

# SAVE THE DATE



**2040 LAND USE PLAN – ACTION ITEM 4-6:  
PRIVATE STREETS AND DRIVEWAYS AMENDMENTS  
~OPEN HOUSE~**

**WHEN: TUESDAY – APRIL 2, 2019**

**WHERE: 4700 ELMORE ROAD,  
ROOM 170**

**TIME: 5:30 – 8 P.M.**

**A PUBLIC REVIEW DRAFT OF THE RECOMMENDATIONS REPORT  
CAN BE FOUND HERE:**

<https://www.muni.org/Departments/OCPD/Planning/Projects/AnchLandUse/Pages/4-6PrivateStreetandDriveways.aspx>

Anchorage Planning Department: *Bringing the future into the present*

[Project Webpage](#)

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**MARCH 13, 2019**



**Public Review Draft – March 13, 2019**

**2040 LUP ACTION ITEM 4-6**

**PUBLIC REVIEW DRAFT RECOMMENDATIONS TABLE AND ATTACHMENTS**

## **PROJECT: IMPLEMENT 2040 LUP ACTION 4-6**

**INTRODUCTION:** 2040 Land Use Plan Action item (4-6) Residential Driveways for Compact Housing was the forum for discussion between several Municipal Departments on November 7, 2018. We know there are many Muni ordinances and guidance that impact this issue: AMCR 21.90, Title 21.07, DCM, Fire Code, the Municipal Driveway Standards. Currently, Private Development, Traffic Engineering, PM&E, and Planning use this variety of resources to make a determination on whether a driveway or private road should be built, and to what dimensions or standards.

### ***PROBLEMS OR ISSUES Discussed at the internal staff meeting held November 11, 2018:***

1. Several different guiding documents and ordinances lead to conflicting considerations in project approvals. The decision process is "clear as mud." Every decision made is in context to the development.
2. There is not consistency between like projects. Recommended improvements have not been constructed. Some projects with many structures just design for a parking lot.
3. Building a private road with width for fire, but no curb and gutter occurs—other places a private road gets built with curb and gutter, onsite drainage, and onsite storage.
4. Addressing section has certain requirements.
5. 21.90 does not address pedestrian connection.
6. Failing private roads not built to Muni standards, now maintained by Muni.
7. Traffic Engineer can only address requirements for public roads. Private road design and construction requirements need to be clarified and adopted.

**PURPOSE:** *To create "Clarity" in the decision-making process and implement LUP 2040 Action item 4-6: "Amend Title 21 and other regulations [AMCR 21.90] for internal site circulation for vehicles, parking courtyards, and private streets for compact infill housing."*

**RECOMMENDATIONS:** *A suite of recommendations are included in this report. The recommendations include additional sections to 21.90; Applicability and Decision Process and Construction Examples, updated or additional definitions, updated private street design criteria, deletion of Parking Requirements Section in 21.90, and addition of a Woonerf optional design standard:*

- A. Defining inconsistencies and proposed changes to the Definition sections of 21.90 and 21.14.040 are included in TABLE #1.
- B. Edits to sections of 21.90 and 21.07 are found in TABLE #2.
- C. *Attachment A:* Decision Tree, Tables X and Y, Development Examples.
- D. *Attachment B:* Comparison Table Current 21.90 vs. Proposed 21.90.
- E. *Attachment C:* What is a Woonerf Street - Design and Standards.
- F. *Attachment D:* Proposed Public Engagement and Approval Process and Timeline.
- G. *Attachment E:* AMCR 21.90 - A.R. 2004-108(S-2)
- H. *Attachment F:* Municipal Driveway Standards – December 11, 2006

TABLE #1: Recommended Edits to Definitions Sections of AMCR 21.90 and Title 21:

<b>AMCR 21.90</b>	<b>TITLE 21</b>	<b>DISPOSITION</b>	<b>RECOMMENDATIONS</b>
AASHTO shall mean American Association of State Highway and Transportation Officials.		Not found in 21.14.040.	No action recommended.
Access.	Access – A way or means of approach to provide vehicular or pedestrian physical entrance to a property.	Not found in 21.90.	No action recommended.
Alley.	Alley – A permanent service right-of-way providing a secondary means of access to abutting properties.	Not found in 21.90.	No action recommended.
AMC shall mean Anchorage Municipal Code.	AMC – Anchorage Municipal Code.	Same definition.	No action recommended.
BMP shall mean Best Management Procedures.		Not found in 21.14.040.	No action recommended.
CONTRACTOR shall mean the party to whom a municipal building permit, land use permit, or right-of-way permit is issued, and who is responsible for the installation of all public and/or private roads, parking areas, pedestrian amenities, drainage features and utilities, and other associated site improvements required by the agreements or permits.		Not found in 21.14.040.	No action recommended.

AMCR 21.90	TITLE 21	DISPOSITION	RECOMMENDATIONS
Curb and gutter.		Not found in 21.14.040 or 21.90	Amend into 21.90 and 21.14.040: <u>Curb and gutter – Raised strips of concrete combined with a depressed concrete channel along the edges of streets or parking lots. Curbs provide structural support to the edge of pavement, provide a durable surface for snow plow blades, define borders between traveled and untraveled surfaces, and help contain low speed traffic within the edges of the pavement. When combined with gutters, curbs collect and convey storm-water runoff to point of collection and improve the efficiency of street sweepers by concentrating debris for easy mechanical clean-up.</u>
DCM shall mean the Municipal Design Criteria Manual.		Not found in 21.14.040.	No action recommended.
Developer shall mean the party obligated under a subdivision agreement, development agreement, right-of-way permit, building permit, for all required road improvements, parking areas, pedestrian amenities, drainage features, utilities, and other improvements required by the agreements or permits.	Developer – that person or entity improving or developing land, who may or may not be the owner of the property.	Substantially different definition in detail and scope.	No action recommended.

AMCR 21.90	TITLE 21	DISPOSITION	RECOMMENDATIONS
<p>Development shall mean a residential development ultimately consisting of more than two dwelling units per lot or tract.</p>	<p>Development – the initiation, construction, or enlargement of any use or structure, the disturbance of land, or the division of land into two or more parcels. “Development” shall include, but not be limited to, the following: Construction or enlargement of a building or structure; Change in the type of use of a building, structure, or land; Material increase in the intensity of use of land, such as an increase in the number of businesses, offices, manufacturing establishments, or dwelling units located on a building or structure or on the land; Commencement or expansion of resource extraction, agriculture, horticulture, or forestry activities on a parcel of land; Demolition of a structure or clearing of vegetation from a parcel of land; Alteration of the shore, bank, or channel of any stream, lake or other body of water or alteration of any wetland; Any land-disturbing activity that adds to or changes the amount of impervious or partially impervious cover on a land area or which otherwise decreases the infiltration of precipitation into the soil.</p>	<p>Substantially different definition in detail and scope.</p>	<p>Add to 21.90 definition: <u>This definition specific to AMCR 21.90.</u></p>

AMCR 21.90	TITLE 21	DISPOSITION	RECOMMENDATIONS
<p>Driveway shall mean the paved connection meeting municipal driveway standards located between the garage of a dwelling unit and the adjacent roadway (public or private) or between the travel aisle of a parking lot/area and the adjacent roadway (public or private).</p>	<p>Driveway – A private travel way providing motor vehicle access from a parking space or parking facility to a street. A driveway is not a street. It does not provide primary frontage or address for buildings, nor is it primarily designed for non-motorized pedestrian access.</p>	<p>Substantially different definition in detail and scope – See recommended updated language – combines thoughts from both documents.</p>	<p>Either amend 21.90 or 21.14.404 with a combination of definitions:  <u>Driveway shall mean the paved connection meeting municipal driveway standards located between the garage of a dwelling unit and the adjacent Street (public or private) or between a parking Facility and the adjacent Street (public or private).</u>  <u>A driveway is not a street. It does not provide primary frontage or address for buildings, nor is it primarily designed for non-motorized pedestrian access.</u></p>
<p>FTD shall mean field density test(s)</p>		<p>Not found in 21.14.040.</p>	<p>No action recommended.</p>
<p>IFC shall mean International Fire code, as adopted in AMC Chapters 23.45 and 23.55.</p>		<p>Not found in 21.14.040.</p>	<p>No action recommended.</p>
<p>MASS shall mean Municipality of Anchorage Standard Specifications.</p>	<p>M.A.S.S. – An abbreviation for the "<i>Municipality of Anchorage Standard Specifications</i>," which is a manual that identifies the approved common construction practices associated with subdivision development and public works projects.</p>	<p>Differing definition in detail and scope.</p>	<p>Leave as is.</p>
<p>MUTCD shall mean Manual on Uniform Traffic Control Devices</p>		<p>Not found in 21.14.040.</p>	<p>No action recommended.</p>

<b>AMCR 21.90</b>	<b>TITLE 21</b>	<b>DISPOSITION</b>	<b>RECOMMENDATIONS</b>
Parking lot/area shall mean more than two parking spaces, not located on a roadway, designed to provide parking for a development. Maneuvering for the parking spaces may occur either in the roadway or a travel aisle where parking is back-to-back, depending on the parking space configuration.	Parking Lot – An at-grade, surface parking facility built directly on the ground.	Differing definition in detail and scope.	ADD to 21.90 definition - <u>Refer to 21.14.040 for additional parking definitions.</u>
Parking space shall mean one space where a vehicle is intended to be parked.	Parking Space – A space for the parking of one automobile.	21.90 refers to vehicle, T21.14.040 refers to automobile. Automobile is too specific.	Amend 21.14.040 – A space for the parking of one <del>automobile</del> <u>Vehicle</u> .
Parking Space, Guest.	Parking Space, Guest – A parking space for use by guests in a residential development, and not exclusive to or physically associated with any individual dwelling.	Not found in 21.90	No changes to definition in 21.14.404. Amend 21.90 with: <u>Refer to 21.14.404 for definition.</u>
Pedestrian Connection.		Not found in either document	Need to define "Pedestrian Connection and amend into 21.90 or 21.14.040.
<b>AMCR 21.90</b>	<b>TITLE 21</b>	<b>DISPOSITION</b>	<b>RECOMMENDATIONS</b>



<p>Plan shall mean a document, prepared by a professional engineer licensed in the State of Alaska showing all applicable items as listed below in subsection 21.90.003E.1.</p>	<p>Plan, Landscape - A plan, drawn to scale, showing dimensions and details of the portion of a site devoted to planting materials and their maintenance.</p> <p>Plan, Master - The maps, illustrations, and supporting text associated.....</p> <p>Plan, Site - A plan depicting the proposed development of a property uses.....</p>	<p>Differing definitions in detail and scope.</p>	<p>Leave 21.90 as is, and add: <u>See 21.14.040 for additional information on different types of plans, as defined by Title 21.</u></p>
<p>Private Roadway shall mean a roadway located on private property that provides access from driveways to public roadways. Maintenance for private roadways shall be the responsibility of the private owners.</p>	<p>Street, Private</p> <p>A street located on privately owned real property, whether owned by an individual or subject to Horizontal Property Regimes and Common Ownership Acts, and absent dedication of an overlapping public use easement. A private street is often memorialized by plat note.</p>	<p>Differing definitions in detail.</p>	<p>Amend 21.90 with: Private <del>Roadway</del> <u>Street</u> shall mean a <del>roadway</del> <u>Street</u> located on private property that provides access from driveways to public <del>roadways</del> <u>Streets</u>. Maintenance for private <del>roadways</del> <u>Streets</u> shall be the responsibility of the private owners.</p> <p>Amend 21.14.040 to either delete current definition, or add revised definition. <del>A street located on privately owned real property, whether owned by an individual or subject to Horizontal Property Regimes and Common Ownership Acts, and absent dedication of an overlapping public use easement. A private street is often memorialized by plat note.</del></p>
<p><b>AMCR 21.90</b></p>	<p><b>TITLE 21</b></p>	<p><b>DISPOSITION</b></p>	<p><b>RECOMMENDATIONS</b></p>

<p>Public Roadway shall mean a roadway constructed in public right-of-way or in a public use easement to municipal standards. The Municipality of Anchorage shall be responsible for maintenance of public roadways.</p>		<p>Public Roadway not found in Title 21.14.040, however definition for "Street" found in 21.14.404.</p>	<p>Amend 21.90 with: <del>Public Roadway</del> <u>Street</u> shall mean a <del>roadway</del> <u>Street</u> constructed in public right-of-way or in a public use easement to municipal standards. <del>The Municipality of Anchorage shall be responsible for maintenance of public roadways.</del> <u>Street will be maintained by the responsible agency (MOA, DOT&amp;PF, Limited Road Service Area (LRSA), or Rural Road Service Area (RRSA).</u></p>
<p>PUE shall mean public use easement.</p>		<p>Not found in 21.14.040</p>	<p>Leave as is.</p>
<p>Sidewalk.</p>	<p>Sidewalk – A concrete surface within a vehicle right-of-way, aligned with a road and constructed either adjacent to the curb or separated from the curb, for multiple pedestrian and non-motorized uses and purposes. Sidewalks are generally found in Class A zoning districts.</p>	<p>Not found in 21.90</p>	<p>Amend 21.14.040 with the following definition: Sidewalk – A concrete surface aligned with a <del>public road</del> <u>Street or Private Street</u> and constructed either adjacent to the curb or separated from the curb, for multiple pedestrian and non-motorized uses and purposes. Sidewalks are generally found in Class A zoning districts.</p>
<p><b>AMCR 21.90</b></p>	<p><b>TITLE 21</b></p>	<p><b>DISPOSITION</b></p>	<p><b>RECOMMENDATIONS</b></p>

<p>Woonerf.</p>	<p>21.07.060.F.18 – Refers to Woonerf Street as a “Play Street.”</p>	<p>Not clearly defined in 21.07.060.F.18. Not found in 21.90</p>	<p>Amend 21.14.060 and 21.90 with the following definition: <u>A Woonerf is a street that is designed for both vehicular and non-vehicular traffic such as pedestrians and cyclists, as well as social gathering and recreation. Pedestrians and cyclists take precedence in the use of the street. The access for all modes is accommodated on the same surface, and not differentiated by grade separation or other barrier. Woonerfs include means for traffic calming that ensure safe co-existence of vehicles and other user groups. Landscaping features, including patterned paving, planters, trees, benches, or bollards, should enhance pedestrian safety and use.</u></p>
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TABLE #2 – AMCR 21.90 and Title 21 Recommendations for other Amendments

<b>EDITS TO 21.90</b>			
21.90 Title			Amend Title of AMCR 21.90 to: Regulation 21.90 – <u>MULTIPLE DWELLING UNIT PRIVATE STREET STANDARDS FOR RESIDENTIAL DEVELOPMENT ON A SINGLE LOT OR TRACT.</u>
21.90.F.1 – Private road design criteria.	21.07.060.d Streets and onsite circulation makes referral to 21.08, which refers to DCM.	Too many references to search out.	Use the proposed Decision Tree and associated tables, and drawings, developed by this project, and intended to clarify which design criteria to use – <b>See Attachment B.</b>  <b>Also see proposed updates to Private Street design criteria included below.</b>
References throughout to “road” or “roads.”			Change all “road” and “roads” references to <u>Street</u> or <u>Streets.</u>
21.90.003.E Procedures			Add to E.1.b. Dimensions of all proposed <u>Streets roads</u> , driveways, <u>Primary Pedestrian Connections</u> , parking including; <u>Resident Parking Spaces and Guest Parking Spaces...</u>
21.90.003.F.1 – Private road design criteria.	N/A	Not addressed in Title 21.	Amend 21.90.003.F.: “Private <del>road</del> <u>Street</u> design criteria,” and change all references throughout section from “road” to <u>Street.</u>
21.90.F.003.4 - Parking			Delete entire section as proposed by Parking Subcommittee, may need to move some portions to future Private Street Design Manual, or into DCM. <b>See Attachment C</b>
21.90.002 – Developer Duties	N/A	Not addressed in Title 21.	ADD to future Private Street Design Manual or policy. Delete from 21.90.
21.90.003 – Responsibilities of parties.	N/A	Not addressed in Title 21.	ADD to future Private Street Design Manual or policy. Delete from 21.90.
21.90.003.F.3 – Emergency Response.	Not addressed.		ADD to future Private Street Design Manual or policy. Delete from 21.90.

<p>21.90.003.F.1 – Private road design criteria.</p>	<p>N/A</p>	<p>Private street standard is not addressed in Title 21.</p>	<p>Amend 21.90.003.F.1 – Private <del>road</del> <u>Street</u> design criteria with the following:</p> <ol style="list-style-type: none"> <li>a. <u>Any dead end private road with a length in excess of 150-feet (measured from the face of curb, or nearest edge of the traveled way for uncurbed roadways, of the intersecting street to the end of the private <del>road</del> Street) shall be provided with turnaround provisions meeting the requirements of Handout F.02, Recommended Fire Lane Turnarounds.</u></li> <li>b. <u>Use of the Optional private street section requires the establishment of a homeowner association and requirement for the homeowner association to contract with a towing company for the removal and impoundment of any vehicles parked along the private road. Additionally the homeowner association shall have the authority to have any vehicles parked in guest parking for more than 24-hours towed and impounded. Guest parking spaces shall be individually signed to indicate that vehicles parked for more than 24-hours will be towed at the owner’s expense.</u></li> <li>c. <u>Sidewalks shall be constructed of Portland Cement Concrete with a minimum thickness of 4-inches and a minimum width of 5-feet.</u></li> <li>d. <u>An 8’ wide separated asphalt pathway may be substituted for a sidewalk.</u></li> <li>e. <u>When a development includes multiple parking facilities the preference is to consolidate access between separate parking facilities with a private street. Using the private street for turning and maneuvering should be avoided.</u></li> <li>f. <u>A Woonerf Street shall include the following design elements:</u> <ol style="list-style-type: none"> <li>i. <u>A width of 24-feet and must not exceed 500-feet in length.</u></li> <li>ii. <u>Have a clear and distinct entrance with a sign indicating the Woonerf status.</u></li> <li>iii. <u>Incorporate different colors and textures in pavement material.</u></li> <li>iv. <u>Use traffic calming measures such as chicanes. Traffic calming measures must be placed at maximum intervals of 160-feet. Use of vertical traffic calming measures to be approved by the Fire and Traffic Departments.</u></li> </ol> </li> </ol>
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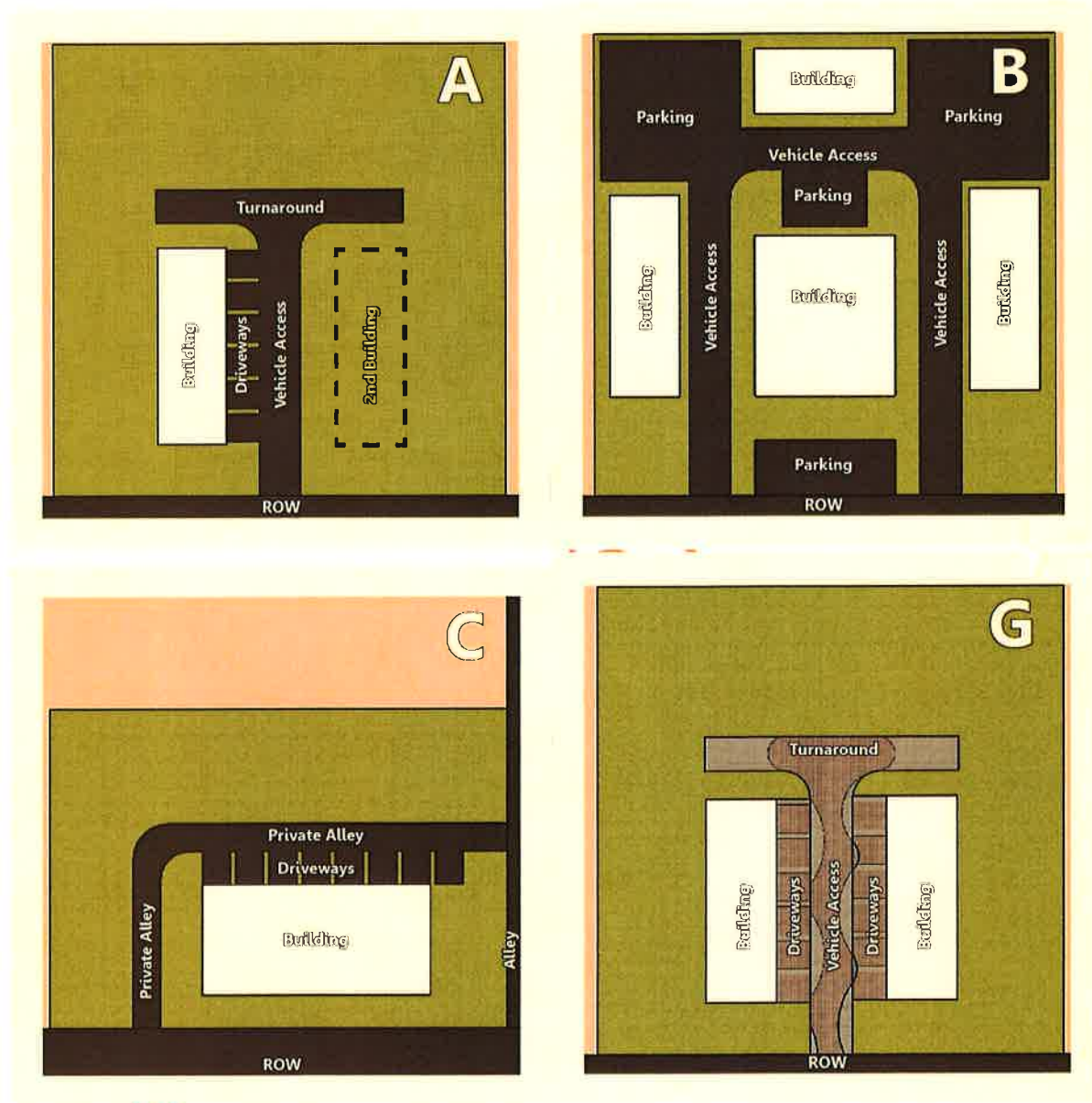
			<ul style="list-style-type: none"> <li>g. <u>A Woonerf Street may also include the following additional design elements:</u> <ul style="list-style-type: none"> <li>v. <u>Eliminate the continuous curb.</u></li> <li>vi. <u>Provide on-street parking.</u></li> <li>vii. <u>Incorporate outdoor furnishings, landscaping and lighting.</u></li> </ul> </li> <li>h. <u>An Administrative approval is required for Woonerf Streets.</u></li> <li>i. <u>Woonerf Streets are considered Optional private streets and are required to provide Managed Guest Parking.</u></li> <li>j. <u>Woonerf Street design elements must not interfere in Emergency vehicle access.</u></li> </ul>
Applicability Section		New to AMCR 21.90	<p>Add the following to AMCR 21.90:</p> <p>Applicability: The standards of this regulation shall apply to all developments with multiple dwelling units on a single lot having one (1) or more onsite vehicular access route which serves more than three (3) dwelling units with separate outside street-level entrances, and developments with multiple dwelling units on a single lot with more than one (1) parking facility separated by a "trunk" or "spine" vehicular access.</p> <p>Exempt:</p> <p>Developments with multiple dwelling units on a single lot where parking facilities are internally disconnected and each parking facility is connected directly to the public right-of-way by a driveway (Figure X). These developments shall construct access in accordance with Municipal Driveway Standards.</p> <p>Developments with multiple dwelling units on a single lot with access connected exclusively to a public alley (Figure X). These developments shall construct access in accordance with Municipal Driveway Standards.</p> <p>Developments with multiple dwelling units on a single lot with three (3) or less dwelling units on a single vehicular access. These developments shall construct access in accordance with Municipal Driveway Standards.</p>

Section 21.90.002		New to 21.90	<p>Add the following:  21.90.002 Decision Process and Construction Examples</p> <p>The decision to build a private street or driveway will be factored by the number of units to be constructed on a lot. This section provides a Decision Tree and construction examples for the user. The requirement to build a private street or driveway is also influenced by the addressing of the units, fire department access, lot size and type of development.</p> <p>The following Decision Tree (Illustration #1) and Construction Examples (illustrations A-G) provides the user a straightforward method to determine Municipal access requirements for a property.</p>
References to code may need to be updated.			Complete miscellaneous edits to code references that are out of date.
<b>EDITS TO 21.07</b>			
Add new item 21.07.090.M.7.d			<u>d. Minimum width of 20 feet for 2-way ingress/egress entries for parking structures. Formal waiver required from Municipal Traffic Engineer for a reduction/exception to this standard.</u>
New item 21.07.110.F.3.d <u>Guest Parking.</u>			<ul style="list-style-type: none"> <li><u>i. Locate guest parking spaces as to minimize maneuvering in private streets and circulation aisle.</u></li> <li><u>ii. Refer to Table 21.07-7 for guest parking dimensions to be located within the private street section.</u></li> </ul>
New item 21.07.110.F.3 e. <u>Garage Setback</u>			<u>Face of garage to be setback from edge of property line for public streets, or edge of the required private street section, consistent with Table 21.06-1: Table of Dimensional Standards – Residential Districts. The exception to this standard is when the driveway will be used for parking, then the minimum standard dimensional requirement of 9-foot width and 20-foot length is required.</u>

<p>21.07.110 F.3.d. <i>Exceptions</i></p>	<p>Current language: The traffic engineer may approve a departure from the standards of this section, such as a narrower driveway, if documentation prepared by a traffic engineering professional demonstrates.....</p>	<p>Becomes 21.07.110 F.3.f: Amend with: The traffic engineer <u>and the Planning Director</u> may approve a departure from the standards of this section, such as a narrow driveway, if documentation prepared by <del>AN a</del> traffic engineering professional demonstrates <u>the driveway still meets this chapter standards and the Municipal driveway standards memo issued by the Municipal Traffic Engineer, to the satisfaction of the traffic engineer and</u> that change is appropriate. <del>Traffic engineer a</del> Approval shall be contingent on factors such as street typology, urban context, traffic volume and speed, curb return radii, street travel lane offset from face of curb, pedestrian and bicycle facilities, snow storage, driveway configuration and length, site and project characteristics, number of vehicles, expected to use the driveway, and comprehensive plan polices. The traffic engineer <u>and Planning Director</u> may also be more restrictive than the standards of this section, provided <del>the traffic engineer</del> <u>they</u> documents the rationale.</p>
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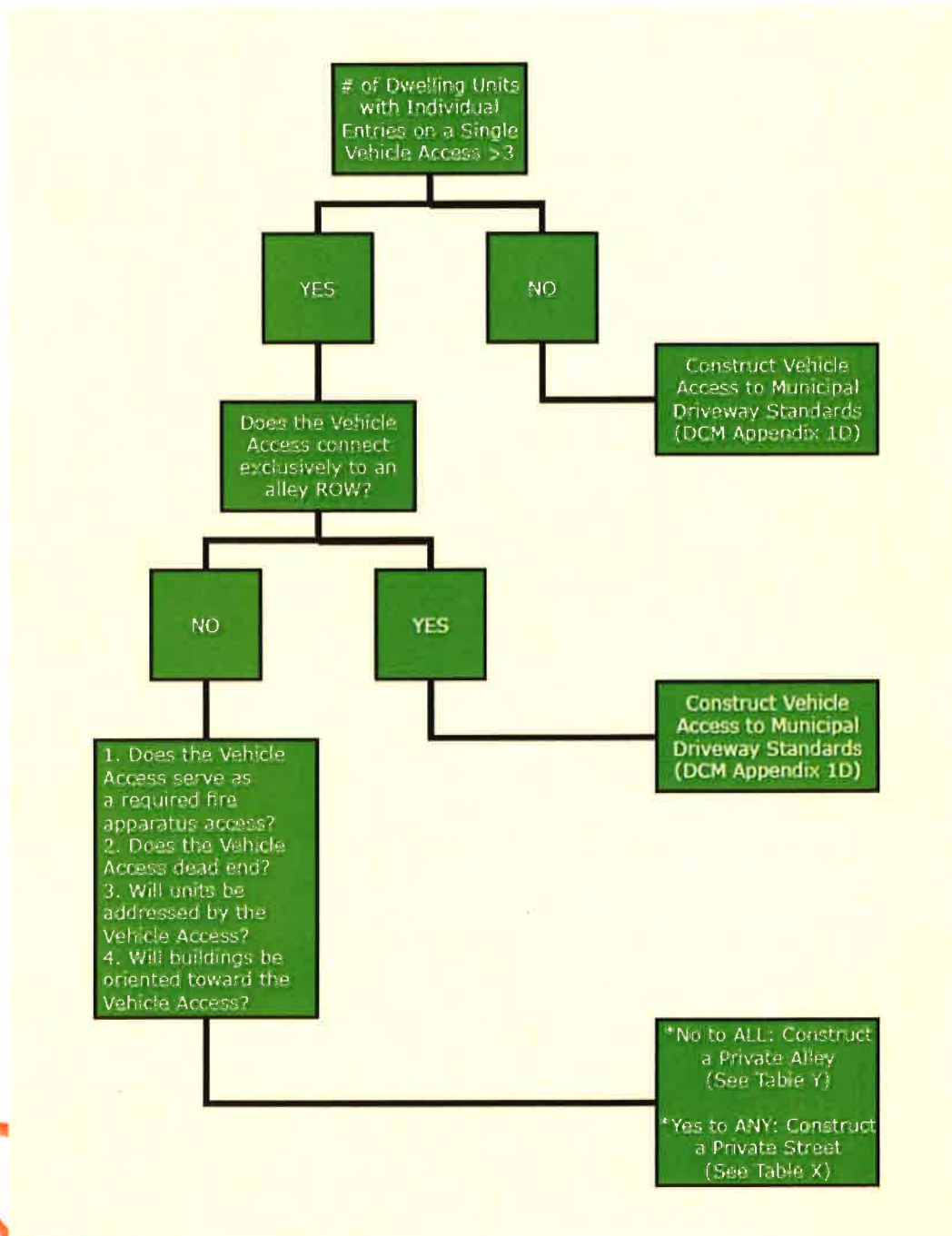


Attachment A– Recommended for Inclusion into AMCR 21.90



EXAMPLE PRIVATE STREET AND PRIVATE ALLEY EXAMPLE CONFIGURATIONS

- Private Street standards – **Table X**
- Private Alley standards – **Table Y**



PROJECT DECISION TREE?

- How many units
- How will the units be addressed
- What is the lot size
- What is the type of development
- How will Fire Apparatus access the property

TABLE X: Private Street - Minimum Standards							
Units	Street Section <sup>1,2</sup> (feet)		Number of Lanes		Design Speed  (mph)	Managed Guest Parking <sup>3</sup> Required	Sidewalk
	Standard	Optional <sup>5</sup>	Moving	Parking			
4-9	31		2	1	20	No	None
		24	2	0	20	Yes	
10-19	31		2	1	20	No	One Side or Woonerf <sup>5</sup>
		24	2	0	20	Yes	
20-34	33		2	1	25	No	One Side or Woonerf <sup>5</sup>
		24	2	0	25	Yes	
35-49	33		2	1	25	No	Both Sides
		24	2	0	25	Yes	
50-79	33		2	1	25	No	Both Sides
		28	2	0	25	Yes	
80-200	38		2	1	25	No	Both Sides
		N/A					

**TABLE X – FOOTNOTES:**

<sup>1</sup>Street dimensions are from back of curb.

<sup>2</sup>The width of a private street may be reduced where it enters the public right-of-way upon approval by the Municipal Traffic Engineer.

<sup>3</sup>All required Managed Guest Parking shall be provided in spaces with shared ownership managed by a condo association. Managed Guest Parking may not be provided in driveways of individual units.

<sup>4</sup>See AMCR 21.90.003.F.1.ff for Woonerf Street requirements.

<sup>5</sup>Use of "Optional" street section where building height is 30' or greater requires a 27-foot minimum width.

TABLE Y: Private Alley - Minimum Standards				
Angle of Adjacent Parking	Space Width	Space Depth	1-Way Alley Width	2-Way Alley Width
None	N/A	N/A	12'	20'
0 (parallel)	23'	9'	12'	24' <sup>1</sup>
45	9'	20'6"	12'	24' <sup>1</sup>
60	9'	21'10"	18'	24' <sup>1</sup>
75	9'	21'8"	19'	24' <sup>1</sup>
90	9'	20'	23'	24' <sup>1</sup>

<sup>1</sup>Width may be reduced to 20' if 4' of turning and maneuvering area is added to the parking space depth.

DRAFT 3/13/19

# EXAMPLE DRIVEWAY CONFIGURATIONS

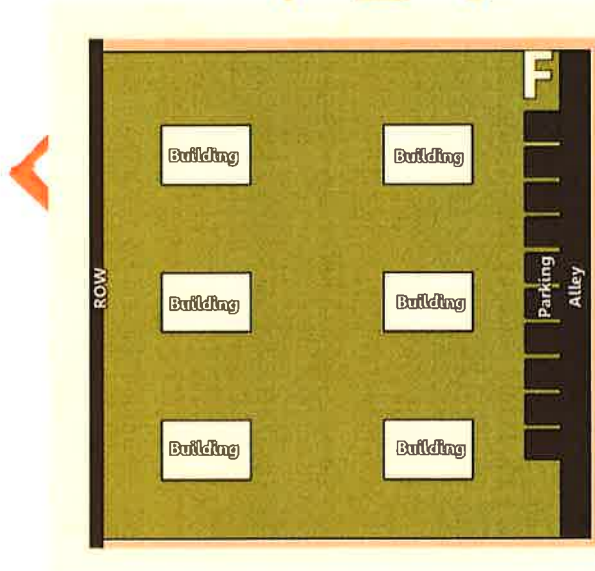
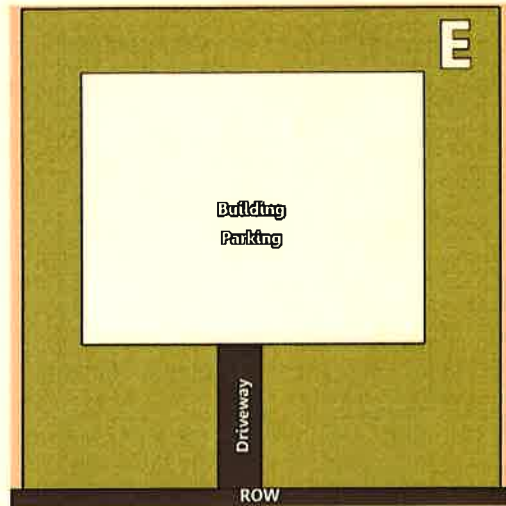


## EXAMPLE D:

- ⊕ Guided by 21.07
- ⊕ Municipal Driveway Standards apply (DCM Appendix 1D)

## EXAMPLE E:

- ⊕ Guided by 21.07
- ⊕ Municipal Driveway Standards apply (DCM Appendix 1D)



## EXAMPLE F:

- ⊕ Guided by 21.07.110.C – Multifamily and Townhouse Residential
- ⊕ Dependent on Fire Access

## Attachment B – AMCR 21.90 Comparison Table

### Current AMCR 21.90

	All Multiple Dwelling Units on a Single Lot
Width at Turning & Maneuvering Area	30 feet
ROW Connection Width	30 feet
Soils Report	Required
Street Structural Design	Complete Protection or LSFPM*
Sidewalk	Not Required
Curb & Gutter	Required
Street Name & Sign	Required
Lighting	Required

\*Limited Subgrade Frost Penetration Method – Typically requires insulation.

### Proposed AMCR 21.90

	4-Units – 9 Units	10 Units +
Width at Turning & Maneuvering Area	24-31 feet	24-38 feet
ROW Connection Width	18-31 feet	18-38 feet
Soils Report	Required	Required
Street Structural Design	Complete Protection or LSFPM*	Complete Protection or LSFPM*
Sidewalk	Not Required	Required
Curb & Gutter	Required	Required
Street Name & Sign	Required	Required
Lighting	Required	Required

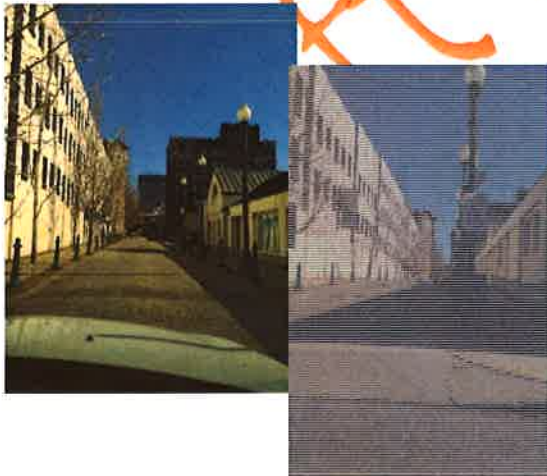
\*Limited Subgrade Frost Penetration Method – Typically requires insulation.

## Attachment C – What is a Woonerf Street?

- **Definition:** A Woonerf is a street that is designed for both vehicular and non-vehicular traffic such as pedestrians and cyclists, as well as social gathering and recreation.

Pedestrians and cyclists take precedence in the use of the street. The access for all modes is accommodated on the same surface, and not differentiated by grade separation or other barrier. Woonerfs include means for traffic calming that ensure safe co-existence of vehicles and other user groups. Landscaping features, including patterned paving, planters, trees, benches, or bollards, should enhance pedestrian safety and use.

- **Purpose:** Woonerfs provide an alternative strategy for circulation of multiple user groups. Although these streets accommodate vehicle traffic, the design prioritizes pedestrian and bike movement, as well as recreation. Instead of requiring a two-lane street construction with parallel sidewalks that separates user groups, a Woonerf combines them within the same street section. Addressing the safety of the non-motorized users, Woonerfs include traffic-calming strategies and landscaping amenities. Children feel safe enough to play in a Woonerf, and drivers are more alert and drive with increased caution. All users feel welcome and safe, and Woonerfs seek a harmonious integration between cars and people.
- **Alternative Compliance:** The Traffic Engineer and the Planning Director may approve an alternative design that meets or exceeds the Woonerf standards, if and only if, the variation is from the required street width.



*Asheville, North Carolina - Carol Wong*



*Kirkland, Washington - Triadassociates.com*

**Design Elements:** A Woonerf Street shall include the following design elements:

- a. A width of 24-feet and must not exceed 500-feet in length.
- b. Have a clear and distinct entrance with a sign indicating the Woonerf status.
- c. Incorporate different colors and textures in pavement material.
- d. Use traffic calming measures such as chicanes. Traffic calming measures must be placed at maximum intervals of 160-feet. Use of vertical traffic calming measures to be approved by the Fire and Traffic Departments.
- e. Administrative approval.
- f. Woonerf Streets are considered an "Optional" private street and are required to provide Managed Guest Parking.
- g. Woonerf Street design elements must not interfere in Emergency vehicle access.

**A Woonerf Street may also include the following additional design elements:**

- a. Eliminate the continuous curb.
- b. Provide on-street parking.
- c. Incorporate outdoor furnishings, landscaping and lighting.

**Standards:**

- a. The Traffic Engineer may deny the permit or require the access be redesigned if all the design guidelines are not met.
- b. The Woonerf may serve as the required pedestrian access to the site, only if all standards are met.
- c. The entire Woonerf is designed for both vehicles and people, with an emphasis on pedestrians and usable, safe, and attractive pedestrian and bicycle space that could be used both for travel, recreation, and social use that includes children at play.
- d. The Woonerf will serve no more dwelling units than Table x indicates.
- e. The minimum width of a Woonerf shall be equivalent to those shown in Table x, and need not include the additional width of sidewalks.
- f. A Woonerf may access a street, alley, Parking Courtyard that follows 21.07.060.F.18. or parking spaces, but may not provide access to a parking facility.
- g. A Woonerf can provide through access for cars if and only if the posted speed limit is less than
- h. 15 mph. Through access for only pedestrians permitted for any speed limit.
- i. At any intersection with a public or private street, traffic lanes and pedestrian areas must be effectively separated along the Woonerf for 20' from the private street curb, or the public right-of-way.



- j. Sections of the Woonerf where pedestrian and vehicular traffic are separate shall maintain an unobstructed width of at least 20' for two-way vehicle traffic, or 12' for one-way vehicle traffic.
- k. A special paving scheme and landscape treatment is applied to the full width and length of the
- l. Woonerf that prioritizes pedestrian safety. Such techniques may include, but are not limited to, planters, trees, curves, raised intersections, or bollards.
- m. Provide signage or visual cues to alert drivers to expect other users in the roadway.
- n. Alternative Compliance: The director may approve an alternative design that meets or exceeds the
- o. Woonerf standards if and only if the variation is from the required street width.

Draft 3/13/19

## Attachment E- AMCR 21.90 – A.R. 2004-108 (S-2)

### **Regulation 21.90 - MULTIPLE DWELLING UNIT RESIDENTIAL DEVELOPMENT ON A SINGLE LOT OR TRACT**

#### 21.90.001 - Definitions

The following words, terms and phrases, when used in this chapter, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning.

AASHTO shall mean American Association of State Highway and Transportation Officials.

AMC shall mean Anchorage Municipal Code.

BMP shall mean Best Management Procedures.

Contractor shall mean the party to whom a municipal building permit, land use permit, or right-of-way permit is issued, and who is responsible for the installation of all public and/or private roads, parking areas, pedestrian amenities, drainage features and utilities, and other associated site improvements required by the permit.

DCM shall mean the Municipal Design Criteria Manual.

Developer shall mean the party obligated under a subdivision agreement, development agreement, right-of-way permit, building permit, or land use permit, for all required road improvements, parking areas, pedestrian amenities, drainage features, utilities and other improvements required by the agreements or permits.

Development shall mean a residential development ultimately consisting of more than two dwelling units per lot or tract.

Driveway shall mean the paved connection meeting municipal driveways standards located between the garage of a dwelling unit and the adjacent roadway (public or private) or between the travel aisle of a parking lot/area and the adjacent roadway (public or private).

FTD shall mean field density test(s).

IFC shall mean International Fire Code, as adopted in AMC Chapters 23.45 and 23.55.

MASS shall mean Municipality of Anchorage Standard Specifications.

MUTCD shall mean Manual on Uniform Traffic Control Devices.

Parking lot/area shall mean more than two parking spaces, not located in a roadway, designed to provide parking for a development. Maneuvering for the parking spaces may occur either in the roadway or a travel aisle where parking is back-to-back, depending on the parking space configuration.

Parking space shall mean one space where a vehicle is intended to be parked.

Plan shall mean a document, prepared by a professional engineer licensed in the State of Alaska, showing all applicable items as listed below in subsection 21.90.003E.1.

Private roadway shall mean a roadway located on private property that provides access from driveways to public roadways. Maintenance for private roadways shall be the responsibility of the private owners.

Public roadway shall mean a roadway constructed in public right-of-way or in a public use easement to municipal standards. The Municipality of Anchorage shall be responsible for maintenance of public roadways.

PUE shall mean public use easement(s).

(AR No. 2004-108(S-2), § 1, 6-8-04)

#### 21.90.002 - General duties of developer.

- A. The developer shall be responsible for planning, designing, and constructing all elements of private roads within a development to meet or exceed municipal private road standards. Approval of an engineered road construction plan, quality control plan, and verification the developer has retained the services of a professional engineer, licensed in the State of Alaska, for inspection of the private road construction shall be required prior to obtaining building or land use permits from building safety.

Certified as-built/record drawings and a compilation of weekly inspection and test reports for all private road construction shall be submitted to building safety prior to issuance of any certificates of occupancy for the development.

(AR No. 2004-108(S-2), § 1, 6-8-04)

21.90.003 - Responsibilities of developer, contractor, and municipality.

A. Developer responsibilities.

1. The developer shall submit engineered plans for the construction of all private roadways and other facilities required to serve a development as part of the submittal package for a building or land use permit.
  2. The developer shall provide adequate public use easement dedication when required by the municipal traffic engineer for improved connectivity, circulation and/or public safety as set out in AMC Section 21.15.150.
  3. The developer shall enter into a subdivision agreement, development agreement, or right-of-way permit for construction of all roads and other facilities within dedicated public use easements or right-of-way.
  4. The developer shall ensure that subsequent builders or owners performing work on-site or in the adjacent right(s)-of-way are supplied with a copy of the approved site plans.
  5. The developer shall be responsible for all work on-site or in adjacent right(s)-of-way until the development is issued final certificates of occupancy. The developer shall not be responsible for the actions of a third party performing work outside of the developer's subdivision agreement, right-of-way permit, building permit, or land use permit.
  6. The developer shall retain the services of a professional engineer, registered in the State of Alaska, for inspection of all private road, drainage and utility construction to ensure all improvements are in compliance with applicable municipal standards.
  7. The developer shall work with the contractor to ensure daily and weekly inspection and test reports are prepared and submitted in accordance with the requirements set out in subsection E.2. below; and that certified as-built drawings are prepared for all private road and drainage construction and submitted to the municipal building safety department.
  8. The developer shall be responsible for identifying all permits required for a development (including, but not limited to, right-of-way permit, flood hazard permit, wetlands fill permit, Corps of Engineers 404 Permit, Title 16 Fish Habitat Permit) and for working with all concerned regulatory agencies to obtain required permits prior to the commencement of work.
  9. Prior to issuance of individual building permits, the developer shall be responsible for the preparation of a hydrogeologic report to provide accurate assessments of seasonal high groundwater table elevations for the purpose of maximum foundation depth determination, and to resolve the need for footing and foundation drains. The report shall be based on analysis of groundwater table tests conducted in accordance with the procedures specified in subsection E.6. below, and shall bear the signature and stamp of the responsible engineer or hydrogeologist. The report shall contain recommendations for the mitigation of groundwater penetration into crawlspaces and/or basements.
- B. Contractor responsibilities.
1. The contractor shall construct all improvements associated with a development in accordance with the approved plans, issued permits and in compliance with all applicable municipal standards.
  2. The contractor and all subcontractors shall perform all site work such that it will not cause adverse pedestrian and vehicle safety impacts to the development, adjoining developments, or adjoining right-of-way.

3. Prior to obtaining a building or land use permit, the contractor shall submit verification that the services of a licensed professional engineer have been retained for construction inspection of all private road improvements as well as an approved quality control plan and construction schedule for those improvements to be approved by the municipal engineer.
4. The contractor shall be responsible for compiling daily and weekly inspection reports for submittal as set out in subsection E.2. below.
5. The contractor shall be responsible for repairing or replacing any improvements found to be insufficient or damaged due to materials, workmanship or the actions of the contractor or subcontractors.

C. Municipal engineer responsibilities.

1. The municipal engineer shall review and approve or disapprove all plans for all developments.
2. The municipal engineer shall determine to what standards any required improvements are to be constructed. The construction standards may not exceed the applicable standards of AMC Title 21.
3. The municipal engineer shall include the approved plan within the applicable agreement.
4. The municipal engineer and/or building official or their designee may periodically inspect construction of the required development improvements for conformance with the approved plan.
5. The municipal engineer shall review and approve or disapprove all design or construction waivers from the standards in this regulation.
6. The municipal engineer shall review the as-builts and inspection reports for consistency with these regulations and the approved plans.

D. Municipal traffic engineer responsibilities.

1. The municipal traffic engineer shall review and approve or disapprove proposed plans to ensure all vehicle and pedestrian safety standards as well as parking and maneuverability standards have been met.
2. The municipal traffic engineer shall review proposed plans to determine if plans comply with the municipal driveway standards.
3. The municipal traffic engineer shall review and approve or disapprove all waivers from the applicable standards in this regulation.

E. Procedures. The developer shall adhere to the procedural matters as outlined in this section to provide consistent plan submittals and standardized field inspection and testing. All procedures detailed shall not exceed those required under a subdivision agreement.

1. Plan preparation: Construction plans shall include the following information:
  - a. Scaled drawing; minimum scale one inch equals 50 feet zero inches;
  - b. Dimensions of all proposed roads, driveways, parking and adjacent right-of-way;
  - c. Existing and proposed property lines;
  - d. Adjoining right-of-way;
  - e. Existing and proposed drainage facilities on property and in the right-of-way;
  - f. Existing and proposed topography extending a minimum 25 feet beyond all property boundaries;
  - g. Proposed post-development drainage patterns including grade breaks, grade break elevations and drainage arrows;
  - h. Easements dedicated by plat or recorded by book and page;
  - i. Development setbacks;
  - j. Wetland boundaries;
  - k. Stream protection setbacks;

- l. Relevant cross sections of parking areas, sidewalks, curbs, loading bays, ramps, and all other features of the parking area where cross sections will clarify grade breaks and elevations;
  - m. Construction details and standard cross sections of all proposed roads, public and private, showing street width, limits of excavation, frost classification of subgrade material, depth of classified fill, pavement thickness, curbs, gutters, shoulders, deep utilities, storm drain;
  - n. Elevation profiles of all proposed roads, public and private;
  - o. All street geometrics including curb return radii;
  - p. Water plans and elevation profiles;
  - q. Sewer plans and elevation profiles;
  - r. Building footprint(s) and driveway location(s);
  - s. Finished floor elevations and/or finished garage floor elevations;
  - t. All proposed landscaping;
  - u. Locations of all proposed erosion and sediment control BMPs;
  - v. All proposed points of ingress/egress and AASHTO sight distance triangles at those proposed points shall be identified;
  - w. Parking calculations;
  - x. Illumination plans with certified lighting and glare statement;
  - y. Certified site lighting analysis and glare statement for parking lot lighting where an independent lighting system is provided for parking lots exceeding 20 parking spaces; z. Clearing limits;
  - aa. Storm drain plans and elevation profiles; and
  - bb. Applicable manhole details, pavement cut, and replacement details in conformance with MASS.
2. Daily and weekly inspection reports shall be compiled by the engineer of record and submitted to building safety by close of business, Monday following the reporting period. Failure to comply with this requirement may subject the contractor to issuance of a stop work order until compliance and/or additional fees. The certificates of occupancy shall not be issued until all inspection reports have been received and approved by the municipal engineer. At a minimum, the inspection reports shall contain the following information:
- a. Date the work was observed;
  - b. Project name;
  - c. Scope of work;
  - d. Weather conditions and temperature while work was observed;
  - e. Depth of excavation;
  - f. Sieve analysis and classification of structural fill material placed within the roadway prism or utility trenches;
  - g. Verification that all organics have been properly removed from the subgrade;
  - h. Sieve analysis and classification of structural fill material placed in the private roadway, storm drain trench and/or utility trench;
  - i. Source and method of backfill;
  - j. Results of field density testing as set out in subsection E.3. (below), for all road and trench backfill;
  - k. Compaction methods;

- l. Any ground water encountered or dewatering performed;
  - m. Asphalt pavement thicknesses observed from core samples;
  - n. Status and effectiveness of erosion and sediment control BMPs; and
  - o. Engineer's or representative's signature.
3. Guidelines for quality control plan submittal:
- a. Identify all haul routes, material sources, and disposal sites, including frequency and types of proposed maintenance of haul routes, and emergency telephone number and contact person. List the days and hours of haul route use, and submit a traffic control plan, if required;
  - b. List the source and types of soils to be used, including provisions to ensure quality control of all native soils anticipated for use in construction of the development;
  - c. Identify the types and frequency of all testing in accordance with subsection E.4. below; and
  - d. Provide procedures for reporting quality control activities, including discoveries of deficiencies in the work, and methods to correct, repair, and retest deficiencies.
4. Quality control testing standards:
- a. All FDTs shall include the following information:
    - i. Project name; ii. Test number; iii. Date;
    - iv. Field technician's name;
    - v. Location by station (from approved plans) and offset distance; vi. Elevation (from approved plans);
    - vii. Description (sidewalk subgrade, street fill by type, water, trench backfill, pavement, etc.);
    - viii. Nuclear gauge make, model, and number; ix. Calibration date;
    - x. Probe depth;
    - xi. Soil type and proctor curve number; xii. Wet density (pcf);
    - xiii. Moisture content (percentage); xiv. Dry density (pcf);
    - xv. Maximum dry density (pcf — from proctor); xvi. Marshall density (pcf); xvii. Percent compaction; xviii. Remarks; and
    - xix. All failing FDT's shall be retested until they pass, and the contractor's method of improving the compaction shall be noted on the test form.
  - b. Minimum frequency of quality control testing. These are minimum frequencies; additional testing may be necessary, depending on circumstances and failure rate:
    - i. Mechanical analysis on imported material:
      - (A) Classified backfill, all types — one per 2,000 tons;
      - (B) Bedding, all types — one per 500 L.F.; (C) Leveling course — one per 1,000 tons;

- (D) Seal coat aggregate — one per 1,000 tons.
  - ii. Density testing for road construction: One test per 400 L.F. on each lift of classified fill and backfill, and one test per 400 L.F. on completed subgrade prior to placement of leveling course. iii. Density testing for trench backfill: One test per 300 L.F. of trench at spring line, midtrench and surface.
  - iv. A.C. pavement: One truck sample of each day's run for marshal series, and one core sample correlated to truck sample for density and thickness.
5. Inspection and as-built standards:
- a. Provide a qualified representative at the site to inspect the work on a daily basis. The engineer shall provide written daily reports in conformance with subsection E.2. above.
  - b. The engineer's representative shall be responsible for compilation of as-built information, and preparation of as-built drawings and utility service connection records. The minimum requirements and standards for as-builts is set out in MASS 1994, Section 65.00.
  - c. The engineer shall notify the building safety department if employment is terminated or is reduced to the point that the engineer can no longer perform the services described.
6. Groundwater table elevation testing.
- a. The bottom of the test hole shall be at least six feet below the bottom of the anticipated foundation depth, or a minimum of ten feet deep.
  - b. A perforated plastic pipe, or similar device, shall be installed to the bottom of the test hole, and the test hole shall be backfilled and mounded to slope away from the pipe.
  - c. The water level in the pipe shall be measured a minimum of seven days after installation to determine water table depth below the surface.
  - d. Test hole density:
    - i. Developments one acre or less in size shall install a minimum of three monitoring wells, evenly distributed throughout the property with respect to horizontal and vertical topography;
    - ii. Developments between one and five acres in size shall install a minimum of two monitoring wells per acre, evenly distributed throughout the property with respect to horizontal and vertical topography; or
    - iii. Developments greater than five acres in size shall install a minimum of one and onehalf test wells per acre, evenly distributed throughout the property with respect to horizontal and vertical topography. F. Design.
- l. Private road design criteria:
- a. All private roads shall be constructed with 26 feet of pavement, curb and gutter on both sides, for a total 30-foot section from the back of curb to back of curb.
  - b. All private roads shall be crowned with minimum two percent cross slopes; inverted sections may be approved by the municipal engineer for roadway lengths less than 300 feet.
  - c. All private roads shall have a minimum longitudinal grade of one percent and a maximum grade of ten percent.
  - d. At intersections with peripheral right-of-way, private street grades shall not exceed four percent within a minimum distance of 30 feet from back of curb or edge of shoulder of the peripheral road.
  - e. The minimum grade of an asphalt swale or "valley gutter" at private street intersections without catchment facilities immediately upgrade shall be one percent.
  - f. Vertical curves shall be used for transition between intersecting grades of road when the change exceeds one percent.
  - g. At intersections with arterial or collector streets, private streets shall have a minimum curb return radius of 30 feet. At intersections with all other streets, private streets shall have a minimum curb return radius of 20 feet.

- h. All interior radii shall conform to IFC D103.3, minimum turning radius for emergency vehicles, as adopted under AMC Title 23.
  - i. All private roads within developments shall be designed for a preferred design speed of 25 miles per hour or a design speed of 20 miles per hour upon approval of the municipal traffic engineer.
  - j. Clear vision areas and clear vision triangles for private streets shall be in compliance with AMC Section 21.45.020, AMC Chapter 24.70, and AASHTO Sight Distance Triangle (see Municipal Driveway Standards).
  - k. All pre-design subsurface investigations shall be in accordance with the soil investigation standards given in DCM section 1.040.
  - l. All organics shall be removed from the road subgrade unless otherwise approved by the municipal engineer.
  - m. The thickness of structural fill for private roads shall be designed using the limited subgrade frost penetration method as described in DCM section 1.070F. All substitute design methods shall have prior approval by the municipal engineer.
  - n. Geotextile fabric shall be installed at the bottom of excavations for all private roads to prevent contamination of structural fill with frost susceptible soils, unless otherwise approved by the municipal engineer.
  - o. All structural fill for private roads shall be Type II classified fill material, as defined in the MASS Section 20.05. Type III classified fill material, as defined in MASS, may be used for backfill of storm drain and utility trenches below the road base.
  - p. All structural fill material for private roads shall be placed in lifts no greater than 12 inches thick and compacted to 95 percent maximum density at optimum moisture content.
  - q. The top six inches of the structural fill for private roads shall be Type II-A classified fill material only, as set out in MASS Section 20.05.
  - r. Leveling course and pavement thickness shall be in accordance with MASS.
  - s. All private roads shall be designed with adequate catchment of surface water runoff to prevent adverse drainage impacts to adjacent properties and/or right-of-way.
  - t. All manholes, inlets and storm drain lines shall be designed and constructed to municipal standards as defined in MASS Division 55.
  - u. Names for private streets will be submitted to the municipal addressing department for review and approval prior to having the site plan approved.
  - v. All private roads will be signed according to MUTCD Standards with a "private" designation on the street sign. A certificate of occupancy will not be issued until the street signs are installed and inspected. See traffic department for design of sign specified as a P3-1P.
  - w. Private streets shall have "No Parking, Fire Lane" signage on the side of the street where parking is prohibited.
  - x. Covenants, where applicable, shall provide for the association and/or management company to be able to tow vehicles parked illegally and covenants shall state parking is prohibited on one side of the street.
  - y. Covenants, where applicable, shall require the association to maintain signage and enforce no-parking areas.
  - z. Each street shall be named, and each building address shall be based on the access street.  
(For example, no C Street address if the building does not access off of C Street.)
2. Public roads constructed in public use easements (PUE).
- a. Roads determined by the traffic engineer to require a PUE dedication for purposes of access and/or connectivity shall be constructed to the standards identified in AMC Title 21 for public roads; and
  - b. PUEs shall be 44 feet wide to accommodate the roadway section and the snow storage area. Additional dedication shall be required in the event that pedestrian facilities are needed, as determined by the area wide trails plan, determined by a traffic impact analysis, or the roadway volumes are expected to exceed the requirements in AMC Title 21 for pedestrian facilities.



3. Emergency response.

- a. Streets with hydrants on them shall have continuity and not be dead ends, unless located on cul-de-sacs approved by the traffic engineer and the fire department. Hydrants shall be accessible from two directions.
- b. Residential developments with 30 or more dwelling units shall be provided with separate and approved access roads, meeting the remote requirements of IFC D104.3., as adopted under AMC Title 23.
- c. The number of dwelling units on a single fire apparatus road shall not be increased unless fire apparatus access roads will connect with future developments as determined by the fire code official. No new structures shall be constructed on a fire apparatus access road unless approved by fire code official.
- d. To prevent conflagration, one or two family residential developments shall have a clear space of at least ten feet between exterior walls (not including area under the eaves), unless each structure has an approved automatic sprinkler system.
- e. Buildings or portions of buildings or facilities exceeding 30 feet in height above the lowest level of fire department vehicle access shall meet requirements of IFC D105, as adopted under AMC Title 23.

4. Parking.

- a. All over-flow parking areas and parking aisles shall be designed to minimize maneuvering in the main private roadway.
- b. Overflow parking shall be provided, in addition to required parking. Overflow parking shall be calculated per the table below:

Type of Development	% of Required Parking Necessary for Overflow
Two (2) and Three (3) Dwelling Units	25%
Four (4) to Six (6) Dwelling Units	20%
Greater than Six (6) Dwelling Units	15%
Apartment Complex	12%
Other uses	Per parking study, if required

- c. Overflow parking may be provided on-street, if the following requirements are met: The parking space shall be a minimum of 20 feet long unless bounded on both ends by parking spaces, in which case, the bounded parking space shall be a minimum of 24 feet long. For example, if there are three parking spaces between two driveways, those parking spaces would be 20 feet, 24 feet and 20 feet long respectively. If the on-street parking is not sufficient to meet the overflow parking requirement, off-street parking shall be provided.
- d. All parking spaces inside garages and carports shall meet design requirements found in AMC Section 21.45.080, if the driveway is being used to meet required or overflow parking requirements;
- e. Individual dwelling unit garage driveways shall have a minimum of 22 feet between the garage door and the back of curb or edge of pavement for all roadways.

- f. All over-flow parking located at 90 degrees to the interior roadways of the development shall be at least 24 feet deep, including any overhang.
  - g. Private parking garages shall provide a minimum 30 feet of on-site vehicle queuing/stacking that does not interfere with any parking stalls or roadways.
  - h. All private multi-plex parking garages shall have an entrance/exit that is a minimum of 18 feet wide.
  - i. All private multi-plex parking garages shall have two entrance/exit points, if designed to provide over 20 parking spaces, unless otherwise approved by the traffic engineer.
5. Plan review and approval. Plans providing all of the required components shall be submitted with the "master" building permit application. The appropriate review agencies shall provide comment to the building official. The building permit shall not be issued until all appropriate departments have provided approval.
6. Noncompliance.
- a. Failure of the developer or builder to obtain appropriate permits shall result in investigation fees as set out in AMC Chapter 23.10.
  - b. Failure to provide all inspection reports and as-built drawings of all private road construction, certified by a professional engineer registered in the State of Alaska shall result in nonissuance of all certificates of occupancy for the development.
  - c. Failure to comply with the approved plans, permits, and construction inspection requirements herein may result in issuance of a stop work order until such compliance.

(AR No. 2004-108(S-2), § 1, 6-8-04)



**MUNICIPALITY OF ANCHORAGE**  
**Traffic Department**



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**MEMORANDUM**

**DATE:** December 11, 2006

**TO:** Anchorage Contractors, Builders, Designers, and Land Owners

**FROM:** Robert E. Kniefel, P.E., Municipal Traffic Engineer

**SUBJECT:** Municipal Driveway Standards

Pursuant to AMC Title 21.45.080.X.4.h the Traffic Engineer has the authority to set driveway standards. Many factors are weighed when dealing with driveway location and design. Residential driveways, for example, would have very different design criteria than a commercial or industrial driveway. The location and design of driveways is based upon many factors including:

- ◆ land use,
- ◆ location of individual property lines,
- ◆ available street frontage,
- ◆ on-street parking,
- ◆ requirements of internal site design,
- ◆ number of vehicles expected to use the driveway,
- ◆ vehicle volumes on the street,
- ◆ functional class of the roadway, and
- ◆ traffic safety.

The purpose of this standard is to detail the parameters to be used for the design of driveways within the Municipality of Anchorage Right of Way. The permittee should contact the Alaska Department of Transportation and Public Facilities (ADOT) for driveway permits on State of Alaska Right of Way. The ADOT has established driveway standards in *Chapter 1190 Preconstruction Manual*. (A copy can be found at <http://www.dot.state.ak.us/stwddes/dcspubs/manuals.shtml#>)

Driveway standards found in ADOT Preconstruction Manual Chapter 1190 are hereby adopted for the design of driveways within the Municipality of Anchorage. Following is a summary of some of the requirements as well as some minor additions/changes from the ADOT requirements including:

- ◆ curb return requirements (required under certain conditions),
- ◆ driveway widths (wider under certain conditions),
- ◆ driveway profiles (more restrictive grades),
- ◆ sight distance (more restrictive).

## 1. Functional Classification:

- 1.a. Highways, roads, and streets are classified according to their intended function as shown in the Municipality of Anchorage *Official Streets and Highways Plan* (OSHP). Functional classification is an important factor when considering driveway access on arterials, collectors, or local roads.
  - **Arterials** are primarily for moving large volumes of vehicles and goods along the roadway. For safety and efficiency, arterials should have few, if any, private driveways.
  - **Collectors** serve as a bridge between arterials and the local road system providing only limited access to abutting property.
  - **Local roads** are primarily to provide access to the public road system from the property adjacent to the roadway.
- 1.b. Driveways will not be allowed on arterials if other access is available.
- 1.c. If driveways directly accessing the arterials are necessary, then, due to concerns of safety and the need to move through traffic efficiently, their number, location, and design will be strictly controlled to minimize the effect on the movement of through traffic and goods.

## 2. Curb Cuts and Curb Returns:

- 2.a. **Driveways for single family up to 7-plex residential use** may provide curb returns or curb cuts. If curb returns are used, they will use the following radius:
  - Single Family and Duplex – 5'
  - Triplex through 7-plex – 15'
- 2.b. **Driveways for commercial structures (including 8-plex and greater)** shall provide curb return driveways as follows:
  - Low volume residential/commercial developments – 5' up to 15' curb returns.
  - Large volume commercial developments – 15' curb returns (Large-truck traffic may require larger radii to accommodate truck base turning radius for largest vehicle required to use the driveway.)

## 3. Driveway Widths (up to 7-plex):

- 3.a. 14' – 20' maximum curb cuts
- 3.b. 21' – 28' widths are allowed if:
  - The driveway width is less than 2/5 of the lot frontage, and snow storage is available within the right-of-way (in the direction of anticipated snow removal) and is equal to the driveway width.
  - The availability of snow storage area can be determined in one of two ways:
    - 3.b..1. Snow storage equal or greater than the driveway width is available in the right-of-way associated with the property; or
    - 3.b..2. Snow storage equal to or greater than the driveway width is available beyond the driveway within the right-of-way associated with the adjacent property, excluding driveways, mailboxes or other permitted uses within the right-of-way.

- 3.b..3. These two determinations can only be applied when the driveway of the adjacent property (in the direction of anticipated snow removal) has been permitted and constructed.

**4. Driveway Widths – Rural farm:**

- 4.a. 14' – 24' maximum width.

**5. Driveway Widths – Commercial/Residential (8-plexes or greater):**

- 5.a. 24' – 34' maximum width.

**6. Driveway Angle:**

- 6.a. The driveway angle should be 90 degrees, and should not be less than 60 degrees except where designed as a one-way right-turn in only.

**7. Driveway Profile:**

- 7.a. **Residential** – Maximum grade of  $\pm 10\%$ .
- 7.b. **Commercial** – Maximum grade of  $\pm 8\%$ .
- Algebraic difference of  $\leq 6\%$  - transition curve is optional.
  - Algebraic difference of  $> 6\%$  - transition curve is required.

**8. Landing Grades:**

- 8.a. **Residential** – for passenger cars a minimum 12 foot long landing area where the driveway intersects with the roadway must be provided with a  $\pm 2\%$  maximum grade.
- Where hillside lots exceed the maximum grade of  $\pm 10\%$ , the required parking spaces will be provided adjacent to the  $\pm 2\%$  landing grade.
- 8.b. **Commercial** – Provide a 20 foot long landing area of  $\pm 2\%$  maximum grade where the driveway intersects with the roadway. For semi-tractors or trailers, provide a 30 foot long landing area of  $\pm 2\%$  maximum grade where the driveway intersects with the roadway.

**9. Number of Driveways:**

- 9.a. Frontages of 50 feet or less – 1 driveway
- 9.b. Frontages of 50 feet to 1000 feet – 2 driveways (refer to *Distances Between Driveways*)
- 9.c. Frontages over 1000 feet – 2+ driveways (refer to *Distances Between Driveways*)

**10. Distance Between Driveways:**

- 10.a. The minimum distance between two adjacent driveways, on the same parcel, measured along the right-of-way line between the adjacent edges of the driveways, should conform to the following table (Trip rates are found in the Institute of Transportation Engineers – *Trip Generation Manual*, latest edition):

Hourly Volume > 10 vph			
Speed (mph)	Rural Arterial and Collector Roads (feet)	Urban Arterial and Collector Roads (feet)	Urban and Rural Local Streets and Roads (feet)
25	350	150	150
30	370	200	200
35	400	260	250
40	440	340	310
45	540	430	390
50	690	510	490
Hourly Volume ≤ 10 vph			
Functional Classification		Distance (feet)	
Arterial Roadways		75	
Collector Roadways		50	
Local Roadways		35	

**11. Corner Clearance:**

11.a. The minimum distance from the nearest face of curb, or nearest edge of traveled way for uncurbed roadways, of an intersecting public roadway to the nearest edge of driveway should conform to the following table:

Hourly Volume > 10 vhp			
Speed (mph)	Major Generator >250 vph (feet)	Medium Generator 100-250 vph (feet)	Small Generator <100 vph (feet)
25	150	120	60
30	200	150	80
35	260	210	110
40	330	260	150
45	390	310	180
50	460	340	230
Hourly Volume ≤ 10 vhp			
Functional Classification	Curbed Crossroad (feet)	Uncurbed Crossroad	
		Urban (feet)	Rural (feet)
Arterial Roadways	60	70	100
Collector roadways	50	60	60
Local Roadways	40	50	60

## 12. Sight Distance:

- 12.a. Figure 1 illustrates the unobstructed sight distance along the public roadway which must be provided at all streets, driveways, or allies for motorist entering the roadway.
- Please note, Mugo Pine, or other landscaping plant that requires aggressive maintenance, cannot be placed where it will obstruct sight distance.
- 12.b. **Definition:** The term “sight distance triangle” refers to the roadway area visible to the driver. The required length is the distance necessary to allow **safe vehicular egress from a street, driveway, or alley to a major street.**
- 12.c. **Criteria:** The sight triangle is shown in Figure 1 and described as follows:
- Point A is located on the minor approach 14.5 feet back from the edge of the major road travelway with no sidewalk, or 12 feet from edge of back of sidewalk;
  - Point B<sub>1</sub> is located in the center of lane 1;
  - Point B<sub>2</sub> is located in the center of lane 2;
  - Point C<sub>1</sub> and C<sub>2</sub> are located based on design speed of the major road and is the distance shown in Table 1;
  - Point A is connected to Points C<sub>1</sub> and C<sub>2</sub> by a straight line.

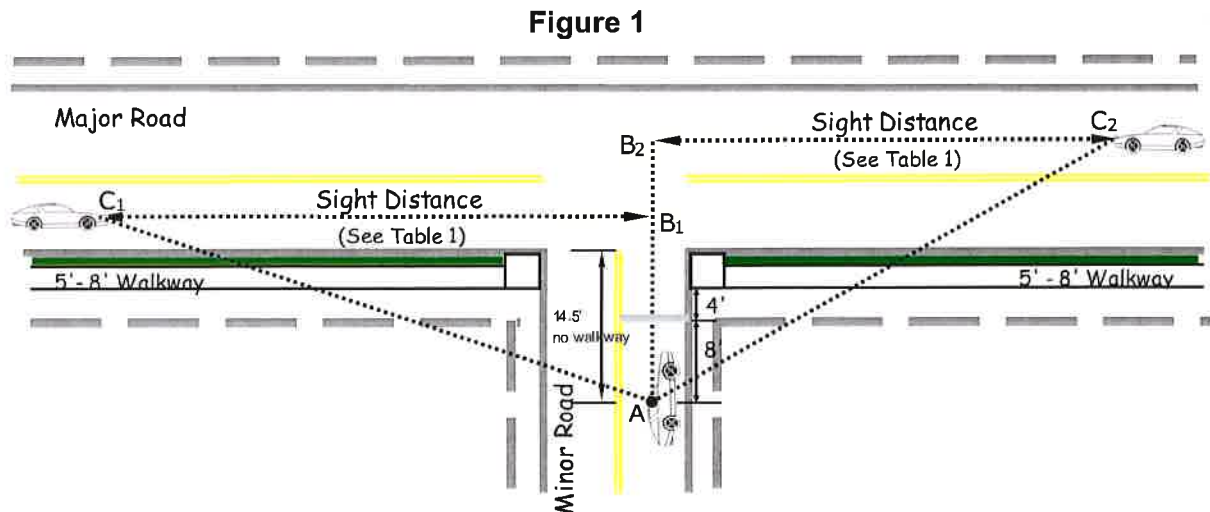
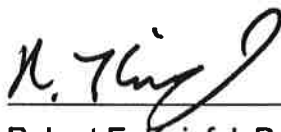


Table 1

Posted Speed (mph)	Sight Distance (feet)
65	720
60	665
55	610
50	555
45	500
40	445
35	390
30	335
25	280
20	225

- 12.d. **Note:** Sight distance is measured from height of eye of 3.5 feet on minor road and height of object of 3.5 feet on the major road. Trees in the sight triangle are acceptable if trunk is less than 4 inches in diameter at maturity and branches are trimmed within 2.5 feet to 8 feet per AASHTO – *A Policy on the Geometric Design of Highways and Streets, 2004* (or latest edition).
- 12.e. **Note:** Sight distance shown is for a stopped passenger car to turn left onto a two-lane roadway with no median and grades of 3% or less. For other conditions and vehicle types (trucks), the time gap must be adjusted and required sight distance recalculated per AASHTO – *A Policy on the Geometric Design of Highways and Streets, 2004* (or latest edition).



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