Min.		50' Min.		50' Min.	
	Major Collector Arterial Street	#7 10' Min.	25' Min.	#7 75' Min.		75' Min.		#8 100' Min.		#8 100' Min.	
ROW Clearance at Intersection (RC)	Local Street	25' Min.	25' Min.	25' Min.		25' Min.		N/A		N/A	
	Minor Collector	25' Min.	25' Min.	50' Min.		50' Min.		100' Min.		100' Min.	
	Major Collector Arterial Street	50' Min.	50' Min.	100' Min.		100' Min.		150' Min.		150' Min.	
Distance Between Drives	Local Street	#9 40' Min.	#9 40' Min.	#9 40' Min.		#9 40' Min.		#9 N/A		#9 N/A	
	Minor Collector	40' Min.	40' Min.	75' Min.		75' Min.		125' Min.		125' Min.	
	Major Collector Arterial Street	#9 100' Min.	#9 100' Min.	#9 275' Min.		#9 275' Min.		#9 275' Min.		#9 275' Min.	
Island		Not Permitted		Not Permitted				10'-22' Wide		10'-22' Wide	

* Footnotes for the Roadway Connection Layout Requirements chart continue on the following page.

Footnotes for Appendix 1: Roadway Connection Layout Requirements

1. Driveway Width (W): Class 1 and 2 connections shall be within the minimum/maximum widths specified. Class 2 connections shall also conform to the widths specified; however, exceptions may be considered when vehicle capacity studies indicate that additional widths are required. On Class 2 and 3 connections that include a channelizing island to prevent left turn maneuvers, the minimum lane width should be 14 feet. For truck-trailer traffic, the minimum recommended width is 24 feet.
2. (A) Flare (Drop Curb) Class 1 Urban: In lieu of the standard drop curb treatment, a curb return treatment may be permitted where deemed appropriate and in the public interest. Curb return radii criteria is the same for Class 1 rural turnout.

(B) Return Radii "R" Class 1 Rural: For recommended minimum radii, see Appendix 2, which shows the recommended relationship between lane width, driveway width and driveway radius.
3. (A) Flare (Drop Curb) Class 2 Urban: In lieu of the standard drop curb treatment, a curb return treatment may be permitted where deemed appropriate and in the public interest. Curb return criteria is the same for Class 2 rural turnout.

(B) Return Radii "R" Class 2 Rural: Exception – when the predominant vehicle usage is a passenger vehicle and field conditions or property highway frontage dictate:
 - The minimum radius may be reduced to 15 feet on the property line side;
 - The minimum width of drive shall be increased one foot for each foot of reduction.
4. Angle of Drive (Y): Recommended 45 degrees minimum for one-way connections; 75 degrees for two-way connections.

Two-way operation – recommended "Y" as near 90 degrees as site conditions allow, and 75 degrees normal minimum.

One-way operation – when vehicle usage is from both directions of travel on the highway, the recommended "Y" is the same as the two-way operation above. When vehicle usage is only from one direction of travel on the highway, a recommended "Y" of 45 degrees shall be considered as the normal minimum.
5. Edge Clearance (E) Class 1 and 2: at the 0' minimum for Class 1 and 2 rural turnouts, P.C. of the property line, i.e., it is a point of tangency.
6. Edge Clearance (E) Class 3: E = 10 feet minimum is intended for new construction or initial issue as a Class 3 connection. Exception: when upgrading or reclassifying an existing connection and traffic conditions warrant, then: (a) lesser E distance is allowable, but no less than Class 2 requirements; and (b) upgrade connection complies with all other Class 3 layout requirements.
7. Corner Clearance (C) Class 1 and 2: If an urban intersection is signalized or is likely to be signalized, Class 1 and 2 urban connections should provide a 50' minimum corner clearance.
8. Corner Clearance (C) Class 3: The 50 feet from an intersecting street is an absolute minimum, applicable for undivided roadway sections and where maximum property access along a divided roadway section is not essential, e.g., access connection in vicinity of median opening.
9. Distance between Drives (D):

Class 1: Two driveways may be permitted along the same frontage if frontage is adequate to ensure proper driveway separation, e.g., access to timber and farm land, circular residential driveways, etc. Distance between driveways shall not be less than those specified for Class 2 requirements.

Class 2: Distances shown are absolute minimum values, and greater distances between driveways are desirable wherever feasible.

Class 3: These distances shall be used whenever the following conditions exist or are anticipated to occur: (1) roadway traffic volume is greater than 5,000 VPD, highway speed is greater than 25 mph; (2) level of property development (commercial) ranges from 30 to 60 driveways per mile; and (3) minimum driveway volumes are greater than 200 VPH at peak periods.

Along state highways, these distances may be readily applied only to construction on new alignment, or where the abutting property development is spread out and the abutting frontage is greater than 100 feet. As a practical matter on existing or reconstructed public roadways, it may be difficult to impossible to achieve the desirable recommended spacing. Where these recommended distances between drives are not feasible, lesser spacing between Class 3 driveways may be approved, but shall not be less than those absolute minimum distances specified for Class 2 requirements.

According to roadway speed and the above conditions, regardless of driveway classification, the spacing along arterial highways between driveways is:

<u>Highway Speed</u>	<u>Minimum Distance</u>
20 mph	85 feet
25 mph	105 feet
30 mph	125 feet
35 mph	150 feet
40 mph	180 feet
45 mph	230 feet
50 mph	275 feet

APPENDIX 2

Recommended Relationship of Lane Width, Driveway Width and Driveway Radius

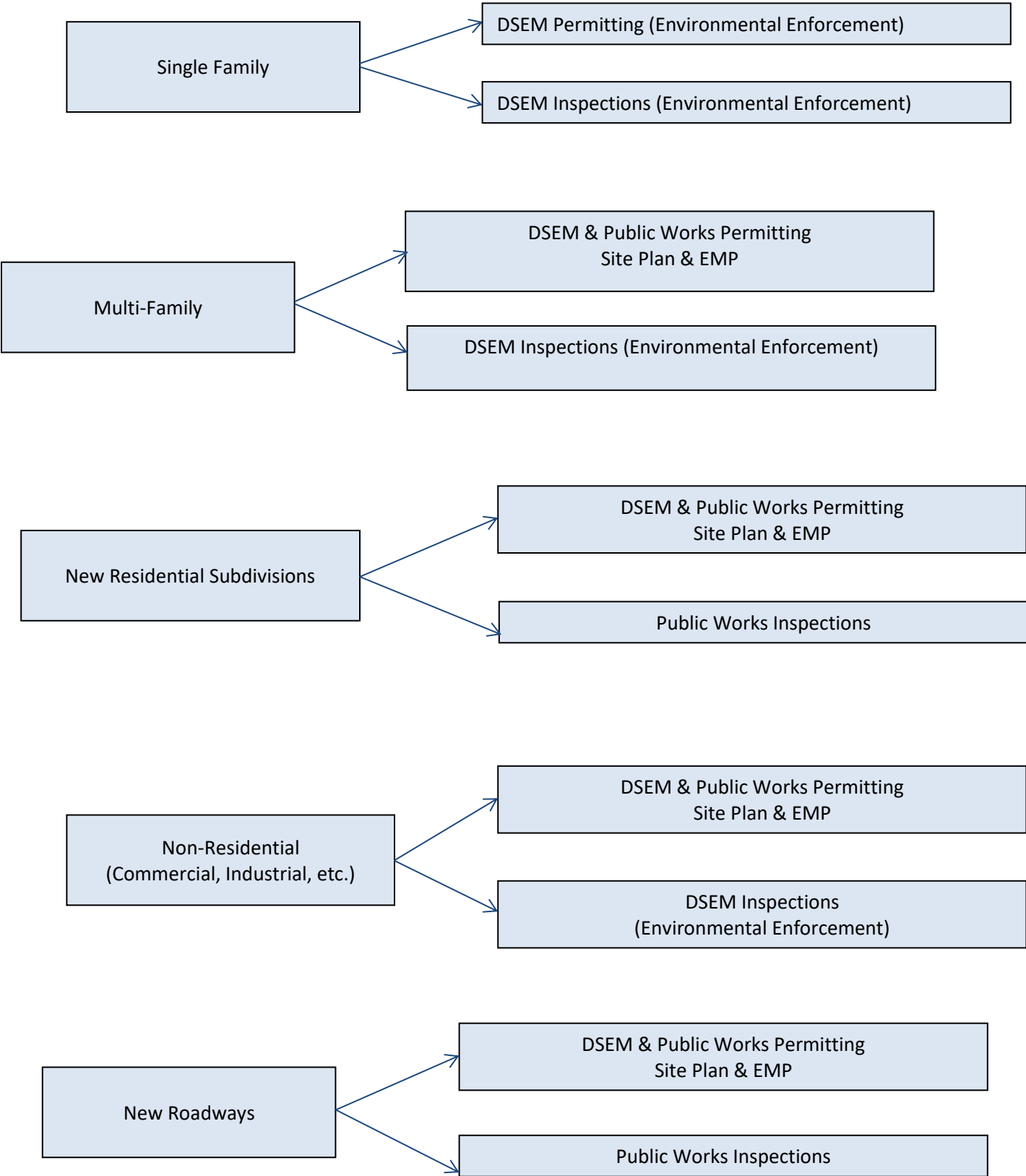
Drive Width	Roadway Lane Width 11'*				Roadway Lane Width 12'*				Roadway Lane Width 13'*			
	Car	SU	Bus	WB40	Car	SU	Bus	WB40	Car	SU	Bus	WB40
10	15'	--	--	--	15'	--	--	--	15'	--	--	--
12	15'	40'	--	--	10'	40'	--	--	10'	40'	--	--
14	10'	35'	--	--	10'	35'	--	--	10'	35'	--	--
16	10'	30'	40'	40'	10'	30'	40'	40'	10'	30'	40'	40'
18	10'	25'	40'	35'	10'	25'	35'	35'	10'	25'	35'	35'
20	10'	25'	35'	35'	10'	20'	30'	30'	10'	20'	30'	30'
22	10'	20' ¹ 30' ²	30'	30'	10'	20' ¹ 30' ²	25'	30'	10'	20' ¹ 30' ²	25'	25'
24	10'	20' 30'	25' ¹ 45' ²	25'	10'	15' 30'	20'	25'	10'	15' 25'	20'	25'
26	10'	15' 30'	25' 45'	25'	10'	15' 25'	20'	25'	10'	15' 25'	20'	20'
28	10'	15' 30'	20' 40'	25'	10'	15' 25'	20'	20'	10'	15' 25'	20'	20'
30	10'	15' 25'	20' 40'	20'	10'	15' 25'	20'	20'	10'	15' 20'	15'	15'
32	10'	15' 25'	20' 35'	20'	10'	15' 20'	20'	15'	10'	15' 20'	15'	15'
34	10'	15' 20'	20' 35'	15'	10'	15' 20'	15'	15'	10'	15' 20'	15'	15'
36	10'	15' 20'	15' 30'	15'	10'	15' 20'	15'	15'	10'	15' 15'	15'	15'
38	10'	15' 20'	15' 30'	15'	10'	15' 15'	15'	15'	10'	15' 15'	15'	15'
40	10'	15' 15'	15' 30'	15'	10'	15' 15'	15'	15'	10'	15' 15'	15'	15'

* Lane width is measured to face of curb.

Notes: ¹ This radius requires right turns into the drive to use the entire driveway width and requires right turns from the drive to cross the centerline on two-lane roadways. This combination should not be used as an exit radius on two-lane roads.

² This combination is the minimum for the exit radius on two-lane roadways. Should also be used for the entering radius where it is desirable to minimize encroachment into the driveway exit lane.

Appendix 3 Driveway Connection Processes



APPENDIX 4

**TABLE 3 – 3
SIGHT DISTANCES AND LENGTHS OF VERTICAL CURVES**

MINIMUM STOPPING SIGHT DISTANCES (FEET) (For application of stopping sight distance, use an eye height of 3.50 feet and an object height of 6 inches above the road surface)												
Design Speed (MPH)	15	20	25	30	35	40	45	50	55	60	65	70
Stopping Sight Distance (FEET)	80	115	155	200	250	305	360	425	495	570	645	730

ROUNDED K VALUES FOR MINIMUM LENGTHS VERTICAL CURVES												
$L = KA$												
L = LENGTH OF VERTICAL CURVE A = ALGEBRAIC DIFFERENCE OF GRADES IN PERCENT												
Design Speed (MPH)	15	20	25	30	35	40	45	50	55	60	65	70
K Values for Crest Vertical Curves	5	10	19	31	47	70	98	136	185	245	313	401
K Values for Sag Vertical Curves	10	17	26	37	49	64	79	96	115	136	157	181
<ul style="list-style-type: none"> The length of vertical curve must never be less than three times the design speed of the highway Curve lengths computed from the formula $L = KA$ should be rounded upward when feasible The minimum lengths of vertical curves to be used on major highways are shown in the table below 												

MINIMUM LENGTHS FOR VERTICAL CURVES ON MAJOR HIGHWAYS (FEET)			
Design Speed (MPH)	50	60	70
Crest Vertical Curves (FEET)	300	400	500
Sag Vertical Curves (FEET)	200	300	400

MINIMUM PASSING SIGHT DISTANCES (FEET) (For application of passing sight distance, use an eye height of 3.50 feet and an object height of 3.50 feet above the road surface)												
Design Speed (MPH)	20	25	30	35	40	45	50	55	60	65	70	
Minimum Passing Sight Distance (FEET)	710	900	1090	1280	1470	1625	1835	1985	2135	2285	2480	

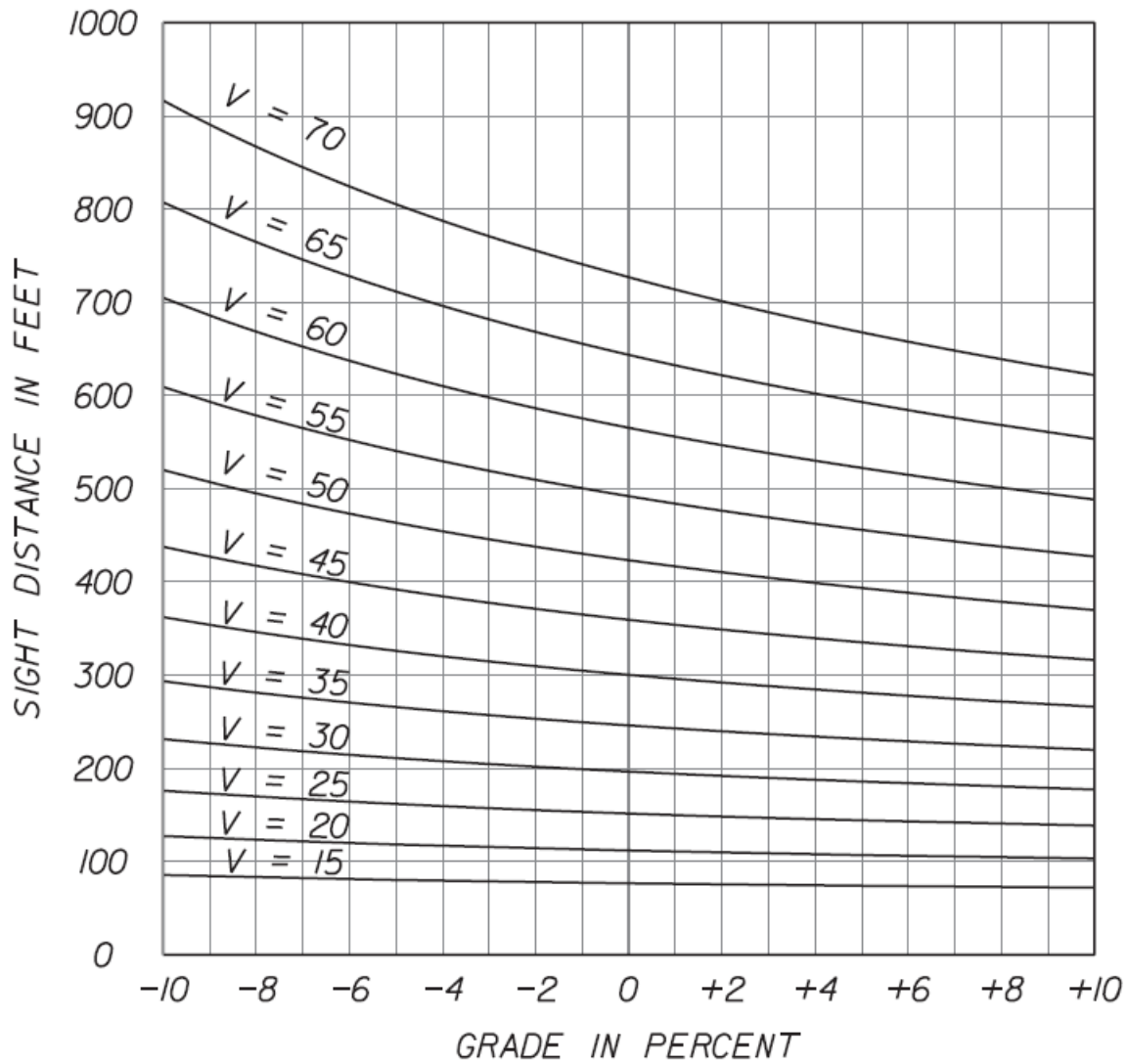
APPENDIX 4

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FIGURE 3 – 9
SIGHT DISTANCES FOR APPROACH TO STOP ON GRADES



$$S = 3.675V + \frac{V^2}{30(0.3478 \pm G)}$$

S = Sight Distance
 V = Design Speed
 G = Grade