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Revised May 24, 2018

Amy Mason, Community Manager
Esquire Association Management, LLC
480 New Holland Avenue, Suite 8204
Lancaster, PA 17602

Re: Walden Neighborhood
Silver Spring Township, Cumberland County, Pennsylvania

Dear Amy:

As requested, we have completed field views and evaluations of several intersections within the Walden Neighborhood in Silver Spring Township, Cumberland County, Pennsylvania. Our work involved obtaining field data in order to evaluate existing intersection control and sight distances at the intersections. The results of our evaluations are summarized in this letter report, and opinions are provided with recommendations.

Since several of the recommendations will affect parking and intersection control with the Walden Neighborhood, it is recommended that the residents be informed of the changes via community newsletter and/or postings. It is suggested that an email be sent to residents approximately one (1) week prior to the implementation of the changes and another email after the changes are in effect.

Please note that this report was revised to address items discussed during a field view with Board members. The items included the addition of the intersection of Walden Way and Line Road to the evaluations, additional signage for the intersection of Tavern House Hill and Porter Alley, and a general recommendation to install "Yield to Peds in Crosswalk" signs when the crosswalks are installed.

FIELD OBSERVATIONS

Field views were completed at eight (8) intersections within the Walden Neighborhood to determine existing signage, roadway geometry, and available sight distances. A summary of the field observations is provided in this section.

Tavern House Hill and Porter Alley

- STOP sign control is provided on the Porter Alley approach to Tavern House Hill.
- The posted speed limit on both roadways is 25 miles per hour (mph).
- The grades for the intersection approaches are all relatively flat ($\pm 1\%$).
- Sight distance is approximately 100 feet looking north and/or south from Porter Alley along Tavern House Hill, restricted by on-street parking.

Tavern House Hill and Ellington Road

- STOP sign control is provided on the Ellington Road approach to Tavern House Hill.
- The posted speed limit on both roadways is 25 mph.
- The grades for the intersection approaches are all relatively flat ($\pm 2\%$).
- Sight distance looking north and south from Ellington Road along Tavern House Hill is restricted by shrubs (north) and on-street parking (south).
- School bus stops occur at this intersection.

Tavern House Hill and Alley Way

- STOP sign control is provided on the Alley Way approach to Tavern House Hill.
- The posted speed limit on both roadways is 25 mph.
- The grades for the intersection approaches are all relatively flat ($\pm 1\%$).
- Sight distance is approximately 100 feet looking north and/or south from Alley Way along Tavern House Hill, restricted by on-street parking.

Summer Lane and Bryant Street

- STOP sign control is provided on the Bryant Street approach to Summer Lane.
- The posted speed limit on Summer Lane is 25 mph, while the posted speed limit on Bryant Street is 15 mph.
- The grades for the intersection approaches are all relatively flat ($\pm 1\%$).
- Sight distance is approximately 100 feet looking north and/or south from Bryant Street along Summer Lane, restricted by on-street parking.

Emerson Way and Cain Alley

- STOP sign control is provided on the Cain Alley approach to Emerson Way.
- The posted speed limit on both roadways is 25 mph.
- The grades for the intersection approaches are all relatively flat ($\pm 2\%$).
- Sight distance is approximately 100 feet looking east and/or west from Cain Alley along Emerson Way, restricted by on-street parking.

Tavern House Hill and Sutherland Way

- STOP sign control is provided on the Sutherland Way approach to Tavern House Hill.
- The posted speed limit on both roadways is 25 mph.
- The grades for the intersection approaches are all relatively flat ($\pm 1\%$).
- Sight distance is approximately 100 feet looking north and/or south from Sutherland Way along Tavern House Hill, restricted by on-street parking.

Tavern House Hill and Stone Barn Road

- STOP sign control is provided on the Stone Barn Road approach to Tavern House Hill.
- The posted speed limit on both roadways is 25 mph.
- The grades for the intersection approaches are all relatively flat ($\pm 2\%$).
- Sight distance is approximately 100 feet looking north and/or south from Stone Barn Road along Tavern House Hill, restricted by on-street parking and roadway alignment.

Walden Way and Line Road

- STOP sign control is provided on the Line Road approach to Walden Way.
- The posted speed limit on both roadways is 25 mph.
- The grades for the intersection approaches are all relatively flat ($\pm 2\%$).
- Sight distance looking north and south from Line Road along Walden Way is restricted by on-street parking and shrubs.
- This location is directly adjacent to the main park area (green space).

INTERSECTION EVALUATIONS AND RECOMMENDATIONS

Since several of the recommendations will affect parking and intersection control with the Walden Neighborhood, it is recommended that the residents be informed of the changes via community newsletter and/or postings. It is suggested that an email be sent to residents approximately one (1) week prior to the implementation of the changes and another email after the changes are in effect.

The following section provides a summary of the evaluations and recommendations for each of the eight (8) study intersections.

Tavern House Hill and Porter Alley

•It is recommended that the section of roadway between Tavern House Hill and Meadow Creek Lane (in the area of Porter Alley) be restricted to one-way northbound movements. Appropriate signing should be provided as depicted on the attached sketch.

•It is recommended that parking be restricted along the east side of the roadway for the area (approximately 25 feet in length) just south of Porter Alley as depicted on the attached sketch. A completed TE-100 (Stopping, Standing, or Parking Restriction Engineering and Traffic Study) form is attached.

Tavern House Hill and Ellington Road

•It is recommended that All-Way Stop sign control be provided at the intersection. A completed TE-102 (Multiway Stop Control at Intersections Engineering and Traffic Study) form is attached.

Tavern House Hill and Alley Way

•It is recommended that parking be restricted along the east side of Tavern House Hill from Alley Way for the area (approximately 25 feet in length) just north and south the

intersection as depicted on the attached sketch. A completed TE-100 (Stopping, Standing, or Parking Restriction Engineering and Traffic Study) form is attached.

Summer Lane and Bryant Street

•It is recommended that parking be restricted along the west side of Summer Lane for a distance of 25 feet north and south of the intersection as depicted on the attached sketch. A completed TE-100 (Stopping, Standing, or Parking Restriction Engineering and Traffic Study) form is attached.

Emerson Way and Cain Alley

•It is recommended that parking be restricted along the north side of Emerson Way for a distance of 25 feet east and west of the intersection as depicted on the attached sketch. A completed TE-100 (Stopping, Standing, or Parking Restriction Engineering and Traffic Study) form is attached.

Tavern House Hill and Sutherland Way

•It is recommended that All-Way Stop sign control be provided at the intersection. A completed TE-102 (Multiway Stop Control at Intersections Engineering and Traffic Study) form is attached.

Tavern House Hill and Stone Barn Road

•It is recommended that All-Way Stop sign control be provided at the intersection. A completed TE-102 (Multiway Stop Control at Intersections Engineering and Traffic Study) form is attached.

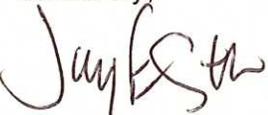
Walden Way and Line Road

•It is recommended that All-Way Stop sign control be provided at the intersection. A completed TE-102 (Multiway Stop Control at Intersections Engineering and Traffic Study) form is attached.

Crosswalks

•It is recommended that "Yield to Peds in Crosswalk" signs be provided when crosswalks are installed at various locations within the development.

We shall remain available for future meetings and consultations relative to the intersection evaluations. Please contact me if you have questions relative to the attached materials or the opinions expressed herein.

Sincerely,

Jay E. States, P.E.
Senior Traffic Engineer



ATTACHMENTS

**TAVERN HOUSE HILL
AND
PORTER ALLEY**

E - SITE OBSERVATION CHECKLIST

Operational Checklist:

- 1. Do obstructions block a driver's view of pedestrians or approaching vehicles? YES NO N/A
- 2. Do drivers respond correctly to signals, signs, or other traffic control devices? YES NO N/A
- 3. Is there evidence of crashes (skid marks, property damage, tree/bush damage, broken glass/vehicle parts, etc.)? YES NO N/A
- 4. Are there violations of parking or other traffic regulations? YES NO N/A
- 5. Do drivers appear confused about routes, street names, or other guidance information? YES NO N/A
- 6. Have you observed the location during peak hours for volume, crashes, and traffic operations? YES NO N/A
- 7. Are there traffic flow deficiencies or traffic conflict patterns associated with turning movements? YES NO N/A
- 8. Are there significant delays and/or congestion? YES NO N/A
- 9. Are there vehicle/pedestrians conflicts? YES NO N/A
- 10. Are there other traffic flow deficiencies or traffic conflict patterns? YES NO N/A

Physical Checklist:

- 1. Can sight obstructions be removed or lessened? YES NO N/A
- 2. Do the street alignments or widths adequately accommodate the type of traffic using the roadway? YES NO N/A
- 3. Are curb radii adequate for turning vehicles? YES NO N/A
- 4. Are pedestrian crosswalks properly located? YES NO N/A
- 5. Are signs adequate as to usefulness, message, size, conformity, and placement? YES NO N/A
- 6. Are traffic signals adequate as to placement, visibility, glare, conformity, number of signal heads, and timing? YES NO N/A
- 7. Are pavement markings adequate as to their conformance to standards and location? YES NO N/A
- 8. Is channelization (islands or pavement markings) adequate for reducing conflict areas, separating traffic flows, and defining movements? YES NO N/A
- 9. Does the existing legal parking layout affect sight distance for through or turning vehicles? YES NO N/A
- 10. Is the pavement condition free of potholes, washboard, slick surface, etc.? YES NO N/A

F - SITE DATA

DATE DATA COLLECTED <p style="text-align: center;">01/2018</p>	PERSON CONDUCTING STUDY <p style="text-align: center;">Jay E. States, P.E.</p>	TITLE <p style="text-align: center;">Senior Traffic Engineer</p>
<p>1. The posted speed limit is <u>25</u> MPH.</p> <p>2. The 20 _____ ADT is _____.</p> <p>3. The 20 _____ peak hour volume is: _____ <input type="checkbox"/> North Bound <input type="checkbox"/> South Bound <input type="checkbox"/> East Bound <input type="checkbox"/> West Bound</p> <p>4. Is vertical curbing present? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>5. Number of lanes _____.</p> <p>6. Roadway width _____ ft.</p> <p>7. Center of double yellow centerline to Right edge _____ ft.</p> <p>8. Center of double yellow centerline to Left edge _____ ft.</p>	<p>9. With parking in place, must opposing vehicles passing parked vehicles yield to permit passing in the opposite direction? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>10. The existing level of service as determined by a capacity analysis using the peak hour volumes indicated to the left is: With parking (one side) _____. With parking (both sides) _____. With no parking _____.</p> <p>11. Determine and list the minimum corner sight distance at all approaches to all intersections within the proposed restriction and indicate below: See Section G</p>	

This traffic engineering and safety study is confidential pursuant to 75 Pa. C.S. 3754 and 23 U.S.C. 409 and may not be disclosed or used in litigation without written permission from PennDOT.

F - SITE DATA (CONTINUED)

12. The number of crashes within the proposed restriction either directly or indirectly attributed to one of the following as a primary cause during the past three years:

- a. Vehicle parking on roadway _____
- b. Vehicle entering or leaving the parked position . _____
- c. Drivers or passengers entering or leaving parked vehicles on the street side _____
- d. Reduced sight distance due to the parked vehicles _____
- e. Other _____
- f. TOTAL number of parking-related crashes 0

13. Does the area contain any of the following:

- Official Bus Stop
- Loading Zone
- Emergency Vehicle Driveway

14. Is the width of the shoulder sufficient to allow a vehicle or its load to park completely off the roadway? YES NO

a. Width of shoulder(s): Left _____ ft. Right _____ ft.

15. Does the roadway have 3 or more lanes and a speed limit of 40 MPH or more? YES NO

a. Is a clear recovery area needed? YES NO

16. Has an Ordinance been enacted? YES NO

17. State approval required? YES NO

18. Other restrictions to be imposed: Meters:

a. Time restriction is in effect: _____

b. Cost of parking: _____

c. Hours of day restricted: _____

d. Days of the week restricted: _____

e. Class of vehicles restricted: _____

19. Signs to be installed: (list each type separately)

a. Sign Number from PUB. 236:

(a) R8-3 (24" x 24")

(b) G20-6-1 Right (24" x 12")

(c) G20-6-1 Left (24" x 12")

b. No. of signs to be installed: (a) 2 (b) 1 (c) 1

c. Sign message:

(a) No Parking Symbol

(b) Red Arrow Sign (Right)

(c) Red Arrow Sign (Left)

20. Are parking stalls marked? YES NO
Describe stall size, material, etc.:

21. Based on data indicated, parking is to be restricted from Porter Alley to 25 ft. south

because condition # 4 from Title 67, Chapter 212.114 is satisfied.

G - REMARKS

Sight distance looking left from Porter Alley with vehicles parked along east side of Tavern House Hill is less than 100 feet.
Minimum safe stopping sight distance for a vehicle on Tavern House Hill (25 MPH/-1%) = 148 feet.

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H - ENGINEERING JUDGEMENT

Tavern House Hill from the Porter Alley for a distance of 25 feet south of the intersection satisfies criteria to prohibit parking on the east side. The roadway satisfies Condition 4 of Section 212.114 of PA Title 67 (Sight Distance).

Condition 4 states that parking may be restricted along a roadway if at an intersection, the available corner sight distance for a driver on the minor road (Porter Alley) is less than the necessary minimum stopping sight distance value for the driver on the through roadway (Tavern House Hill).

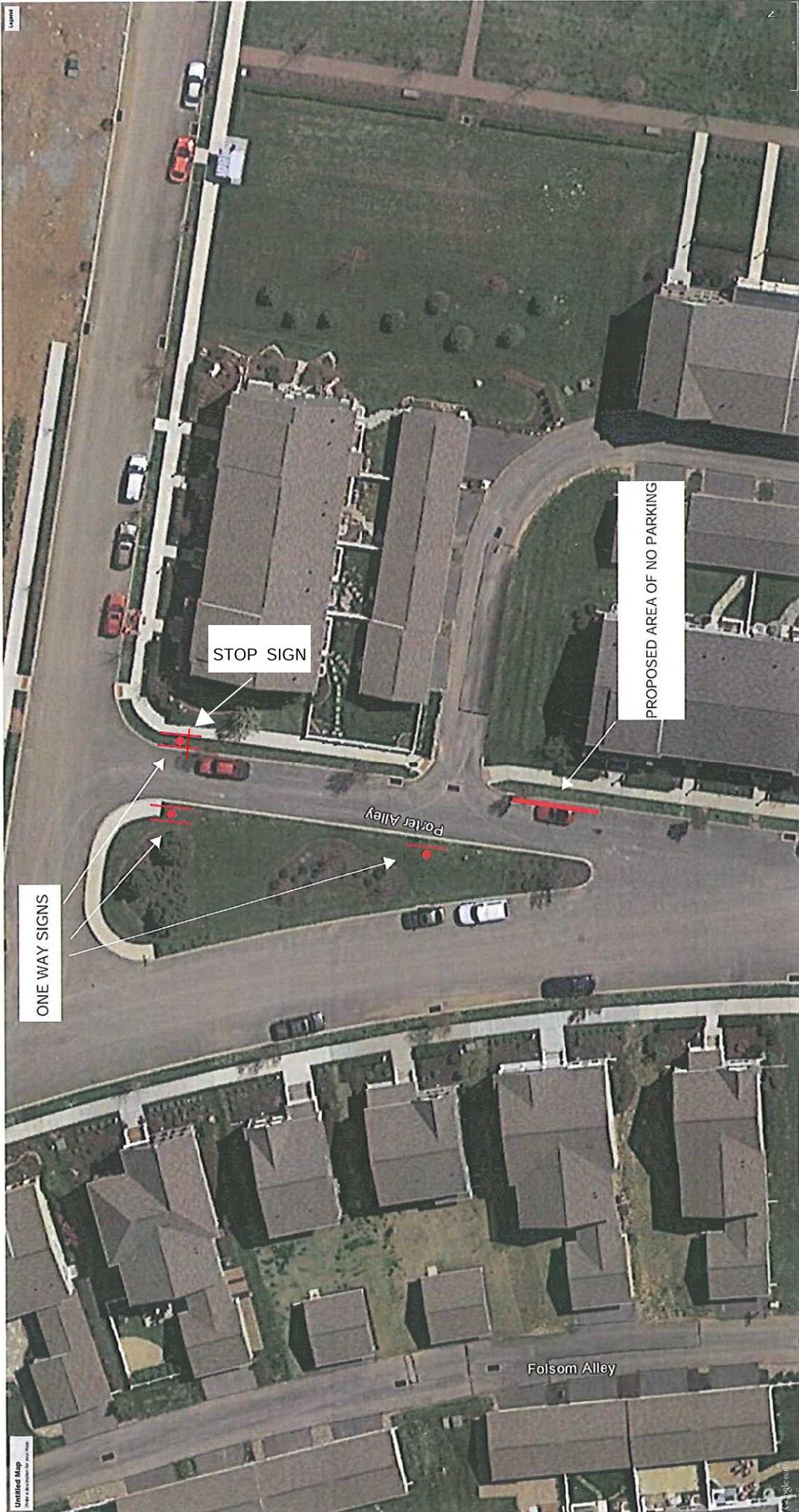
It is recommended that a No Parking restriction be posted on the east side of Tavern House Hill between Porter Alley for a distance of 25 feet south of the intersection. A figure showing the recommended restriction area is included as an attachment to this study.

I - APPROVALS

Comments:

Reviewed and Approved by Signature	Name/Title	Date
Reviewed and Approved by Signature	Name/Title	Date

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STOP SIGN

ONE WAY SIGNS

PROPOSED AREA OF NO PARKING

Porter Alley

Folsom Alley

Legend

Untitled Map
View Attribution

© 2016

DRIVEWAY SIGHT DISTANCE MEASUREMENTS

(FOR LOCAL ROADS, USE PENNDOT PUB 70)

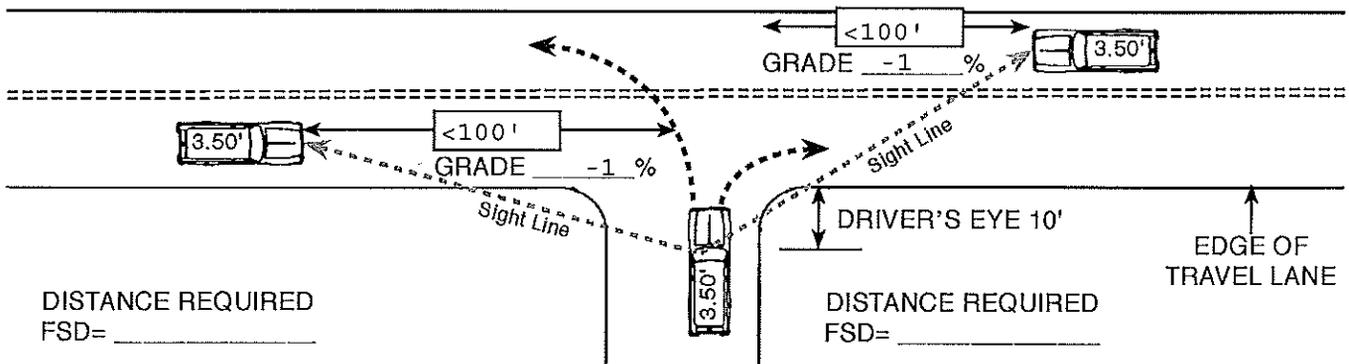
APPLICANT TAVERN HOUSE HILL AND PORTER ALLEY APPLICATION NO. _____

S.R. _____ SEG. _____ OFFSET _____ LEGAL SPEED LIMIT 25mph/25mph

MEASURED BY Grove Miller Engineering, Inc. DATE 10/2017

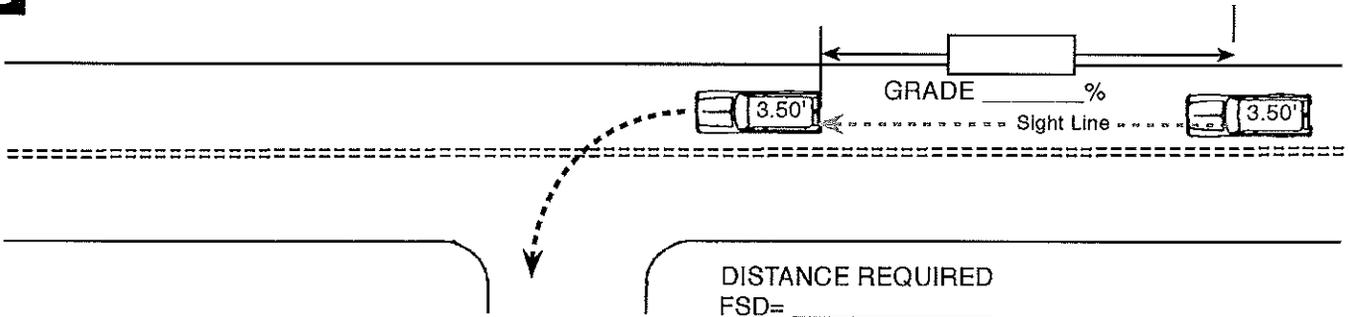
FOR DEPARTMENT USE ONLY: Safe-Running Speed _____ 85th Percentile Speed _____

A



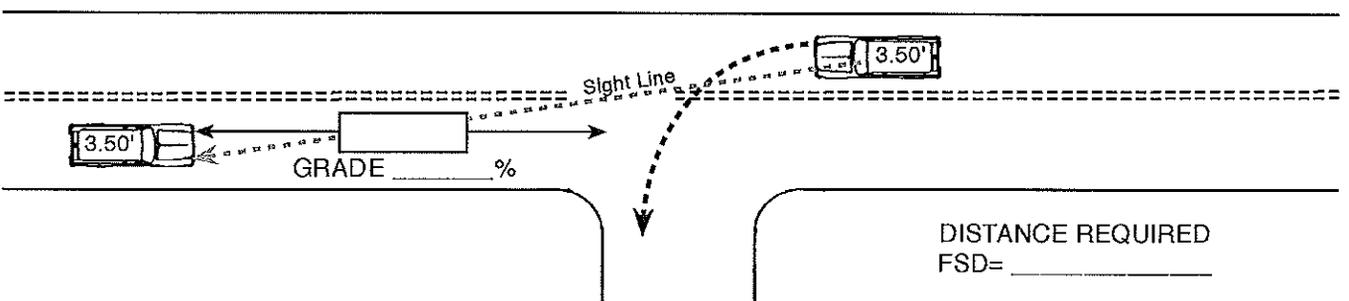
THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER AT A DRIVEWAY LOCATION CAN CONTINUOUSLY SEE ANOTHER VEHICLE APPROACHING ON THE ROADWAY.

B



THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER ON THE ROADWAY CAN CONTINUOUSLY SEE THE REAR OF A VEHICLE WHICH IS LOCATED IN THE DRIVER'S TRAVEL LANE AND WHICH IS POSITIONED TO MAKE A LEFT TURN INTO A DRIVEWAY.

C



THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER OF A VEHICLE INTENDING TO MAKE A LEFT TURN INTO A DRIVEWAY CAN CONTINUOUSLY SEE A VEHICLE APPROACHING FROM THE OPPOSITE DIRECTION.

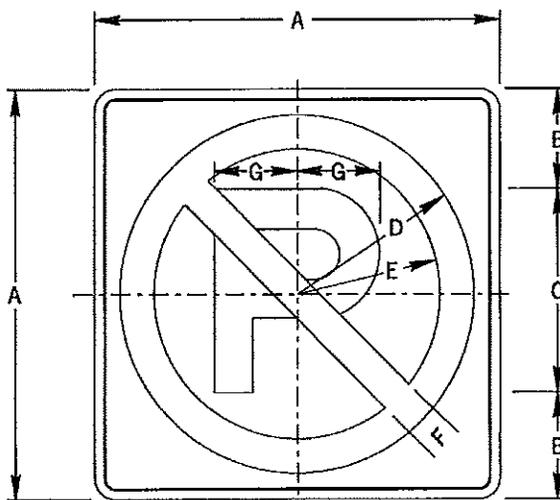
R8-3

NO PARKING SYMBOL SIGN

(a) Justification. The No Parking Symbol Sign (R8-3) shall be authorized for use to prohibit parking along a given highway. If the restriction applies to a limited area or zone, supplemental signs or messages shall be authorized to show the limits of the restriction. Authorized supplemental signs include, but are not limited to the Restricted Hours Plaque (R10-20AP), No Parking Restricted Hours Plaque (R8-3HP-1), No Parking Loading Zone Plaque (R8-3GP-1), No Parking Arrow Plaque (R7-301), Tow-Away Zone Sign (R7-201AP) and No Parking On Pavement Sign (R8-3CP). As an alternate to the use of supplemental signs, the appropriate supplemental message and the no parking symbol may be incorporated into a single sign.

(b) Size. The standard size R8-3 sign shall be 12" x 12" in business, residential, or park areas and 24" x 24" in rural areas. The standard size for expressways shall be 36" x 36", and on freeways shall be 48" x 48".

(c) Placement. Signs should be set at an angle of not less than 30° or more than 45° with a line parallel to the flow of traffic so as to be visible to approaching traffic. Care should be taken to ensure that supplemental arrows point in the proper direction to indicate the regulated area. Signs shall be placed at the beginning of and at reasonable intervals throughout the restriction.



DIMENSIONS - IN									
SIGN SIZE A x A	B	C	D	E	F	G	MAR- GIN	BOR- DER	BLANK STD.
12" x 12"	3	6E(M)	4.9	3.9	1	2.4	0.4	0.4	—
24" x 24"	6	12E(M)	10.5	8.5	2	4.8	0.4	0.6	B3-24
36" x 36"	9	18E(M)	15.8	12.8	3	7.2	0.6	0.8	B3-36
48" x 48"	12	24E(M)	21	17	4	9.6	0.8	1.2	B3-48

COLOR:

SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)

CIRCLE AND DIAGONAL:
RED (REFLECTORIZED)

BACKGROUND:
WHITE (REFLECTORIZED)

APPROVED FOR THE SECRETARY OF TRANSPORTATION

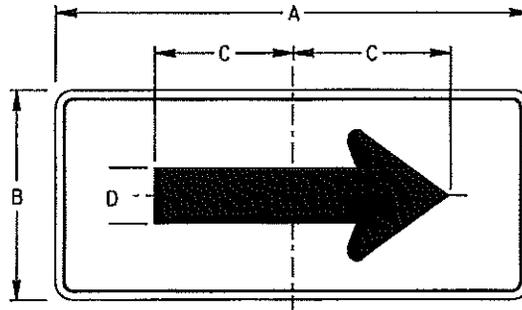
By : *Shirley C. Rome* Date : 02-29-12
Chief, Traffic Engineering and Permits Section
Bureau of Maintenance and Operations

G20-6-1

RED ARROW SIGN

(a) Justification. The Red Arrow Sign (G20-6-1) may be used to mark a detour where the Detour Follow Red Arrow Sign (G20-6) is used. Another color is authorized where two or more detours overlap.

(b) Placement. This sign shall be mounted next to the word "FOLLOW" and indicate the direction of the detour.



NOTE:
SEE STANDARD ARROW
FOR DIMENSIONS OF
ARROWHEAD

DIMENSIONS - IN					
SIGN SIZE A x B	C	D	MAR- GIN	BOR- DER	BLANK STD.
24" x 12"	8	2.8	0.4	0.4	B5-2412

COLOR:

ARROW AND BORDER:
RED (NON-REFLECTORIZED)

BACKGROUND:
WHITE (REFLECTORIZED)

APPROVED FOR THE SECRETARY OF TRANSPORTATION

By : Sen C Rowe Date : 02-29-12
Chief, Traffic Engineering and Permits Section
Bureau of Maintenance and Operations

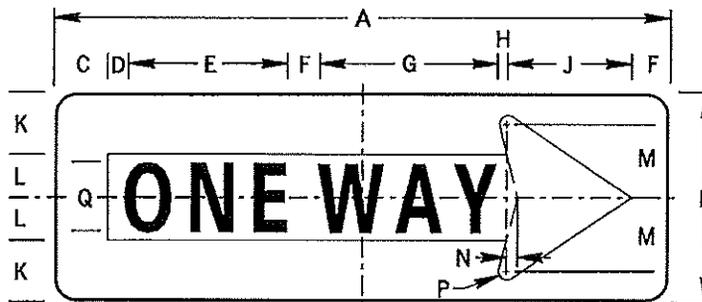
R6-1R

HORIZONTAL RIGHT ONE-WAY SIGN

(a) Justification. The Horizontal Right One-Way Sign (R6-1R) shall be authorized for use to indicate a street, roadway, or alley upon which vehicular traffic is permitted to travel in only one direction. Where the central island of a roundabout allows for installation of signs, the R6-1R sign may be used instead of or in addition to Roundabout Directional Arrow (R6-4 series) signs to direct traffic counter-clockwise around the central island.

(b) Placement. At unsignalized intersections, the R6-1R sign shall be placed on the near right-hand and the far side of the intersection so as to face traffic entering or crossing the one-way street. At signalized intersections, the R6-1R sign shall be placed either near the appropriate signal faces, on poles holding the traffic signals, on mast arm or span wire holding the signals, or at the locations specified for unsignalized intersections. Where used on the central island of a roundabout, the mounting height of a R6-1R sign should be at least 4 feet, measured vertically from the bottom of the sign to the elevation of the near edge of the traveled way.

(c) Size. The standard size of the R6-1R sign for single lane conventional highways shall be 36" x 12". The standard size for multi-lane conventional highways and expressways shall be 54" x 18". See General Notes for additional guidance.



DIMENSIONS - IN															
SIGN SIZE A x B	C	D	E	F	G	H	J	K	L	M	N	P	Q	BOR- DER	BLANK STD.
36" x 12"	3	1.2	9.1*	2.2	10.6*	0.5	7.2	3.4	2.6	4.2	0.6	0.7	4D	0.4	B5-3612
54" x 18"	5	3	12.3	4	13.5	2.2	10	5.2	3.8	5.8	0.8	1	5D	0.8	—

* REDUCE SPACING 35%

COLOR:

ARROW AND BORDER:
WHITE (REFLECTORIZED)

BACKGROUND AND LEGEND:
BLACK (NON-REFLECTORIZED)

APPROVED FOR THE SECRETARY OF TRANSPORTATION

By : *Sh. C. Rome* Date : 02-29-12
Chief, Traffic Engineering and Permits Section
Bureau of Maintenance and Operations

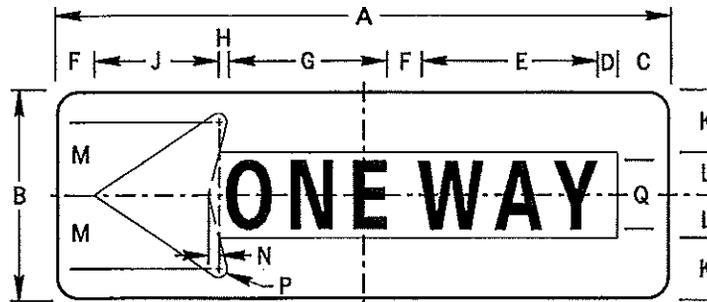
R6-1L

HORIZONTAL LEFT ONE-WAY SIGN

(a) Justification. The Horizontal Left One-Way Sign (R6-1L) shall be authorized for use to indicate a street, roadway, or alley upon which vehicular traffic is permitted to travel in only one direction.

(b) Placement. At unsignalized intersections, the R6-1L sign shall be placed on the near right-hand and the far side of the intersection so as to face traffic entering or crossing the one-way street. At signalized intersections, the R6-1L sign shall be placed either near the appropriate signal faces, on poles holding the traffic signals, on mast arm or span wire holding the signals, or at the locations specified for unsignalized intersections.

(c) Size. The standard size of the R6-1L sign for single lane conventional highways shall be 36" x 12". The standard size for multi-lane conventional highways and expressways shall be 54" x 18". See General Notes for additional guidance.



DIMENSIONS - IN															
SIGN SIZE A x B	C	D	E	F	G	H	J	K	L	M	N	P	Q	BOR- DER	BLANK STD.
36" x 12"	3	1.2	10.6*	2.2	9.1*	0.5	7.2	3.4	2.6	4.2	0.6	0.7	4D	0.4	B5-3612
54" x 18"	5	3	13.5	4	12.3	2.2	10	5.2	3.8	5.8	0.8	1	5D	0.8	—

* REDUCE SPACING 35%

COLOR:

ARROW AND BORDER:
WHITE (REFLECTORIZED)

BACKGROUND AND LEGEND:
BLACK (NON-REFLECTORIZED)

APPROVED FOR THE SECRETARY OF TRANSPORTATION

By : *Sh C Bone* Date : 02-29-12
Chief, Traffic Engineering and Permits Section
Bureau of Maintenance and Operations

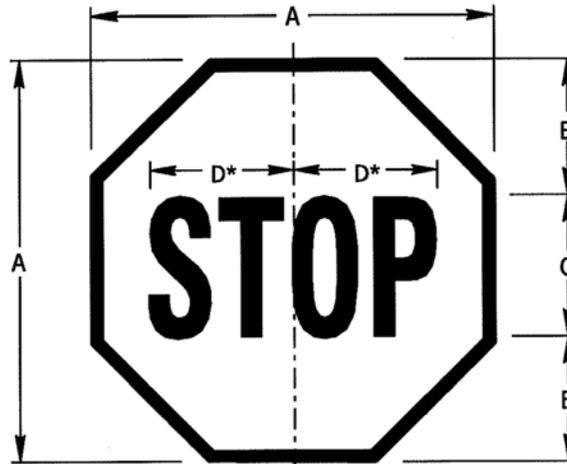
R1-1

STOP SIGN

(a) Justification. The Stop Sign (R1-1) is authorized for use on those streets or highways which intersect with a through highway or at a stop intersection so designated by the Department with reference to State-designated highways or local authorities with reference to highways under their jurisdiction. The R1-1 sign is also authorized for use in work zones involving one-lane, two-way roadways. At intersections where all approaches are controlled by an R1-1 sign, a supplemental ALL-WAY plaque (R1-3P) shall be mounted below each R1-1 sign.

(b) Authorization. Before local authorities designate any highway as a through highway or stop intersection which will intersect or affect a State-designated highway, approval of such designation shall first be obtained from the Department. Approval to install R1-1 signs in work areas shall not require the approval of the Department or local authorities when the conditions stipulated in the Department's Temporary Traffic Control Guidelines are satisfied.

(c) Size. The standard size R1-1 sign shall be 30" x 30" for single lane conventional highways and 36" x 36" for multi-lane conventional highways. The 24" x 24" size shall only be used for alleys with restrictive physical conditions and vehicle usage that prohibits the installation of the standard size R1-1. A sign that is mounted back-to-back with a R1-1 sign should stay within the edges of the R1-1 sign. If necessary, the size of the R1-1 sign should be increased so that any other sign installed back-to-back with it remains within the edges of the R1-1 sign.



DIMENSIONS - IN					
SIGN SIZE A x A	B	C	D	BOR- DER	BLANK STD.
18" x 18"	6	6C	8	0.4	—
24" x 24"	8	8C	10	0.6	B1-24
30" x 30"	10	10C	12.6	0.8	B1-30
36" x 36"	12	12C	15	0.8	B1-36
48" x 48"	16	16C	20	1.2	B1-48

* REDUCE SPACING 40%

COLOR:

LEGEND AND BORDER:
WHITE (REFLECTORIZED)

BACKGROUND:
RED (REFLECTORIZED)

APPROVED FOR THE SECRETARY OF TRANSPORTATION

By : Sen C Rowe Date : 02-29-12
Chief, Traffic Engineering and Permits Section
Bureau of Maintenance and Operations

**TAVERN HOUSE HILL
AND
ELLINGTON ROAD**

MULTIWAY STOP CONTROL AT INTERSECTIONS ENGINEERING AND TRAFFIC STUDY

PLEASE TYPE OR PRINT ALL INFORMATION IN BLUE OR BLACK INK



A - LOCATION INFORMATION

COUNTY <p style="text-align: center;">Cumberland</p>		MUNICIPALITY <p style="text-align: center;">Silver Spring Township</p>
MAJOR STREET INFORMATION		
SR#	TR#	STREET NAME <p style="text-align: center;">Tavern House Hill</p>
STATION		LOCATION
MINOR STREET INFORMATION		
SR#	TR#	STREET NAME <p style="text-align: center;">Ellington Road</p>
STATION		LOCATION

B - REFERENCE INFORMATION

REFERENCE <p style="text-align: center;">Chapter 212</p>	SECTION(S) <p style="text-align: center;">212.106 (c)</p>
REFERENCE <p style="text-align: center;">MUTCD</p>	SECTION(S) <p style="text-align: center;">2B.07, 3B.16</p>
REFERENCE <p style="text-align: center;">Vehicle Code Title 75 Pa. C.S.</p>	SECTION(S) <p style="text-align: center;">§3323, 6109(a)(6) and 6124</p>

C - STUDY ELEMENTS

FROM PUB 212 APPENDIX:

<input type="checkbox"/> Crash Analysis (1)	<input type="checkbox"/> Pedestrian Volumes (12)	<input type="checkbox"/> Traffic Volumes (20)
<input type="checkbox"/> Acceleration Lane (2)	<input checked="" type="checkbox"/> Sight Distance (16)	<input type="checkbox"/> Other _____
<input checked="" type="checkbox"/> Geometric Review (8)	<input type="checkbox"/> Speed Data (17)	_____

D - ATTACHMENTS LISTING

Check those that apply and attach to this form in the order listed below:

<input type="checkbox"/> 1. 10 Day Response Letter	<input type="checkbox"/> 7. Crash Extract	<input type="checkbox"/> 13. Traffic/Pedestrian Volumes
<input type="checkbox"/> 2. Letter or Memo Requesting Study	<input type="checkbox"/> 8. Crash Rate	<input type="checkbox"/> 14. STAMPP Identification Data
<input type="checkbox"/> 3. Location Map	<input type="checkbox"/> 9. Crash Plot	<input type="checkbox"/> 15. Speed Permit
<input type="checkbox"/> 4. Straight Line Diagram	<input type="checkbox"/> 10. Speed Study	<input checked="" type="checkbox"/> 16. Other <u>Sight Distance Evaluation</u>
<input type="checkbox"/> 5. Photographs	<input type="checkbox"/> 11. Warrant	_____ Documentation _____
<input type="checkbox"/> 6. Field View Drawing	<input type="checkbox"/> 12. Multi-Way Stop or Truck Restriction Worksheet	_____

Confidential - Traffic Engineering and Safety Study

This document is the property of the Commonwealth of Pennsylvania, Department of Transportation. The data and information contained herein are part of a traffic engineering and safety study. This safety study is only provided to those official agencies or persons who have responsibility in the highway transportation system and may only be used by such agencies or persons for traffic safety related planning or research. The document and information are confidential pursuant to 75 Pa. C.S.3754 and 23 U.S.C. 409 and may not be published, reproduced, released or discussed without the written permission of the Pennsylvania Department of Transportation.

E - SITE OBSERVATION CHECKLIST

Operational Checklist:

1. Do obstructions block the drivers' view of approaching vehicles? YES NO N/A
2. Do drivers respond correctly to signals, signs, or other traffic control devices? YES NO N/A
3. Is there evidence of crashes (*skid marks, property damage, tree/bush damage, broken glass/vehicle parts, etc.*)? ... YES NO N/A
4. Are there violations of parking regulations or other traffic movements? YES NO N/A
5. Do drivers appear confused about routes, street names, or other guidance information? YES NO N/A
6. Have you observed the location during peak hours for volume and crashes? YES NO N/A
7. Are there traffic flow deficiencies or traffic conflict patterns associated with turning movements? YES NO N/A
8. Is there significant delays and/or congestion? YES NO N/A
9. Do pedestrian movements through the location cause conflicts? YES NO N/A
10. Are there other traffic flow deficiencies or traffic conflict patterns? YES NO N/A

Physical Checklist:

1. Can sight obstructions be removed or lessened? YES NO N/A
2. Do the street alignments or widths adequately accommodate the type of traffic using the roadway? YES NO N/A
3. Are curb radii adequate for turning vehicles? YES NO N/A
4. Are pedestrian crosswalks properly located? YES NO N/A
5. Are signs adequate as to usefulness, message, size, conformity, and placement? YES NO N/A
6. Are traffic signals adequate as to placement, visibility, glare, conformity, number of signal heads, or timing? YES NO N/A
7. Are pavement markings adequate as to their conformance to standards and location? YES NO N/A
8. Is channelization (islands or paint markings) adequate for reducing conflict areas, separating traffic flows, and defining movements? YES NO N/A
9. Does the existing legal parking layout affect sight distance for through or turning vehicles? YES NO N/A
10. Is the pavement condition free of potholes, washboard, slick surface, etc.? YES NO N/A

F - SITE DATA

DATE DATA COLLECTED	PERSON CONDUCTING STUDY	TITLE
01/2018	Jay E. States, P.E.	Senior Traffic Engineer

1. Is the multiway stop being installed as an interim measure until the signal approval and installation is completed? YES NO

2. List the number of crashed for the previous 12 month period by type and/or causation factor. **This may include non-reportable crashes.**

3. 85th percentile speed of major approach is _____ MPH.

4a. Does the vehicular volume entering the intersection from the major street approaches average at least 300 vehicles/hour for any 8 hours? YES NO

4b. Does the combined vehicular, pedestrian and bicycle volume from the minor street approaches average at least 200/hour, for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour? . . . YES NO

4c. If #3 > 40 MPH, then the minimum vehicular volume warrants are 70% of 4a and 4b.

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F - SITE DATA (CONTINUED)

5. Where #2, #4a and #4b are satisfied to 80% of their minimum values. **Note: #4c is excluded from this condition.**
- 6a. Determine and list the minimum intersection sight distance for all approaches.
 See attached Sight Distance Forms
- 6b. List the posted, approach speeds on all intersection legs.
 Tavern House Hill is 25mph, Ellington Road is 25mph
- 6c. Is there any practical method for improving the sight distance at these intersections? YES NO
7. List any other factors justifying a multiway stop.
 Sight distance looking left from Ellington Rd Northbound is 145 ft.; required intersection sight distance is 280 ft.
 Sight distance looking right from Ellington Rd Southbound is 100 ft.; required intersection sight distance is 280 ft.
8. Has the municipality agreed to purchase, erect and maintain the signs necessary to legalize the above stop intersection at no cost to the Department
 YES NO
9. Has the Through Highway permit been modified YES NO

G - REMARKS

See attached Sight Distance Forms for the Ellington Road approach to the intersection. The Ellington Road approach is currently controlled by a STOP sign. The Tavern House Hill approaches are free-flow.

Sight distances looking left and right from Ellington Road Eastbound do not meet criteria defined in PennDOT Publication 13M "Design Manual Part 2 - Highway Design" or AASHTO's "A policy on Geometric Design of Highways and Streets". The sight distances are restricted by the geometry of the intersection, parked vehicles, landscaping, and the horizontal curve along Tavern House Hill.

H - ENGINEERING JUDGEMENT

All-way STOP control should be implemented at the subject intersection of Tavern House Hill and Ellington Road. STOP signs (R1-1, 30" x 30") should be placed on both Tavern House Hill approaches. An ALL-WAY plaque (R1-3P, 18" x 6") should be installed under the STOP sign on all three (3) intersection approaches.

In addition, a STOP AHEAD sign (W3-1, 36" x 36") should be placed on the southbound Tavern House Hill approach to the intersection at a distance of 155 feet in advance of the intersection.

Details on the recommended signs, from PennDOT Publication 236 - Handbook of Approved Signs, are attached.

I - APPROVALS

Comments

Reviewed and Approved by Signature	Name/Title	Date
Reviewed and Approved by Signature	Name/Title	Date

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DRIVEWAY SIGHT DISTANCE MEASUREMENTS

(FOR LOCAL ROADS, USE PENNDOT PUB 70)

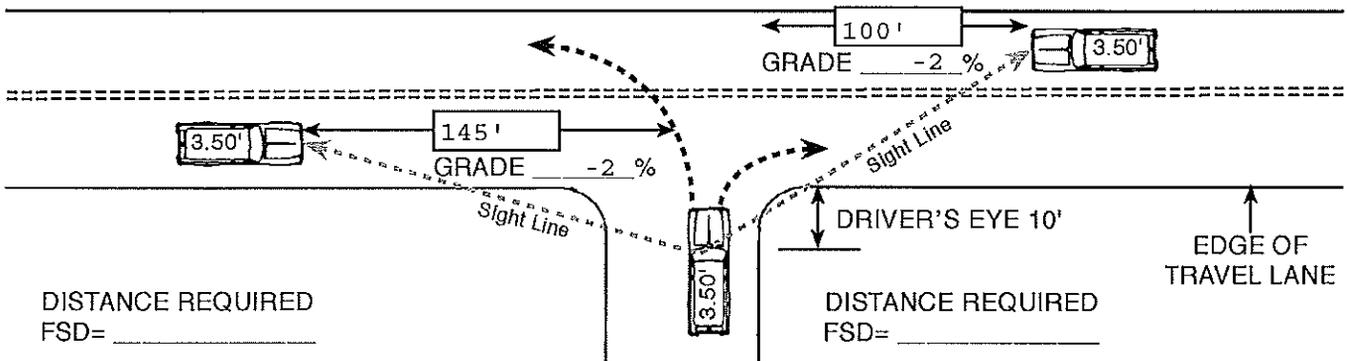
APPLICANT TAVERN HOUSE HILL AND ELLINGTON ROAD APPLICATION NO. _____

S.R. _____ SEG. _____ OFFSET _____ LEGAL SPEED LIMIT 25mph/25mph

MEASURED BY Grove Miller Engineering, Inc. DATE 10/2017

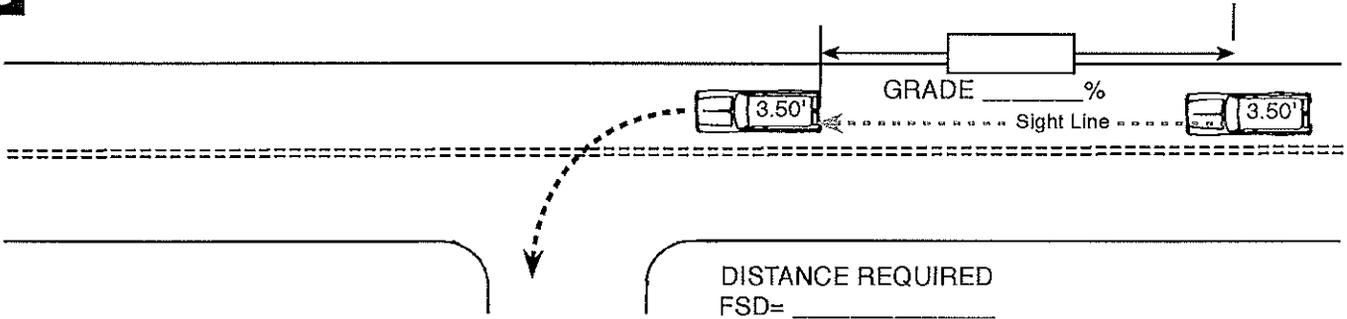
FOR DEPARTMENT USE ONLY: Safe-Running Speed _____ 85th Percentile Speed _____

A



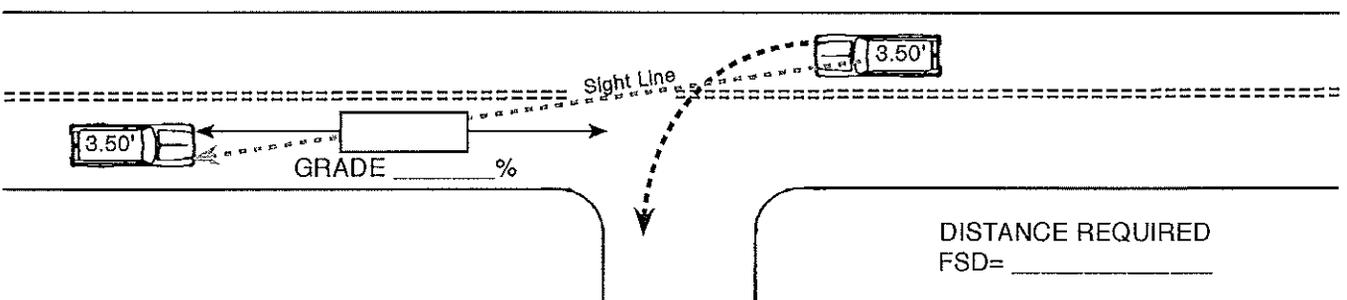
THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER AT A DRIVEWAY LOCATION CAN CONTINUOUSLY SEE ANOTHER VEHICLE APPROACHING ON THE ROADWAY.

B



THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER ON THE ROADWAY CAN CONTINUOUSLY SEE THE REAR OF A VEHICLE WHICH IS LOCATED IN THE DRIVER'S TRAVEL LANE AND WHICH IS POSITIONED TO MAKE A LEFT TURN INTO A DRIVEWAY.

C



THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER OF A VEHICLE INTENDING TO MAKE A LEFT TURN INTO A DRIVEWAY CAN CONTINUOUSLY SEE A VEHICLE APPROACHING FROM THE OPPOSITE DIRECTION.

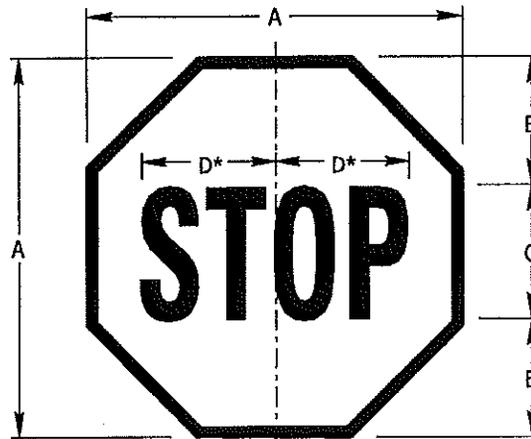
R1-1

STOP SIGN

(a) Justification. The Stop Sign (R1-1) is authorized for use on those streets or highways which intersect with a through highway or at a stop intersection so designated by the Department with reference to State-designated highways or local authorities with reference to highways under their jurisdiction. The R1-1 sign is also authorized for use in work zones involving one-lane, two-way roadways. At intersections where all approaches are controlled by an R1-1 sign, a supplemental ALL-WAY plaque (R1-3P) shall be mounted below each R1-1 sign.

(b) Authorization. Before local authorities designate any highway as a through highway or stop intersection which will intersect or affect a State-designated highway, approval of such designation shall first be obtained from the Department. Approval to install R1-1 signs in work areas shall not require the approval of the Department or local authorities when the conditions stipulated in the Department's Temporary Traffic Control Guidelines are satisfied.

(c) Size. The standard size R1-1 sign shall be 30" x 30" for single lane conventional highways and 36" x 36" for multi-lane conventional highways. The 24" x 24" size shall only be used for alleys with restrictive physical conditions and vehicle usage that prohibits the installation of the standard size R1-1. A sign that is mounted back-to-back with a R1-1 sign should stay within the edges of the R1-1 sign. If necessary, the size of the R1-1 sign should be increased so that any other sign installed back-to-back with it remains within the edges of the R1-1 sign.



DIMENSIONS - IN					
SIGN SIZE A x A	B	C	D	BOR- DER	BLANK STD.
18" x 18"	6	6C	8	0.4	---
24" x 24"	8	8C	10	0.6	B1-24
30" x 30"	10	10C	12.6	0.8	B1-30
36" x 36"	12	12C	15	0.8	B1-36
48" x 48"	16	16C	20	1.2	B1-48

* REDUCE SPACING 40%

COLOR:

LEGEND AND BORDER:
WHITE (REFLECTORIZED)

BACKGROUND:
RED (REFLECTORIZED)

APPROVED FOR THE SECRETARY OF TRANSPORTATION

By : *Sen C Row* Date : 02-29-12
Chief, Traffic Engineering and Permits Section
Bureau of Maintenance and Operations

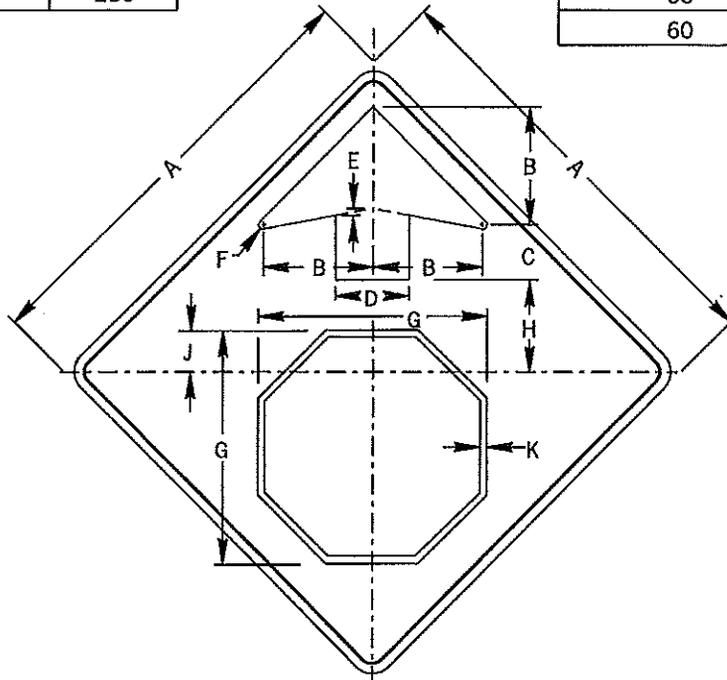
W3-1

STOP AHEAD SIGN

The Stop Ahead Sign (W3-1) will be authorized for use in advance of a stop sign when physical conditions prevent the driver from having a continuous view of the stop sign for the following distances. Advance placement distance for the W3-1 sign will be based on Department regulation. When used in a work zone, the background color shall be orange.

85th Percentile Speed MPH	Distance feet
20	115
25	155
30	200
35	250

85th Percentile Speed MPH	Distance feet
40	305
45	360
50	425
55	495
60	570



DIMENSIONS - IN												
SIGN SIZE A x A	B	C	D	E	F	G	H	J	K	MAR- GIN	BOR- DER	BLANK STD.
18" x 18"	4.5	2.3	3	0.4	0.2	9.5	3	1.8	0.3	0.4	0.6	B3-18
36" x 36"	9	4.4	6	0.8	0.4	19	7.6	3.5	0.6	0.6	0.8	B3-36
48" x 48"	12	6	8	1	0.5	25.6	10	4.5	0.8	0.8	1.2	B3-48

COLOR:

ARROW AND BORDER:
BLACK (NON-REFLECTORIZED)

BACKGROUND:
YELLOW (REFLECTORIZED)

SYMBOL BORDER:
WHITE (REFLECTORIZED)

SYMBOL BACKGROUND:
RED (REFLECTORIZED)

APPROVED FOR THE SECRETARY OF TRANSPORTATION

By : Alan C. Rome Date : 02-29-12
Chief, Traffic Engineering and Permits Section
Bureau of Maintenance and Operations

**TAVERN HOUSE HILL
AND
ALLEY WAY**

STOPPING, STANDING, OR PARKING RESTRICTION ENGINEERING AND TRAFFIC STUDY

PLEASE TYPE OR PRINT ALL INFORMATION IN BLUE OR BLACK INK



A - LOCATION INFORMATION				
COUNTY	Cumberland		MUNICIPALITY	Silver Spring Township
STREET NAME	Tavern House Hill at Alley Way		TOWNSHIP ROAD #	
SR#			SEGMENT	
RESTRICTED BETWEEN:	Segment:	Offset:	To Segment:	Offset:
	Location: Tavern House Hill		to Location: from Alley Way to a distance of 25 feet north and south	
Side of Street:	<input checked="" type="checkbox"/> EAST	<input type="checkbox"/> WEST	<input type="checkbox"/> NORTH	<input type="checkbox"/> SOUTH

B - REFERENCE INFORMATION	
REFERENCE	SECTION(S)
Chapter 212	212.5(b)(1)(iv) and 212.114(a)(c)
REFERENCE	SECTION(S)
MUTCD	2B.39, 2B.40, 2B.41
REFERENCE	SECTION(S)
Vehicle Code Title 75 Pa. C.S.	§ 3353 and 6109(a)(1)

C - STUDY ELEMENTS	
FROM PUB 212 APPENDIX:	
<input type="checkbox"/> Crash Analysis (1)	<input checked="" type="checkbox"/> Sight Distance (16)
<input type="checkbox"/> Capacity Analysis (6)	<input type="checkbox"/> Traffic Volumes (20)
<input checked="" type="checkbox"/> Geometric Review (8)	<input type="checkbox"/> Other: _____

D - ATTACHMENTS LISTING		
Check those that apply and attach to this form in the order listed below:		
<input type="checkbox"/> 1. 10-Day Response Letter	<input type="checkbox"/> 7. Crash Extract	<input type="checkbox"/> 13. Traffic/Pedestrian Volumes
<input type="checkbox"/> 2. Letter or Memo Requesting Study	<input type="checkbox"/> 8. Crash Rate	<input type="checkbox"/> 14. STAMPP Identification Data
<input type="checkbox"/> 3. Location Map	<input type="checkbox"/> 9. Collision Diagram Plot	<input type="checkbox"/> 15. Speed Limit
<input type="checkbox"/> 4. Straight Line Diagram	<input type="checkbox"/> 10. Speed Study	<input type="checkbox"/> 16. Traffic Signal Permit Plan
<input type="checkbox"/> 5. Photographs	<input type="checkbox"/> 11. Warrant Analysis	<input checked="" type="checkbox"/> 17. Other <u>Sight Distance Documentation</u>
<input type="checkbox"/> 6. Field View Drawing or Condition Diagram	<input type="checkbox"/> 12. Multi-Way Stop or Truck Restriction Worksheet	

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E - SITE OBSERVATION CHECKLIST

Operational Checklist:

- 1. Do obstructions block a driver's view of pedestrians or approaching vehicles? YES NO N/A
- 2. Do drivers respond correctly to signals, signs, or other traffic control devices? YES NO N/A
- 3. Is there evidence of crashes (skid marks, property damage, tree/bush damage, broken glass/vehicle parts, etc.)? YES NO N/A
- 4. Are there violations of parking or other traffic regulations? YES NO N/A
- 5. Do drivers appear confused about routes, street names, or other guidance information? YES NO N/A
- 6. Have you observed the location during peak hours for volume, crashes, and traffic operations? YES NO N/A
- 7. Are there traffic flow deficiencies or traffic conflict patterns associated with turning movements? YES NO N/A
- 8. Are there significant delays and/or congestion? YES NO N/A
- 9. Are there vehicle/pedestrians conflicts? YES NO N/A
- 10. Are there other traffic flow deficiencies or traffic conflict patterns? YES NO N/A

Physical Checklist:

- 1. Can sight obstructions be removed or lessened? YES NO N/A
- 2. Do the street alignments or widths adequately accommodate the type of traffic using the roadway? YES NO N/A
- 3. Are curb radii adequate for turning vehicles? YES NO N/A
- 4. Are pedestrian crosswalks properly located? YES NO N/A
- 5. Are signs adequate as to usefulness, message, size, conformity, and placement? YES NO N/A
- 6. Are traffic signals adequate as to placement, visibility, glare, conformity, number of signal heads, and timing? YES NO N/A
- 7. Are pavement markings adequate as to their conformance to standards and location? YES NO N/A
- 8. Is channelization (islands or pavement markings) adequate for reducing conflict areas, separating traffic flows, and defining movements? YES NO N/A
- 9. Does the existing legal parking layout affect sight distance for through or turning vehicles? YES NO N/A
- 10. Is the pavement condition free of potholes, washboard, slick surface, etc.? YES NO N/A

F - SITE DATA

DATE DATA COLLECTED <p style="text-align: center;">01/2018</p>	PERSON CONDUCTING STUDY <p style="text-align: center;">Jay E. States, P.E.</p>	TITLE <p style="text-align: center;">Senior Traffic Engineer</p>
<p>1. The posted speed limit is <u>25</u> MPH.</p> <p>2. The 20 _____ ADT is _____.</p> <p>3. The 20 _____ peak hour volume is: _____ <input type="checkbox"/> North Bound <input type="checkbox"/> South Bound <input type="checkbox"/> East Bound <input type="checkbox"/> West Bound</p> <p>4. Is vertical curbing present? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>5. Number of lanes _____.</p> <p>6. Roadway width _____ ft.</p> <p>7. Center of double yellow centerline to Right edge _____ ft.</p> <p>8. Center of double yellow centerline to Left edge _____ ft.</p>	<p>9. With parking in place, must opposing vehicles passing parked vehicles yield to permit passing in the opposite direction? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>10. The existing level of service as determined by a capacity analysis using the peak hour volumes indicated to the left is: With parking (one side) _____. With parking (both sides) _____. With no parking _____.</p> <p>11. Determine and list the minimum corner sight distance at all approaches to all intersections within the proposed restriction and indicate below: See Section G</p>	

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F - SITE DATA (CONTINUED)

12. The number of crashes within the proposed restriction either directly or indirectly attributed to one of the following as a primary cause during the past three years:

- a. Vehicle parking on roadway _____
- b. Vehicle entering or leaving the parked position . _____
- c. Drivers or passengers entering or leaving parked vehicles on the street side _____
- d. Reduced sight distance due to the parked vehicles _____
- e. Other _____
- f. TOTAL number of parking-related crashes 0

13. Does the area contain any of the following:

- Official Bus Stop
- Loading Zone
- Emergency Vehicle Driveway

14. Is the width of the shoulder sufficient to allow a vehicle or its load to park completely off the roadway? YES NO

a. Width of shoulder(s): Left _____ ft. Right _____ ft.

15. Does the roadway have 3 or more lanes and a speed limit of 40 MPH or more? YES NO

a. Is a clear recovery area needed? YES NO

16. Has an Ordinance been enacted? YES NO

17. State approval required? YES NO

18. Other restrictions to be imposed: Meters:

a. Time restriction is in effect: _____

b. Cost of parking: _____

c. Hours of day restricted: _____

d. Days of the week restricted: _____

e. Class of vehicles restricted: _____

19. Signs to be installed: (list each type separately)

a. Sign Number from PUB, 236:

- (a) R8-3 (24" x 24")
- (b) G20-6-1 Right (24" x 12")
- (c) G20-6-1 Left (24" x 12")

b. No. of signs to be installed: (a) 4 (b) 2 (c) 2

c. Sign message:

- (a) No Parking Symbol
- (b) Red Arrow Sign (Right)
- (c) Red Arrow Sign (Left)

20. Are parking stalls marked? YES NO
Describe stall size, material, etc.:

21. Based on data indicated, parking is to be restricted from Alley Way to 25 ft. north and south

because condition # 4 from Title 67, Chapter 212.114 is satisfied.

G - REMARKS

Sight distance looking left and right from Alley Way with vehicles parked along east side of Tavern House Hill is less than 100 feet.

Minimum safe stopping sight distance for a vehicle on Tavern House Hill (25 MPH/-1%) = 148 feet.

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H - ENGINEERING JUDGEMENT

Tavern House Hill from Alley Way for a distance of 25 feet north and south of the intersection satisfies criteria to prohibit parking on the east side. The roadway satisfies Condition 4 of Section 212.114 of PA Title 67 (Sight Distance).

Condition 4 states that parking may be restricted along a roadway if at an intersection, the available corner sight distance for a driver on the minor road (Alley Way) is less than the necessary minimum stopping sight distance value for the driver on the through roadway (Tavern House Hill).

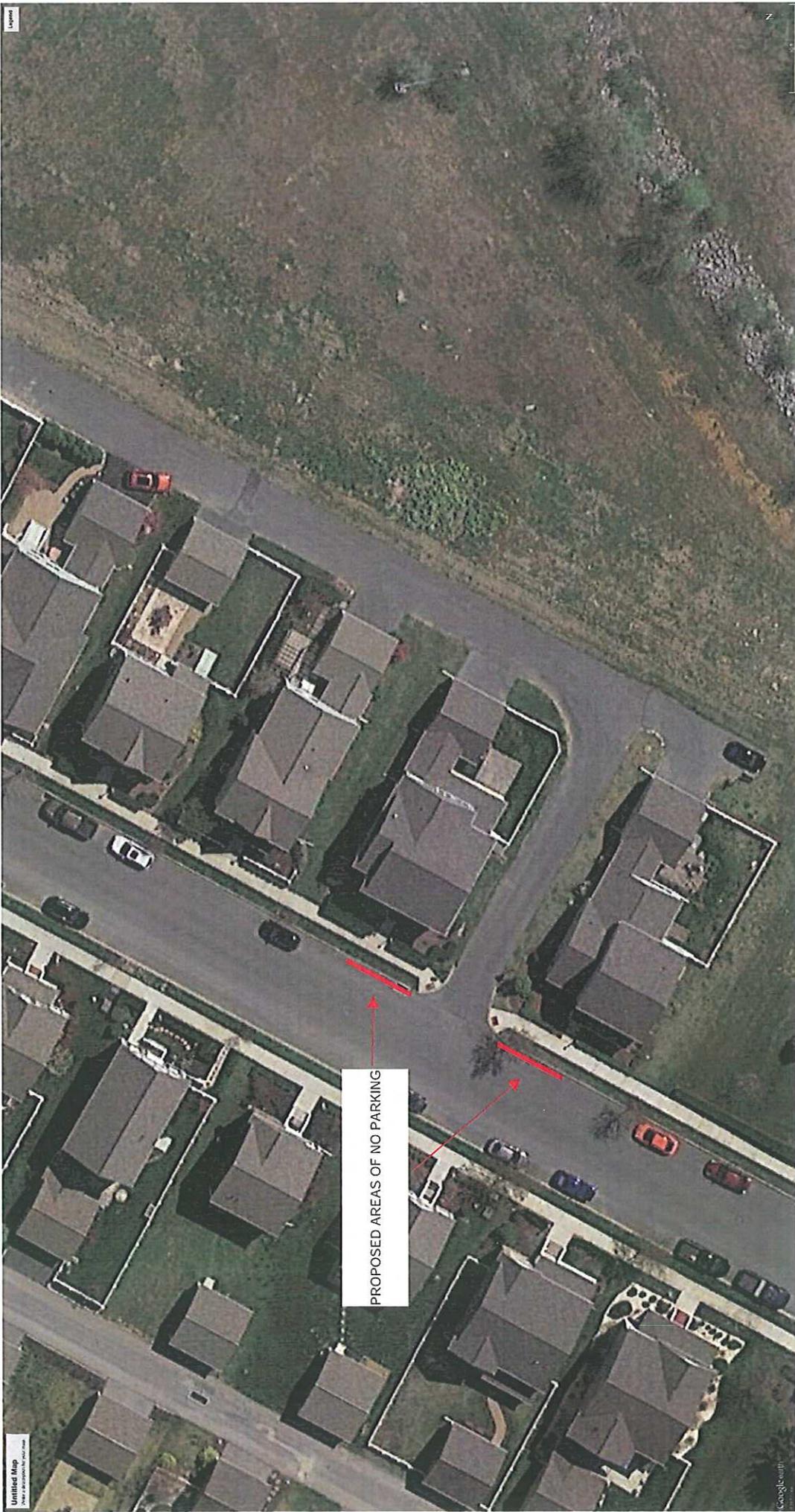
It is recommended that a No Parking restriction be posted on the east side of Tavern House Hill from Alley Way for a distance of 25 feet north of and 25 feet south of the intersection. A figure showing the recommended restriction area is included as an attachment to this study.

I - APPROVALS

Comments:

Reviewed and Approved by Signature	Name/Title	Date
Reviewed and Approved by Signature	Name/Title	Date

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Layers

Untitled Map
File Edit View Settings Help

Google Earth

DRIVEWAY SIGHT DISTANCE MEASUREMENTS

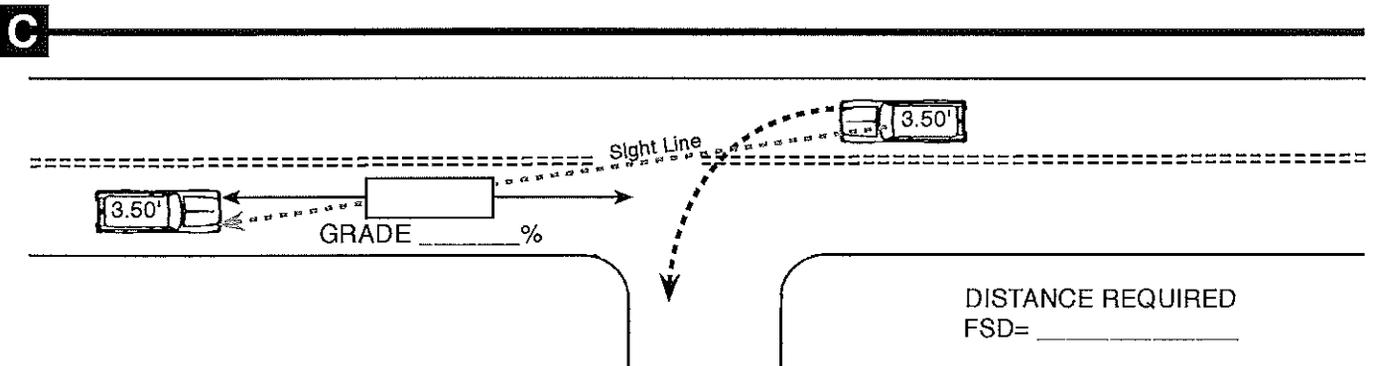
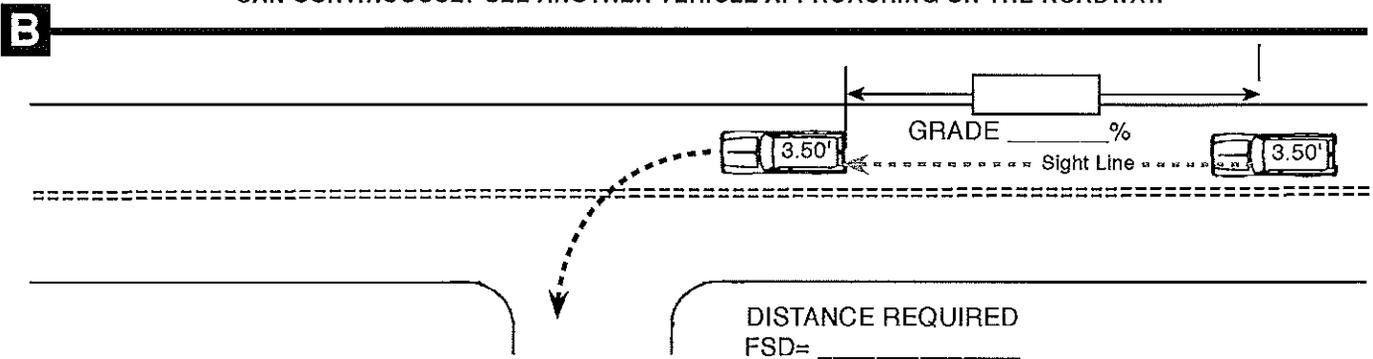
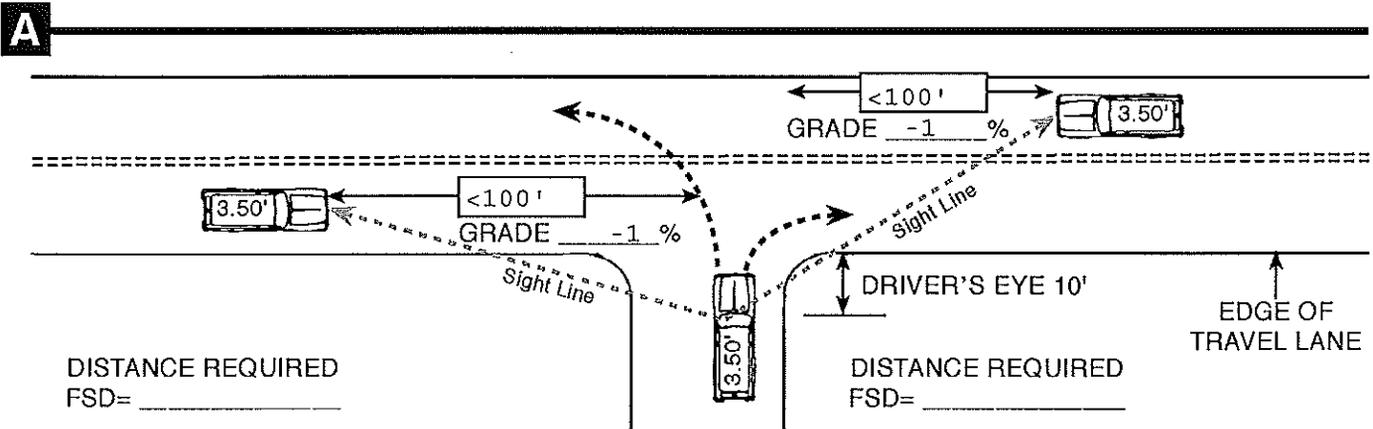
(FOR LOCAL ROADS, USE PENNDOT PUB 70)

APPLICANT TAVERN HOUSE HILL AND ALLEY WAY APPLICATION NO. _____

S.R. _____ SEG. _____ OFFSET _____ LEGAL SPEED LIMIT 25mph/25mph

MEASURED BY Grove Miller Engineering, Inc. DATE 10/2017

FOR DEPARTMENT USE ONLY: Safe-Running Speed _____ 85th Percentile Speed _____



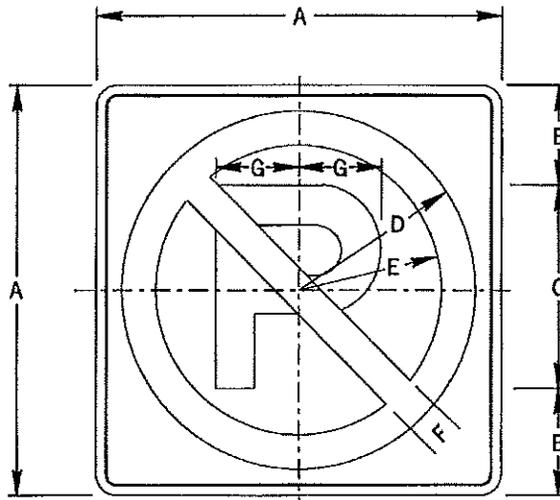
R8-3

NO PARKING SYMBOL SIGN

(a) Justification. The No Parking Symbol Sign (R8-3) shall be authorized for use to prohibit parking along a given highway. If the restriction applies to a limited area or zone, supplemental signs or messages shall be authorized to show the limits of the restriction. Authorized supplemental signs include, but are not limited to the Restricted Hours Plaque (R10-20AP), No Parking Restricted Hours Plaque (R8-3HP-1), No Parking Loading Zone Plaque (R8-3GP-1), No Parking Arrow Plaque (R7-301), Tow-Away Zone Sign (R7-201AP) and No Parking On Pavement Sign (R8-3CP). As an alternate to the use of supplemental signs, the appropriate supplemental message and the no parking symbol may be incorporated into a single sign.

(b) Size. The standard size R8-3 sign shall be 12" x 12" in business, residential, or park areas and 24" x 24" in rural areas. The standard size for expressways shall be 36" x 36", and on freeways shall be 48" x 48".

(c) Placement. Signs should be set at an angle of not less than 30° or more than 45° with a line parallel to the flow of traffic so as to be visible to approaching traffic. Care should be taken to ensure that supplemental arrows point in the proper direction to indicate the regulated area. Signs shall be placed at the beginning of and at reasonable intervals throughout the restriction.



DIMENSIONS - IN									
SIGN SIZE A x A	B	C	D	E	F	G	MAR- GIN	BOR- DER	BLANK STD.
12" x 12"	3	6E(M)	4.9	3.9	1	2.4	0.4	0.4	—
24" x 24"	6	12E(M)	10.5	8.5	2	4.8	0.4	0.6	B3-24
36" x 36"	9	18E(M)	15.8	12.8	3	7.2	0.6	0.8	B3-36
48" x 48"	12	24E(M)	21	17	4	9.6	0.8	1.2	B3-48

COLOR:

SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)

CIRCLE AND DIAGONAL:
RED (REFLECTORIZED)

BACKGROUND:
WHITE (REFLECTORIZED)

APPROVED FOR THE SECRETARY OF TRANSPORTATION

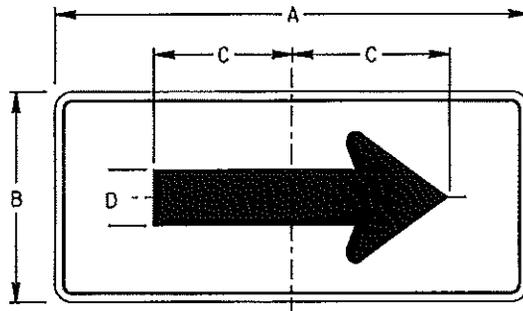
By : Alan C. Brown Date : 02-29-12
Chief, Traffic Engineering and Permits Section
Bureau of Maintenance and Operations

G20-6-1

RED ARROW SIGN

(a) Justification. The Red Arrow Sign (G20-6-1) may be used to mark a detour where the Detour Follow Red Arrow Sign (G20-6) is used. Another color is authorized where two or more detours overlap.

(b) Placement. This sign shall be mounted next to the word "FOLLOW" and indicate the direction of the detour.



NOTE:
SEE STANDARD ARROW
FOR DIMENSIONS OF
ARROWHEAD

DIMENSIONS - IN					
SIGN SIZE A x B	C	D	MAR- GIN	BOR- DER	BLANK STD.
24" x 12"	8	2.8	0.4	0.4	B5-2412

COLOR:

ARROW AND BORDER:
RED (NON-REFLECTORIZED)

BACKGROUND:
WHITE (REFLECTORIZED)

APPROVED FOR THE SECRETARY OF TRANSPORTATION

By : *Sen C. Rowe* Date : 02-29-12
Chief, Traffic Engineering and Permits Section
Bureau of Maintenance and Operations

**SUMMER LANE
AND
BRYANT STREET**

STOPPING, STANDING, OR PARKING RESTRICTION ENGINEERING AND TRAFFIC STUDY

PLEASE TYPE OR PRINT ALL INFORMATION IN BLUE OR BLACK INK



A - LOCATION INFORMATION				
COUNTY	Cumberland		MUNICIPALITY	Silver Spring Township
STREET NAME	Summer Lane and Bryant Street		TOWNSHIP ROAD #	
SR#			SEGMENT	
RESTRICTED BETWEEN:	Segment:	Offset:	To Segment:	Offset:
	Location:		to Location:	
	Side of Street:	Summer Lane	from Bryant St to a distance of 25 feet north and south	
		<input type="checkbox"/> EAST <input checked="" type="checkbox"/> WEST <input type="checkbox"/> NORTH <input type="checkbox"/> SOUTH		

B - REFERENCE INFORMATION	
REFERENCE	SECTION(S)
Chapter 212	212.5(b)(1)(iv) and 212.114(a)(c)
REFERENCE	SECTION(S)
MUTCD	2B.39, 2B.40, 2B.41
REFERENCE	SECTION(S)
Vehicle Code Title 75 Pa. C.S.	§ 3353 and 6109(a)(1)

C - STUDY ELEMENTS	
FROM PUB 212 APPENDIX:	
<input type="checkbox"/> Crash Analysis (1)	<input checked="" type="checkbox"/> Sight Distance (16)
<input type="checkbox"/> Capacity Analysis (6)	<input type="checkbox"/> Traffic Volumes (20)
<input checked="" type="checkbox"/> Geometric Review (8)	<input type="checkbox"/> Other: _____

D - ATTACHMENTS LISTING		
Check those that apply and attach to this form in the order listed below:		
<input type="checkbox"/> 1. 10-Day Response Letter	<input type="checkbox"/> 7. Crash Extract	<input type="checkbox"/> 13. Traffic/Pedestrian Volumes
<input type="checkbox"/> 2. Letter or Memo Requesting Study	<input type="checkbox"/> 8. Crash Rate	<input type="checkbox"/> 14. STAMPP Identification Data
<input type="checkbox"/> 3. Location Map	<input type="checkbox"/> 9. Collision Diagram Plot	<input type="checkbox"/> 15. Speed Limit
<input type="checkbox"/> 4. Straight Line Diagram	<input type="checkbox"/> 10. Speed Study	<input type="checkbox"/> 16. Traffic Signal Permit Plan
<input type="checkbox"/> 5. Photographs	<input type="checkbox"/> 11. Warrant Analysis	<input checked="" type="checkbox"/> 17. Other <u>Sight Distance Documentation</u>
<input type="checkbox"/> 6. Field View Drawing or Condition Diagram	<input type="checkbox"/> 12. Multi-Way Stop or Truck Restriction Worksheet	

Confidential - Traffic Engineering and Safety Study

This document is the property of the Commonwealth of Pennsylvania, Department of Transportation. The data and information contained herein are part of a traffic engineering and safety study. This safety study is only provided to those official agencies or persons who have responsibility in the highway transportation system and may only be used by such agencies or persons for traffic safety related planning or research. The document and information are confidential pursuant to 75 Pa. C.S.3754 and 23 U.S.C. 409 and may not be published, reproduced, released or discussed without the written permission of the Pennsylvania Department of Transportation.

E - SITE OBSERVATION CHECKLIST

Operational Checklist:

- 1. Do obstructions block a driver's view of pedestrians or approaching vehicles? YES NO N/A
- 2. Do drivers respond correctly to signals, signs, or other traffic control devices? YES NO N/A
- 3. Is there evidence of crashes (skid marks, property damage, tree/bush damage, broken glass/vehicle parts, etc.)? YES NO N/A
- 4. Are there violations of parking or other traffic regulations? YES NO N/A
- 5. Do drivers appear confused about routes, street names, or other guidance information? YES NO N/A
- 6. Have you observed the location during peak hours for volume, crashes, and traffic operations? YES NO N/A
- 7. Are there traffic flow deficiencies or traffic conflict patterns associated with turning movements? YES NO N/A
- 8. Are there significant delays and/or congestion? YES NO N/A
- 9. Are there vehicle/pedestrians conflicts? YES NO N/A
- 10. Are there other traffic flow deficiencies or traffic conflict patterns? YES NO N/A

Physical Checklist:

- 1. Can sight obstructions be removed or lessened? YES NO N/A
- 2. Do the street alignments or widths adequately accommodate the type of traffic using the roadway? YES NO N/A
- 3. Are curb radii adequate for turning vehicles? YES NO N/A
- 4. Are pedestrian crosswalks properly located? YES NO N/A
- 5. Are signs adequate as to usefulness, message, size, conformity, and placement? YES NO N/A
- 6. Are traffic signals adequate as to placement, visibility, glare, conformity, number of signal heads, and timing? YES NO N/A
- 7. Are pavement markings adequate as to their conformance to standards and location? YES NO N/A
- 8. Is channelization (islands or pavement markings) adequate for reducing conflict areas, separating traffic flows, and defining movements? YES NO N/A
- 9. Does the existing legal parking layout affect sight distance for through or turning vehicles? YES NO N/A
- 10. Is the pavement condition free of potholes, washboard, slick surface, etc.? YES NO N/A

F - SITE DATA

DATE DATA COLLECTED	PERSON CONDUCTING STUDY	TITLE
01/2018	Jay E. States, P.E.	Senior Traffic Engineer
<p>1. The posted speed limit is <u>25</u> MPH.</p> <p>2. The 20 _____ ADT is _____.</p> <p>3. The 20 _____ peak hour volume is: _____ <input type="checkbox"/> North Bound <input type="checkbox"/> South Bound <input type="checkbox"/> East Bound <input type="checkbox"/> West Bound</p> <p>4. Is vertical curbing present? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>5. Number of lanes _____.</p> <p>6. Roadway width _____ ft.</p> <p>7. Center of double yellow centerline to Right edge _____ ft.</p> <p>8. Center of double yellow centerline to Left edge _____ ft.</p>		<p>9. With parking in place, must opposing vehicles passing parked vehicles yield to permit passing in the opposite direction? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>10. The existing level of service as determined by a capacity analysis using the peak hour volumes indicated to the left is: With parking (one side) _____. With parking (both sides) _____. With no parking _____.</p> <p>11. Determine and list the minimum corner sight distance at all approaches to all intersections within the proposed restriction and indicate below: See Section G</p>

This traffic engineering and safety study is confidential pursuant to 75 Pa. C.S. 3754 and 23 U.S.C. 409 and may not be disclosed or used in litigation without written permission from PennDOT.

F - SITE DATA (CONTINUED)

12. The number of crashes within the proposed restriction either directly or indirectly attributed to one of the following as a primary cause during the past three years:

- a. Vehicle parking on roadway _____
- b. Vehicle entering or leaving the parked position . _____
- c. Drivers or passengers entering or leaving parked vehicles on the street side _____
- d. Reduced sight distance due to the parked vehicles _____
- e. Other _____
- f. TOTAL number of parking-related crashes 0

13. Does the area contain any of the following:

- Official Bus Stop
- Loading Zone
- Emergency Vehicle Driveway

14. Is the width of the shoulder sufficient to allow a vehicle or its load to park completely off the roadway? YES NO

a. Width of shoulder(s): Left _____ ft. Right _____ ft.

15. Does the roadway have 3 or more lanes and a speed limit of 40 MPH or more? YES NO

a. Is a clear recovery area needed? YES NO

16. Has an Ordinance been enacted? YES NO

17. State approval required? YES NO

18. Other restrictions to be imposed: Meters:

a. Time restriction is in effect: _____

b. Cost of parking: _____

c. Hours of day restricted: _____

d. Days of the week restricted: _____

e. Class of vehicles restricted: _____

19. Signs to be Installed: (list each type separately)

a. Sign Number from PUB. 236:

- (a) R8-3 (24" x 24")
- (b) G20-6-1 Right (24" x 12")
- (c) G20-6-1 Left (24" x 12")

b. No. of signs to be installed: (a) 4 (b) 2 (c) 2

c. Sign message:

- (a) No Parking Symbol
- (b) Red Arrow Sign (Right)
- (c) Red Arrow Sign (Left)

20. Are parking stalls marked? YES NO
Describe stall size, material, etc.:

21. Based on data indicated, parking is to be restricted from Bryant Street to 25 ft. north and south

because condition # 4 from Title 67, Chapter 212.114 is satisfied.

G - REMARKS

Sight distance looking left and right from Bryant Street with vehicles parked along west side of Summer Lane is approximately 100 feet.

Minimum safe stopping sight distance for a vehicle on Summer Lane (25 MPH/-1%) = 148 feet.

This traffic engineering and safety study is confidential pursuant to 75 Pa. C.S. 3754 and 23 U.S.C. 409 and may not be disclosed or used in litigation without written permission from PennDOT.

H - ENGINEERING JUDGEMENT

Summer Lane from Bryant Street for a distance of 25 feet north and south of the intersection satisfies criteria to prohibit parking on the west side. The roadway satisfies Condition 4 of Section 212.114 of PA Title 67 (Sight Distance).

Condition 4 states that parking may be restricted along a roadway if at an intersection, the available corner sight distance for a driver on the minor road (Bryant Street) is less than the necessary minimum stopping sight distance value for the driver on the through roadway (Summer Lane).

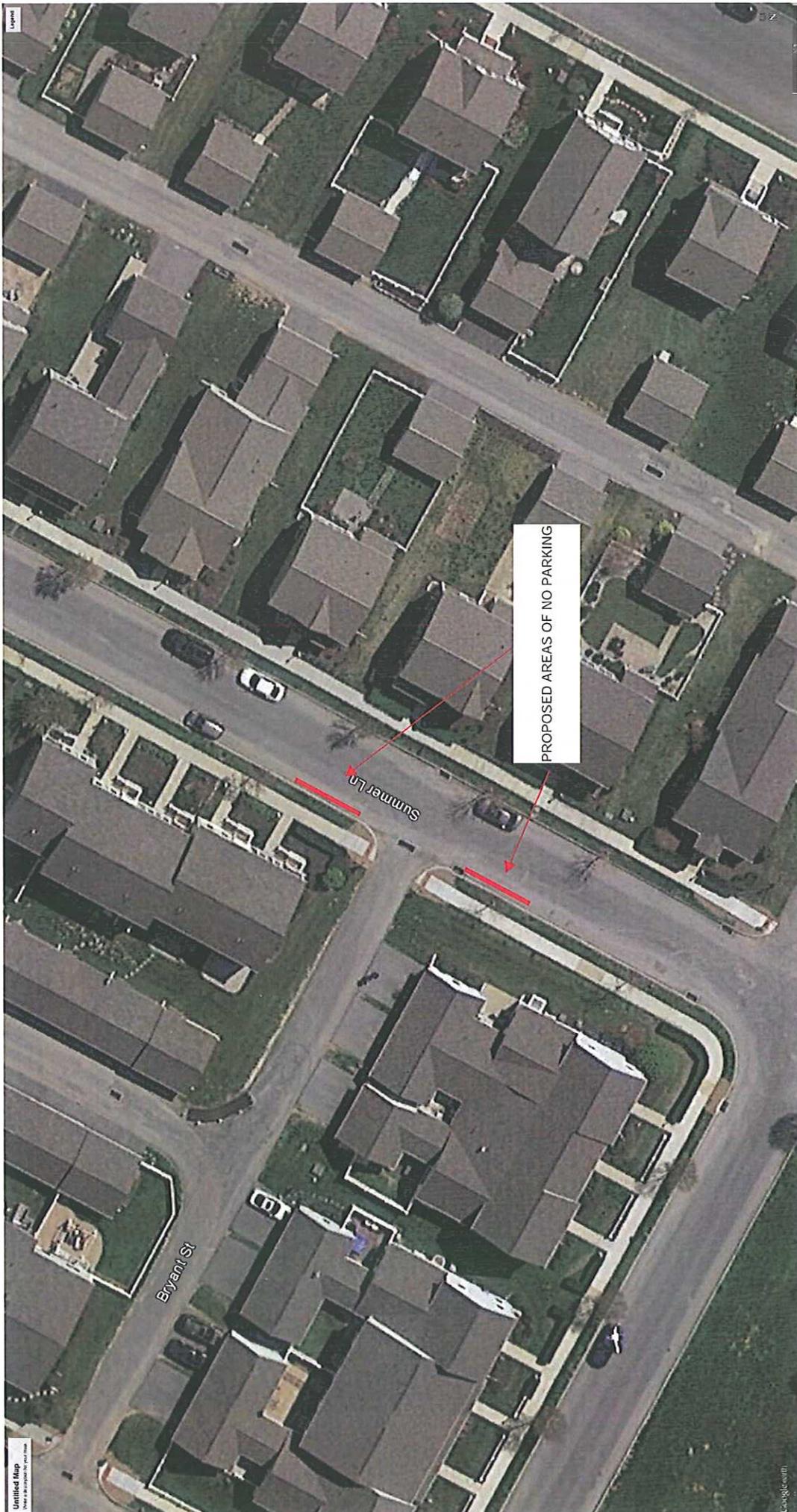
It is recommended that a No Parking restriction be posted on the west side of Summer Lane from Bryant Street for a distance of 25 feet north of and 25 feet south of the intersection. A figure showing the recommended restriction area is included as an attachment to this study.

I - APPROVALS

Comments:

Reviewed and Approved by Signature	Name/Title	Date
Reviewed and Approved by Signature	Name/Title	Date

This traffic engineering and safety study is confidential pursuant to 75 Pa. C.S. 3754 and 23 U.S.C. 409 and may not be disclosed or used in litigation without written permission from PennDOT.



Legend

Untitled Map
View in context for your project

Copyright

PROPOSED AREAS OF NO PARKING

Bryant St

Summer Ln

DRIVEWAY SIGHT DISTANCE MEASUREMENTS

(FOR LOCAL ROADS, USE PENNDOT PUB 70)

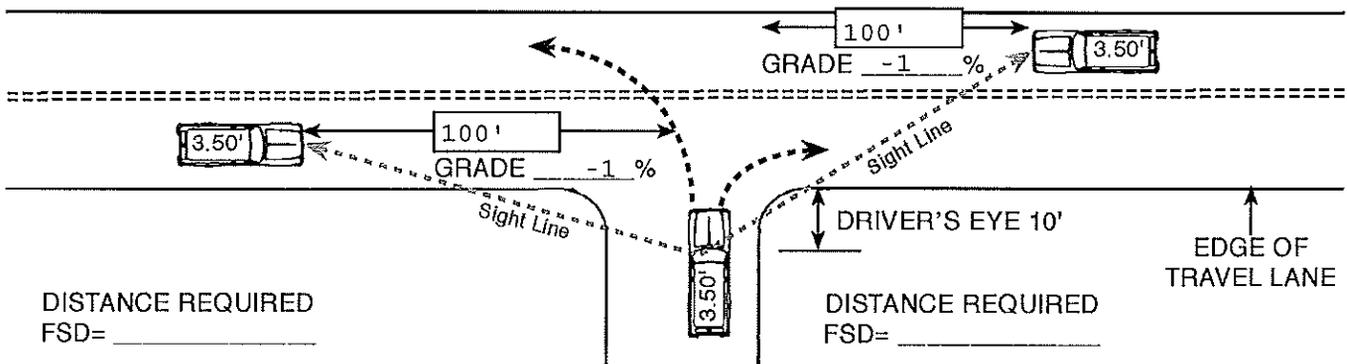
APPLICANT SUMMER LANE AND BRYANT STREET APPLICATION NO. _____

S.R. _____ SEG. _____ OFFSET _____ LEGAL SPEED LIMIT 25mph/15mph

MEASURED BY Grove Miller Engineering, Inc. DATE 10/2017

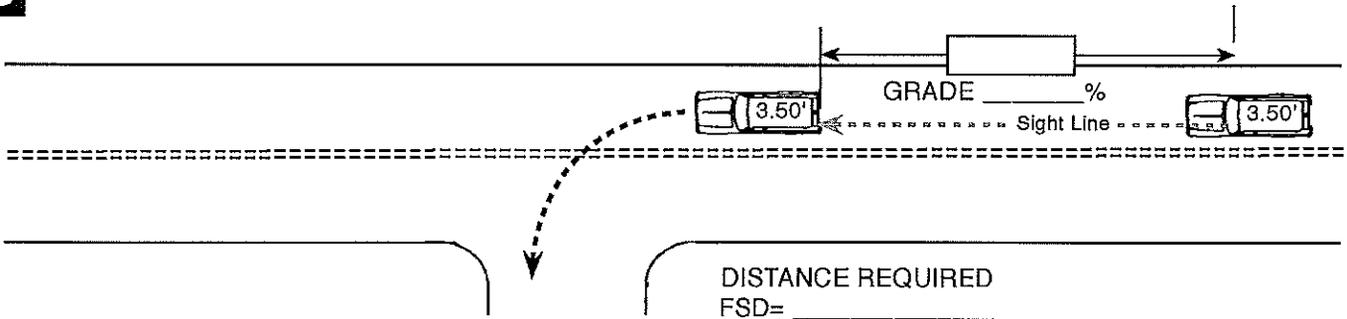
FOR DEPARTMENT USE ONLY: Safe-Running Speed _____ 85th Percentile Speed _____

A



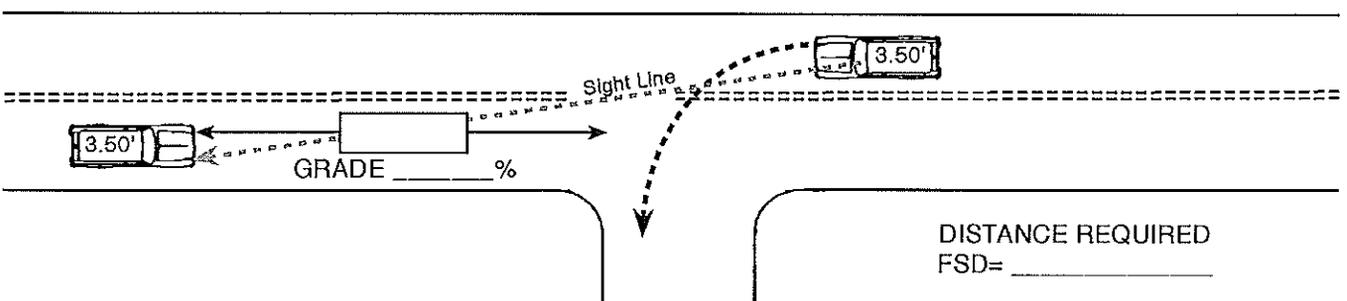
THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER AT A DRIVEWAY LOCATION CAN CONTINUOUSLY SEE ANOTHER VEHICLE APPROACHING ON THE ROADWAY.

B



THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER ON THE ROADWAY CAN CONTINUOUSLY SEE THE REAR OF A VEHICLE WHICH IS LOCATED IN THE DRIVER'S TRAVEL LANE AND WHICH IS POSITIONED TO MAKE A LEFT TURN INTO A DRIVEWAY.

C



THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER OF A VEHICLE INTENDING TO MAKE A LEFT TURN INTO A DRIVEWAY CAN CONTINUOUSLY SEE A VEHICLE APPROACHING FROM THE OPPOSITE DIRECTION.

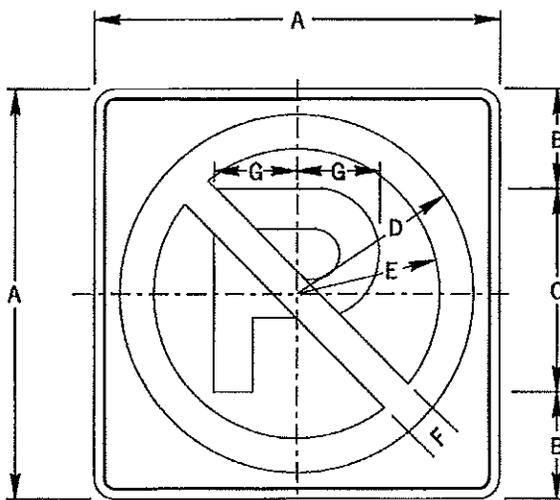
R8-3

NO PARKING SYMBOL SIGN

(a) Justification. The No Parking Symbol Sign (R8-3) shall be authorized for use to prohibit parking along a given highway. If the restriction applies to a limited area or zone, supplemental signs or messages shall be authorized to show the limits of the restriction. Authorized supplemental signs include, but are not limited to the Restricted Hours Plaque (R10-20AP), No Parking Restricted Hours Plaque (R8-3HP-1), No Parking Loading Zone Plaque (R8-3GP-1), No Parking Arrow Plaque (R7-301), Tow-Away Zone Sign (R7-201AP) and No Parking On Pavement Sign (R8-3CP). As an alternate to the use of supplemental signs, the appropriate supplemental message and the no parking symbol may be incorporated into a single sign.

(b) Size. The standard size R8-3 sign shall be 12" x 12" in business, residential, or park areas and 24" x 24" in rural areas. The standard size for expressways shall be 36" x 36", and on freeways shall be 48" x 48".

(c) Placement. Signs should be set at an angle of not less than 30° or more than 45° with a line parallel to the flow of traffic so as to be visible to approaching traffic. Care should be taken to ensure that supplemental arrows point in the proper direction to indicate the regulated area. Signs shall be placed at the beginning of and at reasonable intervals throughout the restriction.



DIMENSIONS - IN									
SIGN SIZE A x A	B	C	D	E	F	G	MAR- GIN	BOR- DER	BLANK STD.
12" x 12"	3	6E(M)	4.9	3.9	1	2.4	0.4	0.4	—
24" x 24"	6	12E(M)	10.5	8.5	2	4.8	0.4	0.6	B3-24
36" x 36"	9	18E(M)	15.8	12.8	3	7.2	0.6	0.8	B3-36
48" x 48"	12	24E(M)	21	17	4	9.6	0.8	1.2	B3-48

COLOR:

SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)

CIRCLE AND DIAGONAL:
RED (REFLECTORIZED)

BACKGROUND:
WHITE (REFLECTORIZED)

APPROVED FOR THE SECRETARY OF TRANSPORTATION

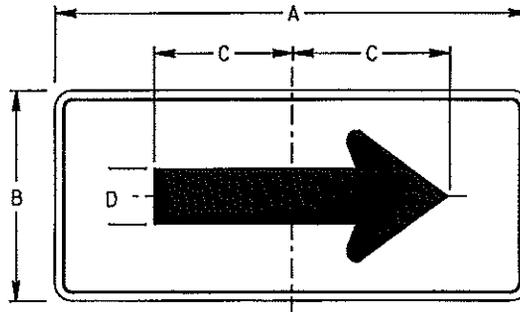
By : Alan C. Rowe Date : 02-29-12
Chief, Traffic Engineering and Permits Section
Bureau of Maintenance and Operations

G20-6-1

RED ARROW SIGN

(a) Justification. The Red Arrow Sign (G20-6-1) may be used to mark a detour where the Detour Follow Red Arrow Sign (G20-6) is used. Another color is authorized where two or more detours overlap.

(b) Placement. This sign shall be mounted next to the word "FOLLOW" and indicate the direction of the detour.



NOTE:
SEE STANDARD ARROW
FOR DIMENSIONS OF
ARROWHEAD

DIMENSIONS - IN					
SIGN SIZE A x B	C	D	MAR- GIN	BOR- DER	BLANK STD.
24" x 12"	8	2.8	0.4	0.4	B5-2412

COLOR:

ARROW AND BORDER:
RED (NON-REFLECTORIZED)

BACKGROUND:
WHITE (REFLECTORIZED)

APPROVED FOR THE SECRETARY OF TRANSPORTATION

By : Sen C Rowe Date : 02-29-12
Chief, Traffic Engineering and Permits Section
Bureau of Maintenance and Operations

**EMERSON WAY
AND
CAIN ALLEY**

STOPPING, STANDING, OR PARKING RESTRICTION ENGINEERING AND TRAFFIC STUDY

PLEASE TYPE OR PRINT ALL INFORMATION IN BLUE OR BLACK INK



A - LOCATION INFORMATION				
COUNTY	Cumberland		MUNICIPALITY	Silver Spring Township
STREET NAME	Emerson Way and Cain Alley		TOWNSHIP ROAD #	
SR#			SEGMENT	
RESTRICTED BETWEEN:	Segment:	Offset:	To Segment:	Offset:
	Location:	Emerson Way		to Location:
	Side of Street:	<input type="checkbox"/> EAST <input type="checkbox"/> WEST <input checked="" type="checkbox"/> NORTH <input type="checkbox"/> SOUTH		from Cain Alley to a distance of 25 feet east and west

B - REFERENCE INFORMATION	
REFERENCE	SECTION(S)
Chapter 212	212.5(b)(1)(iv) and 212.114(a)(c)
REFERENCE	SECTION(S)
MUTCD	2B.39, 2B.40, 2B.41
REFERENCE	SECTION(S)
Vehicle Code Title 75 Pa. C.S.	§ 3353 and 6109(a)(1)

C - STUDY ELEMENTS	
FROM PUB 212 APPENDIX:	
<input type="checkbox"/> Crash Analysis (1)	<input checked="" type="checkbox"/> Sight Distance (16)
<input type="checkbox"/> Capacity Analysis (6)	<input type="checkbox"/> Traffic Volumes (20)
<input checked="" type="checkbox"/> Geometric Review (8)	<input type="checkbox"/> Other: _____

D - ATTACHMENTS LISTING		
Check those that apply and attach to this form in the order listed below:		
<input type="checkbox"/> 1. 10-Day Response Letter	<input type="checkbox"/> 7. Crash Extract	<input type="checkbox"/> 13. Traffic/Pedestrian Volumes
<input type="checkbox"/> 2. Letter or Memo Requesting Study	<input type="checkbox"/> 8. Crash Rate	<input type="checkbox"/> 14. STAMPP Identification Data
<input type="checkbox"/> 3. Location Map	<input type="checkbox"/> 9. Collision Diagram Plot	<input type="checkbox"/> 15. Speed Limit
<input type="checkbox"/> 4. Straight Line Diagram	<input type="checkbox"/> 10. Speed Study	<input type="checkbox"/> 16. Traffic Signal Permit Plan
<input type="checkbox"/> 5. Photographs	<input type="checkbox"/> 11. Warrant Analysis	<input checked="" type="checkbox"/> 17. Other <u>Sight Distance Documentation</u>
<input type="checkbox"/> 6. Field View Drawing or Condition Diagram	<input type="checkbox"/> 12. Multi-Way Stop or Truck Restriction Worksheet	

Confidential - Traffic Engineering and Safety Study

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E - SITE OBSERVATION CHECKLIST

Operational Checklist:

- 1. Do obstructions block a driver's view of pedestrians or approaching vehicles? YES NO N/A
- 2. Do drivers respond correctly to signals, signs, or other traffic control devices? YES NO N/A
- 3. Is there evidence of crashes (*skid marks, property damage, tree/bush damage, broken glass/vehicle parts, etc.*)? YES NO N/A
- 4. Are there violations of parking or other traffic regulations? YES NO N/A
- 5. Do drivers appear confused about routes, street names, or other guidance information? YES NO N/A
- 6. Have you observed the location during peak hours for volume, crashes, and traffic operations? YES NO N/A
- 7. Are there traffic flow deficiencies or traffic conflict patterns associated with turning movements? YES NO N/A
- 8. Are there significant delays and/or congestion? YES NO N/A
- 9. Are there vehicle/pedestrians conflicts? YES NO N/A
- 10. Are there other traffic flow deficiencies or traffic conflict patterns? YES NO N/A

Physical Checklist:

- 1. Can sight obstructions be removed or lessened? YES NO N/A
- 2. Do the street alignments or widths adequately accommodate the type of traffic using the roadway? YES NO N/A
- 3. Are curb radii adequate for turning vehicles? YES NO N/A
- 4. Are pedestrian crosswalks properly located? YES NO N/A
- 5. Are signs adequate as to usefulness, message, size, conformity, and placement? YES NO N/A
- 6. Are traffic signals adequate as to placement, visibility, glare, conformity, number of signal heads, and timing? .. YES NO N/A
- 7. Are pavement markings adequate as to their conformance to standards and location? YES NO N/A
- 8. Is channelization (islands or pavement markings) adequate for reducing conflict areas, separating traffic flows, and defining movements? YES NO N/A
- 9. Does the existing legal parking layout affect sight distance for through or turning vehicles? YES NO N/A
- 10. Is the pavement condition free of potholes, washboard, slick surface, etc.? YES NO N/A

F - SITE DATA

DATE DATA COLLECTED <p style="text-align: center;">01/2018</p>	PERSON CONDUCTING STUDY <p style="text-align: center;">Jay E. States, P.E.</p>	TITLE <p style="text-align: center;">SeniorTraffic Engineer</p>
<ul style="list-style-type: none"> 1. The posted speed limit is <u>25</u> MPH. 2. The 20 _____ ADT is _____. 3. The 20 _____ peak hour volume is: _____ <input type="checkbox"/> North Bound <input type="checkbox"/> South Bound <input type="checkbox"/> East Bound <input type="checkbox"/> West Bound 4. Is vertical curbing present? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO 5. Number of lanes _____. 6. Roadway width _____ ft. 7. Center of double yellow centerline to Right edge _____ ft. 8. Center of double yellow centerline to Left edge _____ ft. 	<ul style="list-style-type: none"> 9. With parking in place, must opposing vehicles passing parked vehicles yield to permit passing in the opposite direction? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO 10. The existing level of service as determined by a capacity analysis using the peak hour volumes indicated to the left is: With parking (one side) _____. With parking (both sides) _____. With no parking _____. 11. Determine and list the minimum corner sight distance at all approaches to all intersections within the proposed restriction and indicate below: See Section G 	

This traffic engineering and safety study is confidential pursuant to 75 Pa. C.S. 3754 and 23 U.S.C. 409 and may not be disclosed or used in litigation without written permission from PennDOT.

F - SITE DATA (CONTINUED)

12. The number of crashes within the proposed restriction either directly or indirectly attributed to one of the following as a primary cause during the past three years:

- a. Vehicle parking on roadway _____
- b. Vehicle entering or leaving the parked position . _____
- c. Drivers or passengers entering or leaving parked vehicles on the street side _____
- d. Reduced sight distance due to the parked vehicles _____
- e. Other _____
- f. TOTAL number of parking-related crashes 0 _____

13. Does the area contain any of the following:

- Official Bus Stop
- Loading Zone
- Emergency Vehicle Driveway

14. Is the width of the shoulder sufficient to allow a vehicle or its load to park completely off the roadway? YES NO

a. Width of shoulder(s): Left _____ ft. Right _____ ft.

15. Does the roadway have 3 or more lanes and a speed limit of 40 MPH or more? YES NO

a. Is a clear recovery area needed? YES NO

16. Has an Ordinance been enacted? YES NO

17. State approval required? YES NO

18. Other restrictions to be imposed: Meters:

a. Time restriction is in effect: _____

b. Cost of parking: _____

c. Hours of day restricted: _____

d. Days of the week restricted: _____

e. Class of vehicles restricted: _____

19. Signs to be installed: (list each type separately)

a. Sign Number from PUB. 236:

- (a) R8-3 (24" x 24")
- (b) G20-6-1 Right (24" x 12")
- (c) G20-6-1 Left (24" x 12")

b. No. of signs to be installed: (a) 4 (b) 2 (c) 2

c. Sign message:

- (a) No Parking Symbol
- (b) Red Arrow Sign (Right)
- (c) Red Arrow Sign (Left)

20. Are parking stalls marked? YES NO
Describe stall size, material, etc.:

21. Based on data indicated, parking is to be restricted from Emerson Way to 25 ft. east and west

because condition # 4 from Title 67, Chapter 212.114 is satisfied.

G - REMARKS

Sight distance looking left and right from Cain Alley with vehicles parked along north side of Emerson Way is less than 100 feet.

Minimum safe stopping sight distance for a vehicle on Emerson Way (25 MPH/0%) = 149 feet.

This traffic engineering and safety study is confidential pursuant to 75 Pa. C.S. 3754 and 23 U.S.C. 409 and may not be disclosed or used in litigation without written permission from PennDOT.

H - ENGINEERING JUDGEMENT

Emerson Way from Cain Alley for a distance of 25 feet east and west of the intersection satisfies criteria to prohibit parking on the north side. The roadway satisfies Condition 4 of Section 212.114 of PA Title 67 (Sight Distance).

Condition 4 states that parking may be restricted along a roadway if at an intersection, the available corner sight distance for a driver on the minor road (Cain Alley) is less than the necessary minimum stopping sight distance value for the driver on the through roadway (Emerson Way).

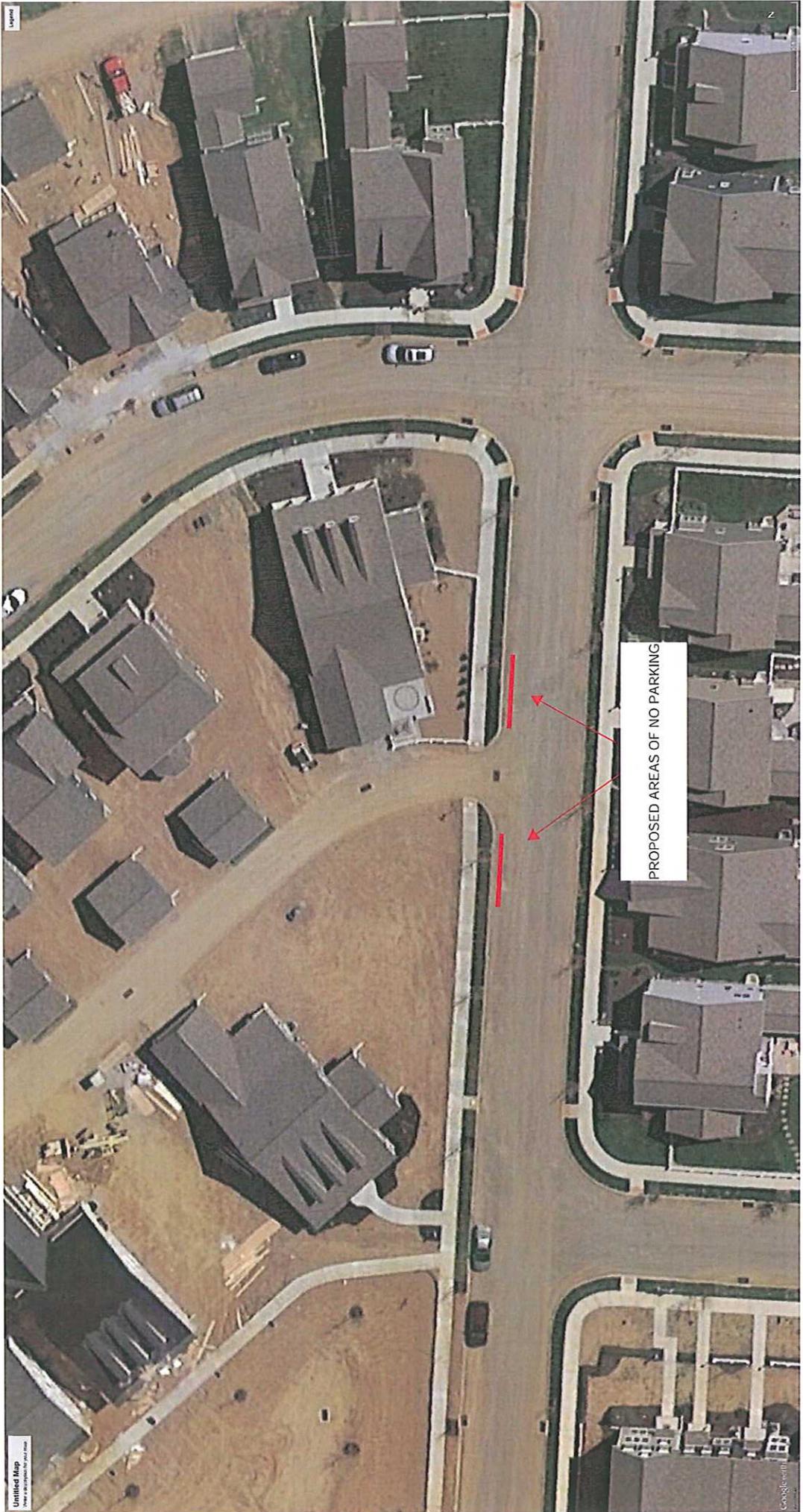
It is recommended that a No Parking restriction be posted on the north side of Emerson Way from Cain Alley for a distance of 25 feet east of and 25 feet west of the intersection. A figure showing the recommended restriction area is included as an attachment to this study.

I - APPROVALS

Comments:

Reviewed and Approved by Signature	Name/Title	Date
Reviewed and Approved by Signature	Name/Title	Date

This traffic engineering and safety study is confidential pursuant to 75 Pa. C.S. 3754 and 23 U.S.C. 409 and may not be disclosed or used in litigation without written permission from PennDOT.



Legend

Untitled Map
View in context | 10/10/2024, 10:10:10 AM

PROPOSED AREAS OF NO PARKING

Google Earth

DRIVEWAY SIGHT DISTANCE MEASUREMENTS

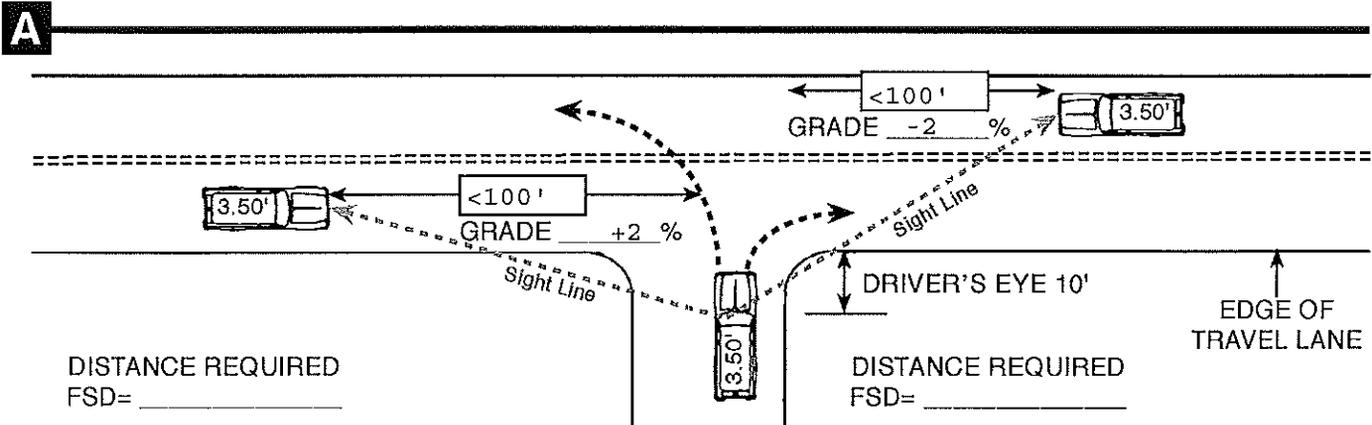
(FOR LOCAL ROADS, USE PENNDOT PUB 70)

APPLICANT EMERSON WAY AND CAIN ALLEY APPLICATION NO. _____

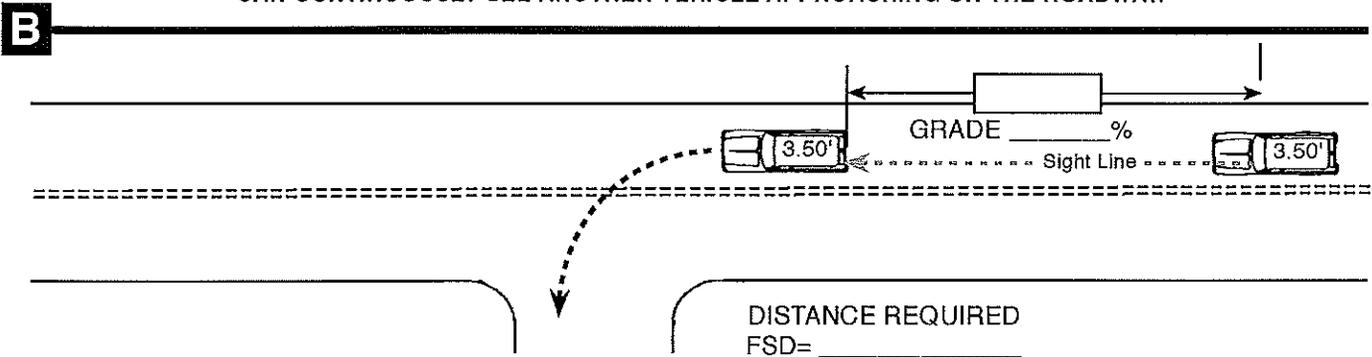
S.R. _____ SEG. _____ OFFSET _____ LEGAL SPEED LIMIT 25mph/15mph

MEASURED BY Grove Miller Engineering, Inc. DATE 10/2017

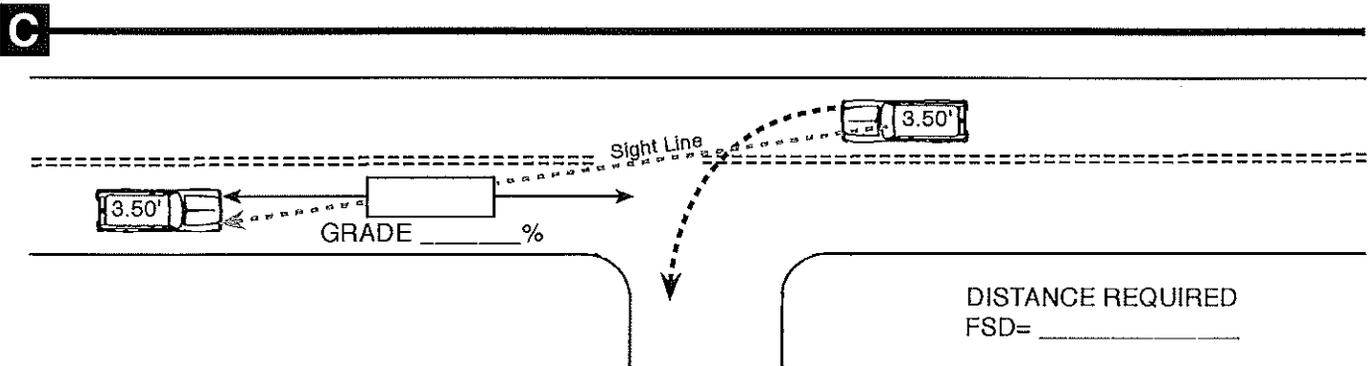
FOR DEPARTMENT USE ONLY: Safe-Running Speed _____ 85th Percentile Speed _____



THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER AT A DRIVEWAY LOCATION CAN CONTINUOUSLY SEE ANOTHER VEHICLE APPROACHING ON THE ROADWAY.



THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER ON THE ROADWAY CAN CONTINUOUSLY SEE THE REAR OF A VEHICLE WHICH IS LOCATED IN THE DRIVER'S TRAVEL LANE AND WHICH IS POSITIONED TO MAKE A LEFT TURN INTO A DRIVEWAY.



THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER OF A VEHICLE INTENDING TO MAKE A LEFT TURN INTO A DRIVEWAY CAN CONTINUOUSLY SEE A VEHICLE APPROACHING FROM THE OPPOSITE DIRECTION.

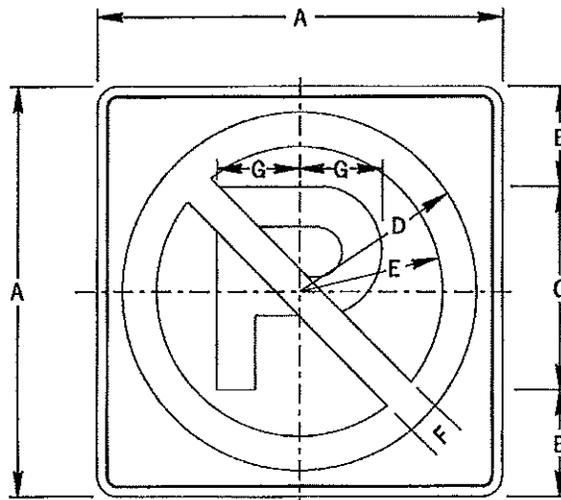
R8-3

NO PARKING SYMBOL SIGN

(a) Justification. The No Parking Symbol Sign (R8-3) shall be authorized for use to prohibit parking along a given highway. If the restriction applies to a limited area or zone, supplemental signs or messages shall be authorized to show the limits of the restriction. Authorized supplemental signs include, but are not limited to the Restricted Hours Plaque (R10-20AP), No Parking Restricted Hours Plaque (R8-3HP-1), No Parking Loading Zone Plaque (R8-3GP-1), No Parking Arrow Plaque (R7-301), Tow-Away Zone Sign (R7-201AP) and No Parking On Pavement Sign (R8-3CP). As an alternate to the use of supplemental signs, the appropriate supplemental message and the no parking symbol may be incorporated into a single sign.

(b) Size. The standard size R8-3 sign shall be 12" x 12" in business, residential, or park areas and 24" x 24" in rural areas. The standard size for expressways shall be 36" x 36", and on freeways shall be 48" x 48".

(c) Placement. Signs should be set at an angle of not less than 30° or more than 45° with a line parallel to the flow of traffic so as to be visible to approaching traffic. Care should be taken to ensure that supplemental arrows point in the proper direction to indicate the regulated area. Signs shall be placed at the beginning of and at reasonable intervals throughout the restriction.



DIMENSIONS - IN									
SIGN SIZE A x A	B	C	D	E	F	G	MAR- GIN	BOR- DER	BLANK STD.
12" x 12"	3	6E(M)	4.9	3.9	1	2.4	0.4	0.4	—
24" x 24"	6	12E(M)	10.5	8.5	2	4.8	0.4	0.6	B3-24
36" x 36"	9	18E(M)	15.8	12.8	3	7.2	0.6	0.8	B3-36
48" x 48"	12	24E(M)	21	17	4	9.6	0.8	1.2	B3-48

COLOR:

SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)

CIRCLE AND DIAGONAL:
RED (REFLECTORIZED)

BACKGROUND:
WHITE (REFLECTORIZED)

APPROVED FOR THE SECRETARY OF TRANSPORTATION

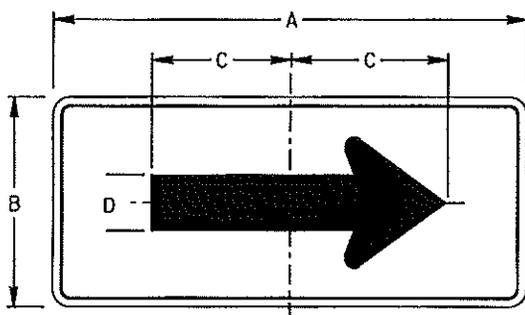
By : *John C. Rowe* Date : 02-29-12
Chief, Traffic Engineering and Permits Section
Bureau of Maintenance and Operations

G20-6-1

RED ARROW SIGN

(a) Justification. The Red Arrow Sign (G20-6-1) may be used to mark a detour where the Detour Follow Red Arrow Sign (G20-6) is used. Another color is authorized where two or more detours overlap.

(b) Placement. This sign shall be mounted next to the word "FOLLOW" and indicate the direction of the detour.



NOTE:
SEE STANDARD ARROW
FOR DIMENSIONS OF
ARROWHEAD

DIMENSIONS - IN					
SIGN SIZE A x B	C	D	MAR- GIN	BOR- DER	BLANK STD.
24" x 12"	8	2.8	0.4	0.4	B5-2412

COLOR:

ARROW AND BORDER:
RED (NON-REFLECTORIZED)

BACKGROUND:
WHITE (REFLECTORIZED)

APPROVED FOR THE SECRETARY OF TRANSPORTATION

By : John C. Rowe Date : 02-29-12
Chief, Traffic Engineering and Permits Section
Bureau of Maintenance and Operations

TAVERN HOUSE HILL AND SUTHERLAND WAY

MULTIWAY STOP CONTROL AT INTERSECTIONS ENGINEERING AND TRAFFIC STUDY

PLEASE TYPE OR PRINT ALL INFORMATION IN BLUE OR BLACK INK



A - LOCATION INFORMATION		
COUNTY Cumberland		MUNICIPALITY Silver Spring Township
MAJOR STREET INFORMATION		
SR#	TR#	STREET NAME Tavern House Hill
STATION		LOCATION
MINOR STREET INFORMATION		
SR#	TR#	STREET NAME Sutherland Way
STATION		LOCATION

B - REFERENCE INFORMATION	
REFERENCE Chapter 212	SECTION(S) 212.106 (c)
REFERENCE MUTCD	SECTION(S) 2B.07, 3B.16
REFERENCE Vehicle Code Title 75 Pa. C.S.	SECTION(S) §3323, 6109(a)(6) and 6124

C - STUDY ELEMENTS		
FROM PUB 212 APPENDIX:		
<input type="checkbox"/> Crash Analysis (1)	<input type="checkbox"/> Pedestrian Volumes (12)	<input type="checkbox"/> Traffic Volumes (20)
<input type="checkbox"/> Acceleration Lane (2)	<input checked="" type="checkbox"/> Sight Distance (16)	<input type="checkbox"/> Other _____
<input checked="" type="checkbox"/> Geometric Review (8)	<input type="checkbox"/> Speed Data (17)	_____

D - ATTACHMENTS LISTING		
Check those that apply and attach to this form in the order listed below:		
<input type="checkbox"/> 1. 10 Day Response Letter	<input type="checkbox"/> 7. Crash Extract	<input type="checkbox"/> 13. Traffic/Pedestrian Volumes
<input type="checkbox"/> 2. Letter or Memo Requesting Study	<input type="checkbox"/> 8. Crash Rate	<input type="checkbox"/> 14. STAMPP Identification Data
<input type="checkbox"/> 3. Location Map	<input type="checkbox"/> 9. Crash Plot	<input type="checkbox"/> 15. Speed Permit
<input type="checkbox"/> 4. Straight Line Diagram	<input type="checkbox"/> 10. Speed Study	<input checked="" type="checkbox"/> 16. Other <u>Sight Distance Evaluation</u>
<input type="checkbox"/> 5. Photographs	<input type="checkbox"/> 11. Warrant	<u>Documentation</u>
<input type="checkbox"/> 6. Field View Drawing	<input type="checkbox"/> 12. Multi-Way Stop or Truck Restriction Worksheet	_____

Confidential - Traffic Engineering and Safety Study

This document is the property of the Commonwealth of Pennsylvania, Department of Transportation. The data and information contained herein are part of a traffic engineering and safety study. This safety study is only provided to those official agencies or persons who have responsibility in the highway transportation system and may only be used by such agencies or persons for traffic safety related planning or research. The document and information are confidential pursuant to 75 Pa. C.S.3754 and 23 U.S.C. 409 and may not be published, reproduced, released or discussed without the written permission of the Pennsylvania Department of Transportation.

E - SITE OBSERVATION CHECKLIST

Operational Checklist:

1. Do obstructions block the drivers' view of approaching vehicles? YES NO N/A
2. Do drivers respond correctly to signals, signs, or other traffic control devices? YES NO N/A
3. Is there evidence of crashes (*skid marks, property damage, tree/bush damage, broken glass/vehicle parts, etc.*)? . . . YES NO N/A
4. Are there violations of parking regulations or other traffic movements? YES NO N/A
5. Do drivers appear confused about routes, street names, or other guidance information? YES NO N/A
6. Have you observed the location during peak hours for volume and crashes? YES NO N/A
7. Are there traffic flow deficiencies or traffic conflict patterns associated with turning movements? YES NO N/A
8. Is there significant delays and/or congestion? YES NO N/A
9. Do pedestrian movements through the location cause conflicts? YES NO N/A
10. Are there other traffic flow deficiencies or traffic conflict patterns? YES NO N/A

Physical Checklist:

1. Can sight obstructions be removed or lessened? YES NO N/A
2. Do the street alignments or widths adequately accommodate the type of traffic using the roadway? YES NO N/A
3. Are curb radii adequate for turning vehicles? YES NO N/A
4. Are pedestrian crosswalks properly located? YES NO N/A
5. Are signs adequate as to usefulness, message, size, conformity, and placement? YES NO N/A
6. Are traffic signals adequate as to placement, visibility, glare, conformity, number of signal heads, or timing? YES NO N/A
7. Are pavement markings adequate as to their conformance to standards and location? YES NO N/A
8. Is channelization (islands or paint markings) adequate for reducing conflict areas, separating traffic flows, and defining movements? YES NO N/A
9. Does the existing legal parking layout affect sight distance for through or turning vehicles? YES NO N/A
10. Is the pavement condition free of potholes, washboard, slick surface, etc.? YES NO N/A

F - SITE DATA

DATE DATA COLLECTED	PERSON CONDUCTING STUDY	TITLE
01/2018	Jay E. States, P.E.	Senior Traffic Engineer

1. Is the multiway stop being installed as an interim measure until the signal approval and installation is completed? YES NO

2. List the number of crashed for the previous 12 month period by type and/or causation factor. ****This may include non-reportable crashes.****

3. 85th percentile speed of major approach is _____ MPH.

4a. Does the vehicular volume entering the intersection from the major street approaches average at least 300 vehicles/hour for any 8 hours? YES NO

4b. Does the combined vehicular, pedestrian and bicycle volume from the minor street approaches average at least 200/hour, for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour? . . . YES NO

4c. If #3 > 40 MPH, then the minimum vehicular volume warrants are 70% of 4a and 4b.

This traffic engineering and safety study is confidential pursuant to 75 Pa. C.S. 3754 and 23 U.S.C. 409 and may not be disclosed or used in litigation without written permission from PennDOT.

F - SITE DATA (CONTINUED)

5. Where #2, #4a and #4b are satisfied to 80% of their minimum values. **Note: #4c is excluded from this condition.**

6a. Determine and list the minimum intersection sight distance for all approaches.

See attached Sight Distance Forms

6b. List the posted, approach speeds on all intersection legs.

Tavern House Hill is 25mph, Sutherland Way is 25mph

6c. Is there any practical method for improving the sight distance at these intersections? YES NO

7. List any other factors justifying a multiway stop.

Sight distance looking left from Sutherland Way Northbound is 260 ft.; required intersection sight distance is 280 ft.
Sight distance looking right from Sutherland Way Southbound is 110 ft.; required intersection sight distance is 280 ft.

8. Has the municipality agreed to purchase, erect and maintain the signs necessary to legalize the above stop intersection at no cost to the Department
..... YES NO

9. Has the Through Highway permit been modified YES NO

G - REMARKS

See attached Sight Distance Forms for the Sutherland Way approach to the intersection. The Sutherland Way approach is currently controlled by a STOP sign. The Tavern House Hill approaches are free-flow.

Sight distances looking left and right from Sutherland Way Eastbound do not meet criteria defined in PennDOT Publication 13M "Design Manual Part 2 - Highway Design" or AASHTO's "A policy on Geometric Design of Highways and Streets". The sight distances are restricted by parked vehicles and the horizontal curve along Tavern House Hill.

H - ENGINEERING JUDGEMENT

All-way STOP control should be implemented at the subject intersection of Tavern House Hill and Sutherland Way. STOP signs (R1-1, 30" x 30") should be placed on both Tavern House Hill approaches. An ALL-WAY plaque (R1-3P, 18" x 6") should be installed under the STOP sign on all three (3) intersection approaches.

In addition, a STOP AHEAD sign (W3-1, 36" x 36") should be placed on the southbound Tavern House Hill approach to the intersection at a distance of 155 feet in advance of the intersection.

Details on the recommended signs, from PennDOT Publication 236 - Handbook of Approved Signs, are attached.

I - APPROVALS

Comments

Reviewed and Approved by Signature	Name/Title	Date
Reviewed and Approved by Signature	Name/Title	Date

This traffic engineering and safety study is confidential pursuant to 75 Pa. C.S. 3754 and 23 U.S.C. 409 and may not be disclosed or used in litigation without written permission from PennDOT.

DRIVEWAY SIGHT DISTANCE MEASUREMENTS

(FOR LOCAL ROADS, USE PENNDOT PUB 70)

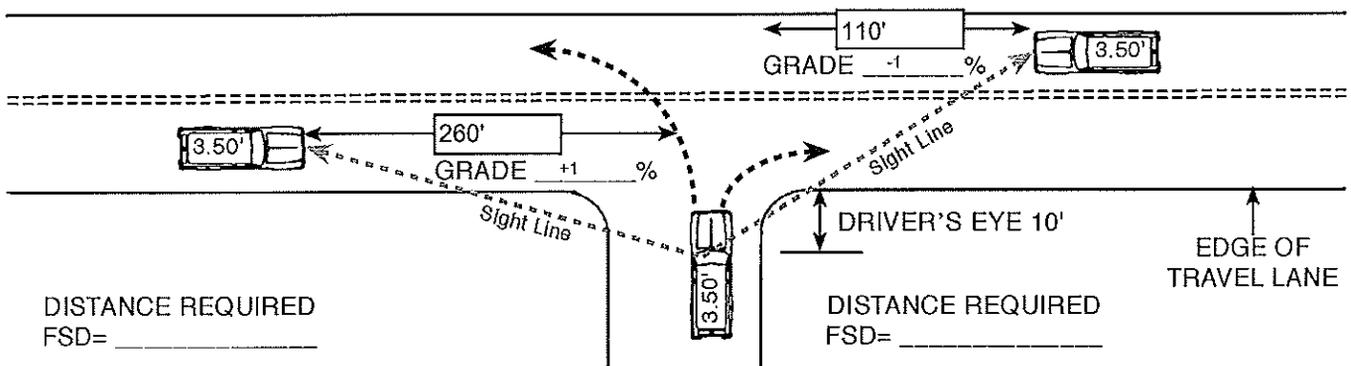
APPLICANT TAVERN HOUSE HILL AND SUTHERLAND WAY APPLICATION NO. _____

S.R. _____ SEG. _____ OFFSET _____ LEGAL SPEED LIMIT 25mph/25mph

MEASURED BY Grove Miller Engineering, Inc. DATE 10/2017

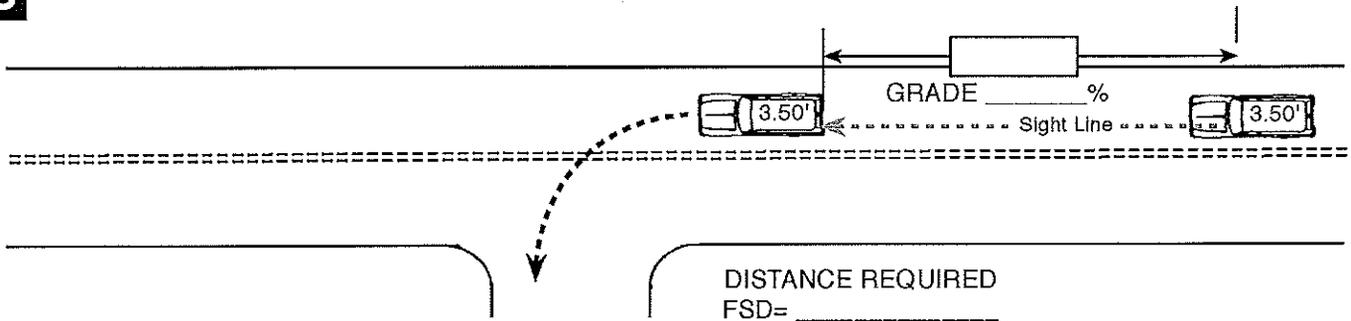
FOR DEPARTMENT USE ONLY: Safe-Running Speed _____ 85th Percentile Speed _____

A



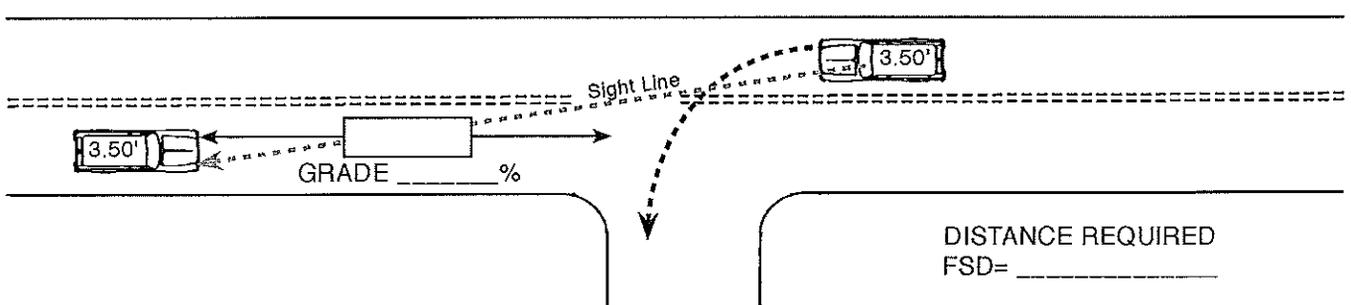
THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER AT A DRIVEWAY LOCATION CAN CONTINUOUSLY SEE ANOTHER VEHICLE APPROACHING ON THE ROADWAY.

B



THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER ON THE ROADWAY CAN CONTINUOUSLY SEE THE REAR OF A VEHICLE WHICH IS LOCATED IN THE DRIVER'S TRAVEL LANE AND WHICH IS POSITIONED TO MAKE A LEFT TURN INTO A DRIVEWAY.

C



THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER OF A VEHICLE INTENDING TO MAKE A LEFT TURN INTO A DRIVEWAY CAN CONTINUOUSLY SEE A VEHICLE APPROACHING FROM THE OPPOSITE DIRECTION.

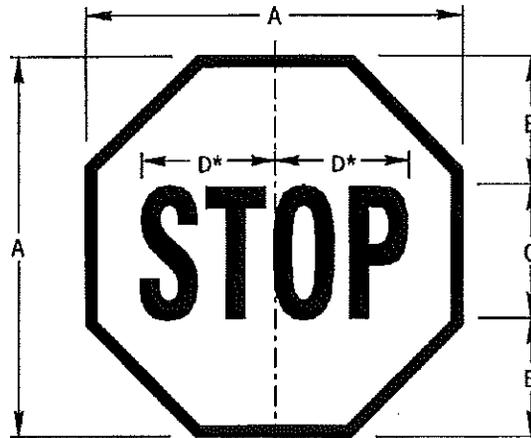
R1-1

STOP SIGN

(a) Justification. The Stop Sign (R1-1) is authorized for use on those streets or highways which intersect with a through highway or at a stop intersection so designated by the Department with reference to State-designated highways or local authorities with reference to highways under their jurisdiction. The R1-1 sign is also authorized for use in work zones involving one-lane, two-way roadways. At intersections where all approaches are controlled by an R1-1 sign, a supplemental ALL-WAY plaque (R1-3P) shall be mounted below each R1-1 sign.

(b) Authorization. Before local authorities designate any highway as a through highway or stop intersection which will intersect or affect a State-designated highway, approval of such designation shall first be obtained from the Department. Approval to install R1-1 signs in work areas shall not require the approval of the Department or local authorities when the conditions stipulated in the Department's Temporary Traffic Control Guidelines are satisfied.

(c) Size. The standard size R1-1 sign shall be 30" x 30" for single lane conventional highways and 36" x 36" for multi-lane conventional highways. The 24" x 24" size shall only be used for alleys with restrictive physical conditions and vehicle usage that prohibits the installation of the standard size R1-1. A sign that is mounted back-to-back with a R1-1 sign should stay within the edges of the R1-1 sign. If necessary, the size of the R1-1 sign should be increased so that any other sign installed back-to-back with it remains within the edges of the R1-1 sign.



DIMENSIONS - IN					
SIGN SIZE A x A	B	C	D	BOR- DER	BLANK STD.
18" x 18"	6	6C	8	0.4	—
24" x 24"	8	8C	10	0.6	B1-24
30" x 30"	10	10C	12.6	0.8	B1-30
36" x 36"	12	12C	15	0.8	B1-36
48" x 48"	16	16C	20	1.2	B1-48

* REDUCE SPACING 40%

COLOR:

LEGEND AND BORDER:
WHITE (REFLECTORIZED)

BACKGROUND:
RED (REFLECTORIZED)

APPROVED FOR THE SECRETARY OF TRANSPORTATION

By: *Alan C. Rowe* Date: 02-29-12
Chief, Traffic Engineering and Permits Section
Bureau of Maintenance and Operations

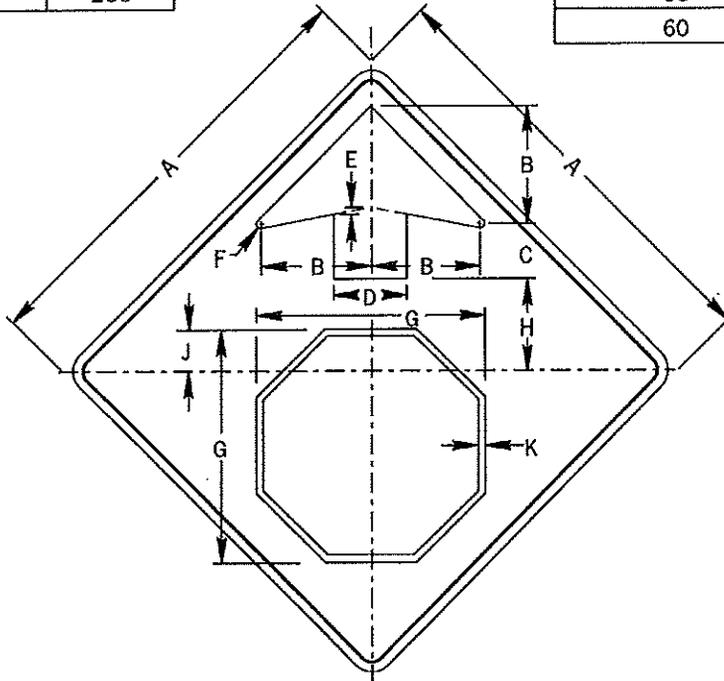
W3-1

STOP AHEAD SIGN

The Stop Ahead Sign (W3-1) will be authorized for use in advance of a stop sign when physical conditions prevent the driver from having a continuous view of the stop sign for the following distances. Advance placement distance for the W3-1 sign will be based on Department regulation. When used in a work zone, the background color shall be orange.

85th Percentile Speed MPH	Distance feet
20	115
25	155
30	200
35	250

85th Percentile Speed MPH	Distance feet
40	305
45	360
50	425
55	495
60	570



DIMENSIONS - IN												
SIGN SIZE A x A	B	C	D	E	F	G	H	J	K	MAR- GIN	BOR- DER	BLANK STD.
18" x 18"	4.5	2.3	3	0.4	0.2	9.5	3	1.8	0.3	0.4	0.6	B3-18
36" x 36"	9	4.4	6	0.8	0.4	19	7.6	3.5	0.6	0.6	0.8	B3-36
48" x 48"	12	6	8	1	0.5	25.6	10	4.5	0.8	0.8	1.2	B3-48

COLOR:

ARROW AND BORDER:
BLACK (NON-REFLECTORIZED)

BACKGROUND:
YELLOW (REFLECTORIZED)

SYMBOL BORDER:
WHITE (REFLECTORIZED)

SYMBOL BACKGROUND:
RED (REFLECTORIZED)

APPROVED FOR THE SECRETARY OF TRANSPORTATION

By : Alan C. Rowe Date : 02-29-12
Chief, Traffic Engineering and Permits Section
Bureau of Maintenance and Operations

**TAVERN HOUSE HILL
AND
STONE BARN ROAD**

MULTIWAY STOP CONTROL AT INTERSECTIONS ENGINEERING AND TRAFFIC STUDY

PLEASE TYPE OR PRINT ALL INFORMATION IN BLUE OR BLACK INK



A - LOCATION INFORMATION		
COUNTY Cumberland		MUNICIPALITY Silver Spring Township
MAJOR STREET INFORMATION		
SR#	TR#	STREET NAME Tavern House Hill
STATION		LOCATION
MINOR STREET INFORMATION		
SR#	TR#	STREET NAME Stone Barn Road
STATION		LOCATION

B - REFERENCE INFORMATION	
REFERENCE Chapter 212	SECTION(S) 212.106 (c)
REFERENCE MUTCD	SECTION(S) 2B.07, 3B.16
REFERENCE Vehicle Code Title 75 Pa. C.S.	SECTION(S) §3323, 6109(a)(6) and 6124

C - STUDY ELEMENTS		
FROM PUB 212 APPENDIX:		
<input type="checkbox"/> Crash Analysis (1)	<input type="checkbox"/> Pedestrian Volumes (12)	<input type="checkbox"/> Traffic Volumes (20)
<input type="checkbox"/> Acceleration Lane (2)	<input checked="" type="checkbox"/> Sight Distance (16)	<input type="checkbox"/> Other _____
<input checked="" type="checkbox"/> Geometric Review (8)	<input type="checkbox"/> Speed Data (17)	_____

D - ATTACHMENTS LISTING		
Check those that apply and attach to this form in the order listed below:		
<input type="checkbox"/> 1. 10 Day Response Letter	<input type="checkbox"/> 7. Crash Extract	<input type="checkbox"/> 13. Traffic/Pedestrian Volumes
<input type="checkbox"/> 2. Letter or Memo Requesting Study	<input type="checkbox"/> 8. Crash Rate	<input type="checkbox"/> 14. STAMPP Identification Data
<input type="checkbox"/> 3. Location Map	<input type="checkbox"/> 9. Crash Plot	<input type="checkbox"/> 15. Speed Permit
<input type="checkbox"/> 4. Straight Line Diagram	<input type="checkbox"/> 10. Speed Study	<input checked="" type="checkbox"/> 16. Other <u>Sight Distance Evaluation</u>
<input type="checkbox"/> 5. Photographs	<input type="checkbox"/> 11. Warrant	Documentation
<input type="checkbox"/> 6. Field View Drawing	<input type="checkbox"/> 12. Multi-Way Stop or Truck Restriction Worksheet	_____

Confidential - Traffic Engineering and Safety Study

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E - SITE OBSERVATION CHECKLIST

Operational Checklist:

- 1. Do obstructions block the drivers' view of approaching vehicles? YES NO N/A
- 2. Do drivers respond correctly to signals, signs, or other traffic control devices? YES NO N/A
- 3. Is there evidence of crashes (*skid marks, property damage, tree/bush damage, broken glass/vehicle parts, etc.*)? . . . YES NO N/A
- 4. Are there violations of parking regulations or other traffic movements? YES NO N/A
- 5. Do drivers appear confused about routes, street names, or other guidance information? YES NO N/A
- 6. Have you observed the location during peak hours for volume and crashes? YES NO N/A
- 7. Are there traffic flow deficiencies or traffic conflict patterns associated with turning movements? YES NO N/A
- 8. Is there significant delays and/or congestion? YES NO N/A
- 9. Do pedestrian movements through the location cause conflicts? YES NO N/A
- 10. Are there other traffic flow deficiencies or traffic conflict patterns? YES NO N/A

Physical Checklist:

- 1. Can sight obstructions be removed or lessened? YES NO N/A
- 2. Do the street alignments or widths adequately accommodate the type of traffic using the roadway? YES NO N/A
- 3. Are curb radii adequate for turning vehicles? YES NO N/A
- 4. Are pedestrian crosswalks properly located? YES NO N/A
- 5. Are signs adequate as to usefulness, message, size, conformity, and placement? YES NO N/A
- 6. Are traffic signals adequate as to placement, visibility, glare, conformity, number of signal heads, or timing? YES NO N/A
- 7. Are pavement markings adequate as to their conformance to standards and location? YES NO N/A
- 8. Is channelization (islands or paint markings) adequate for reducing conflict areas, separating traffic flows, and defining movements? YES NO N/A
- 9. Does the existing legal parking layout affect sight distance for through or turning vehicles? YES NO N/A
- 10. Is the pavement condition free of potholes, washboard, slick surface, etc.? YES NO N/A

F - SITE DATA

DATE DATA COLLECTED	PERSON CONDUCTING STUDY	TITLE
01/2018	Jay E. States, P.E.	Senior Traffic Engineer

- 1. Is the multiway stop being installed as an interim measure until the signal approval and installation is completed? YES NO
- 2. List the number of crashed for the previous 12 month period by type and/or causation factor. ****This may include non-reportable crashes.****

- 3. 85th percentile speed of major approach is _____ MPH.
- 4a. Does the vehicular volume entering the intersection from the major street approaches average at least 300 vehicles/hour for any 8 hours? YES NO
- 4b. Does the combined vehicular, pedestrian and bicycle volume from the minor street approaches average at least 200/hour, for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour? YES NO
- 4c. If #3 > 40 MPH, then the minimum vehicular volume warrants are 70% of 4a and 4b.

This traffic engineering and safety study is confidential pursuant to 75 Pa. C.S. 3754 and 23 U.S.C. 409 and may not be disclosed or used in litigation without written permission from PennDOT.

F - SITE DATA (CONTINUED)

5. Where #2, #4a and #4b are satisfied to 80% of their minimum values. **Note: #4c is excluded from this condition.**

6a. Determine and list the minimum intersection sight distance for all approaches.

See attached Sight Distance Forms

6b. List the posted, approach speeds on all intersection legs.

Tavern House Hill is 25mph, Stone Barn Road is 25mph

6c. Is there any practical method for improving the sight distance at these intersections? YES NO

7. List any other factors justifying a multiway stop.

Sight distance looking left from Stone Barn Road Southbound is 90 ft.; required intersection sight distance is 280 ft.
Sight distance looking right from Stone Barn Road Northbound is 70 ft.; required intersection sight distance is 280 ft.

8. Has the municipality agreed to purchase, erect and maintain the signs necessary to legalize the above stop intersection at no cost to the Department YES NO

9. Has the Through Highway permit been modified YES NO

G - REMARKS

See attached Sight Distance Forms for the Stone Barn Road approach to the intersection. The Stone Barn Road approach is currently controlled by a STOP sign. The Tavern House Hill approaches are free-flow.

Sight distances looking left and right from Stone Barn Road Westbound do not meet criteria defined in PennDOT Publication 13M "Design Manual Part 2 - Highway Design" or AASHTO's "A policy on Geometric Design of Highways and Streets". The sight distances are restricted by parked vehicles and the horizontal curve along Tavern House Hill.

H - ENGINEERING JUDGEMENT

All-way STOP control should be implemented at the subject intersection of Tavern House Hill and Stone Barn Road. STOP signs (R1-1, 30" x 30") should be placed on both Tavern House Hill approaches. An ALL-WAY plaque (R1-3P, 18" x 6") should be installed under the STOP sign on all three (3) intersection approaches.

In addition, a STOP AHEAD sign (W3-1, 36" x 36") should be placed on the northbound Tavern House Hill approach to the intersection at a distance of 155 feet in advance of the intersection.

Details on the recommended signs, from PennDOT Publication 236 - Handbook of Approved Signs, are attached.

I - APPROVALS

Comments

Reviewed and Approved by Signature	Name/Title	Date
Reviewed and Approved by Signature	Name/Title	Date

This traffic engineering and safety study is confidential pursuant to 75 Pa. C.S. 3754 and 23 U.S.C. 409 and may not be disclosed or used in litigation without written permission from PennDOT.

DRIVEWAY SIGHT DISTANCE MEASUREMENTS

(FOR LOCAL ROADS, USE PENNDOT PUB 70)

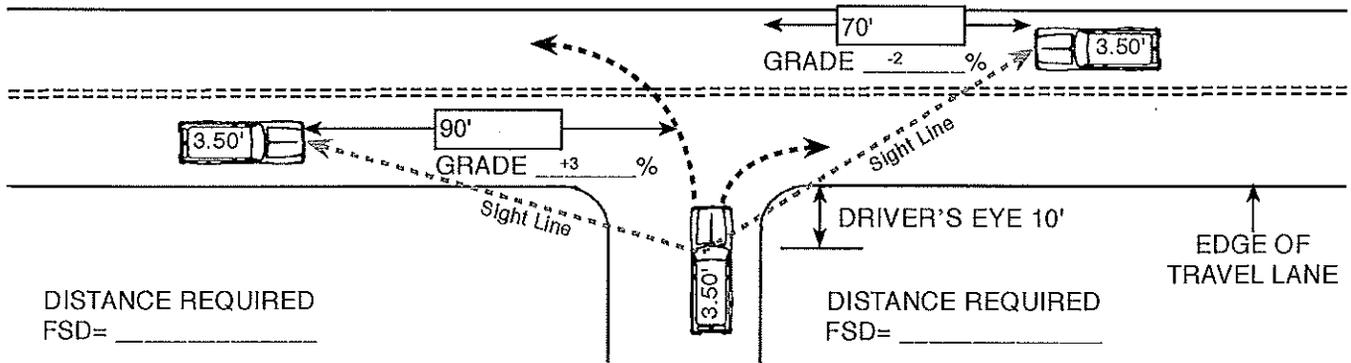
APPLICANT TAVERN HOUSE HILL AND STONE BARN ROAD APPLICATION NO. _____

S.R. _____ SEG. _____ OFFSET _____ LEGAL SPEED LIMIT 25mph/25mph

MEASURED BY Grove Miller Engineering, Inc. DATE 10/2017

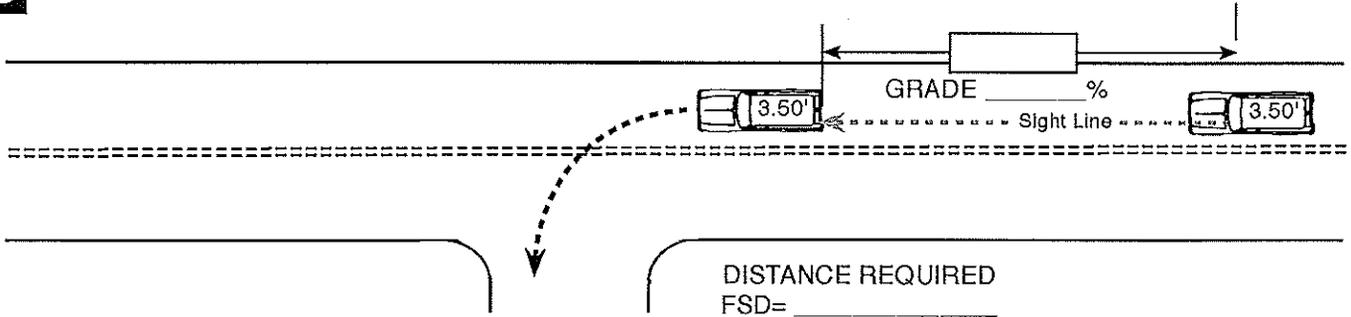
FOR DEPARTMENT USE ONLY: Safe-Running Speed _____ 85th Percentile Speed _____

A



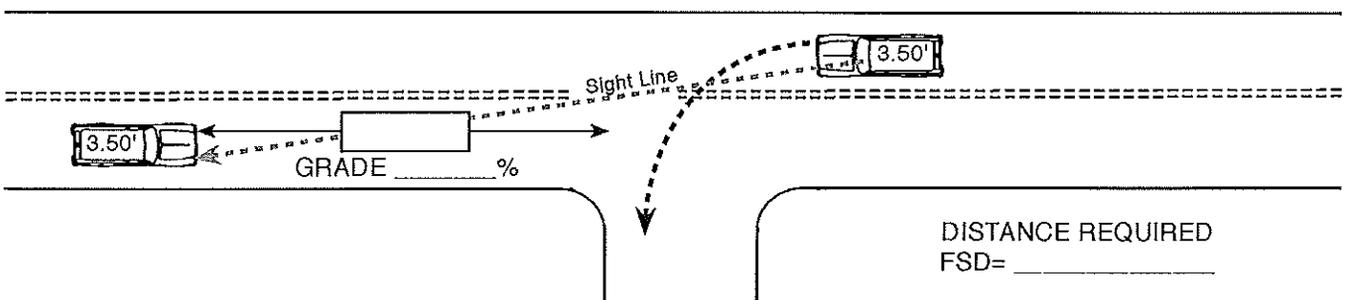
THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER AT A DRIVEWAY LOCATION CAN CONTINUOUSLY SEE ANOTHER VEHICLE APPROACHING ON THE ROADWAY.

B



THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER ON THE ROADWAY CAN CONTINUOUSLY SEE THE REAR OF A VEHICLE WHICH IS LOCATED IN THE DRIVER'S TRAVEL LANE AND WHICH IS POSITIONED TO MAKE A LEFT TURN INTO A DRIVEWAY.

C



THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER OF A VEHICLE INTENDING TO MAKE A LEFT TURN INTO A DRIVEWAY CAN CONTINUOUSLY SEE A VEHICLE APPROACHING FROM THE OPPOSITE DIRECTION.

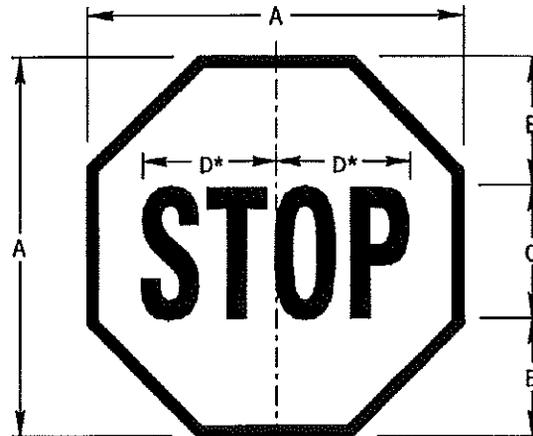
R1-1

STOP SIGN

(a) Justification. The Stop Sign (R1-1) is authorized for use on those streets or highways which intersect with a through highway or at a stop intersection so designated by the Department with reference to State-designated highways or local authorities with reference to highways under their jurisdiction. The R1-1 sign is also authorized for use in work zones involving one-lane, two-way roadways. At intersections where all approaches are controlled by an R1-1 sign, a supplemental ALL-WAY plaque (R1-3P) shall be mounted below each R1-1 sign.

(b) Authorization. Before local authorities designate any highway as a through highway or stop intersection which will intersect or affect a State-designated highway, approval of such designation shall first be obtained from the Department. Approval to install R1-1 signs in work areas shall not require the approval of the Department or local authorities when the conditions stipulated in the Department's Temporary Traffic Control Guidelines are satisfied.

(c) Size. The standard size R1-1 sign shall be 30" x 30" for single lane conventional highways and 36" x 36" for multi-lane conventional highways. The 24" x 24" size shall only be used for alleys with restrictive physical conditions and vehicle usage that prohibits the installation of the standard size R1-1. A sign that is mounted back-to-back with a R1-1 sign should stay within the edges of the R1-1 sign. If necessary, the size of the R1-1 sign should be increased so that any other sign installed back-to-back with it remains within the edges of the R1-1 sign.



DIMENSIONS - IN					
SIGN SIZE A x A	B	C	D	BOR- DER	BLANK STD.
18" x 18"	6	6C	8	0.4	—
24" x 24"	8	8C	10	0.6	B1-24
30" x 30"	10	10C	12.6	0.8	B1-30
36" x 36"	12	12C	15	0.8	B1-36
48" x 48"	16	16C	20	1.2	B1-48

* REDUCE SPACING 40%

COLOR:

LEGEND AND BORDER:
WHITE (REFLECTORIZED)

BACKGROUND:
RED (REFLECTORIZED)

APPROVED FOR THE SECRETARY OF TRANSPORTATION

By : Alan C. Rowe Date : 02-29-12
Chief, Traffic Engineering and Permits Section
Bureau of Maintenance and Operations

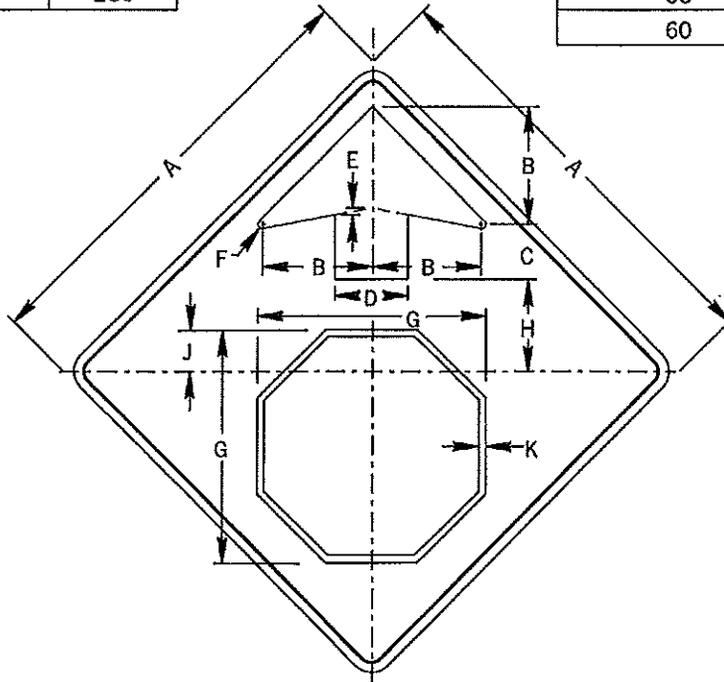
W3-1

STOP AHEAD SIGN

The Stop Ahead Sign (W3-1) will be authorized for use in advance of a stop sign when physical conditions prevent the driver from having a continuous view of the stop sign for the following distances. Advance placement distance for the W3-1 sign will be based on Department regulation. When used in a work zone, the background color shall be orange.

85th Percentile Speed MPH	Distance feet
20	115
25	155
30	200
35	250

85th Percentile Speed MPH	Distance feet
40	305
45	360
50	425
55	495
60	570



DIMENSIONS - IN												
SIGN SIZE A x A	B	C	D	E	F	G	H	J	K	MAR- GIN	BOR- DER	BLANK STD.
18" x 18"	4.5	2.3	3	0.4	0.2	9.5	3	1.8	0.3	0.4	0.6	B3-18
36" x 36"	9	4.4	6	0.8	0.4	19	7.6	3.5	0.6	0.6	0.8	B3-36
48" x 48"	12	6	8	1	0.5	25.6	10	4.5	0.8	0.8	1.2	B3-48

COLOR:

ARROW AND BORDER:
BLACK (NON-REFLECTORIZED)

BACKGROUND:
YELLOW (REFLECTORIZED)

SYMBOL BORDER:
WHITE (REFLECTORIZED)

SYMBOL BACKGROUND:
RED (REFLECTORIZED)

APPROVED FOR THE SECRETARY OF TRANSPORTATION

By : *Sen C Rowe* Date : 02-29-12
Chief, Traffic Engineering and Permits Section
Bureau of Maintenance and Operations

WALDEN WAY AND LINE ROAD

MULTIWAY STOP CONTROL AT INTERSECTIONS ENGINEERING AND TRAFFIC STUDY

PLEASE TYPE OR PRINT ALL INFORMATION IN BLUE OR BLACK INK



A - LOCATION INFORMATION		
COUNTY Cumberland	MUNICIPALITY Silver Spring Township	
MAJOR STREET INFORMATION		
SR#	TR#	STREET NAME Walden Way
STATION		LOCATION
MINOR STREET INFORMATION		
SR#	TR#	STREET NAME Line Road
STATION		LOCATION

B - REFERENCE INFORMATION	
REFERENCE Chapter 212	SECTION(S) 212.106 (c)
REFERENCE MUTCD	SECTION(S) 2B.07, 3B.16
REFERENCE Vehicle Code Title 75 Pa. C.S.	SECTION(S) §3323, 6109(a)(6) and 6124

C - STUDY ELEMENTS		
FROM PUB 212 APPENDIX:		
<input type="checkbox"/> Crash Analysis (1)	<input type="checkbox"/> Pedestrian Volumes (12)	<input type="checkbox"/> Traffic Volumes (20)
<input type="checkbox"/> Acceleration Lane (2)	<input checked="" type="checkbox"/> Sight Distance (16)	<input type="checkbox"/> Other _____
<input checked="" type="checkbox"/> Geometric Review (8)	<input type="checkbox"/> Speed Data (17)	_____

D - ATTACHMENTS LISTING		
Check those that apply and attach to this form in the order listed below:		
<input type="checkbox"/> 1. 10 Day Response Letter	<input type="checkbox"/> 7. Crash Extract	<input type="checkbox"/> 13. Traffic/Pedestrian Volumes
<input type="checkbox"/> 2. Letter or Memo Requesting Study	<input type="checkbox"/> 8. Crash Rate	<input type="checkbox"/> 14. STAMPP Identification Data
<input type="checkbox"/> 3. Location Map	<input type="checkbox"/> 9. Crash Plot	<input type="checkbox"/> 15. Speed Permit
<input type="checkbox"/> 4. Straight Line Diagram	<input type="checkbox"/> 10. Speed Study	<input checked="" type="checkbox"/> 16. Other <u>Sight Distance Evaluation</u>
<input type="checkbox"/> 5. Photographs	<input type="checkbox"/> 11. Warrant	Documentation _____
<input type="checkbox"/> 6. Field View Drawing	<input type="checkbox"/> 12. Multi-Way Stop or Truck Restriction Worksheet	_____

Confidential - Traffic Engineering and Safety Study

This document is the property of the Commonwealth of Pennsylvania, Department of Transportation. The data and information contained herein are part of a traffic engineering and safety study. This safety study is only provided to those official agencies or persons who have responsibility in the highway transportation system and may only be used by such agencies or persons for traffic safety related planning or research. The document and information are confidential pursuant to 75 Pa. C.S.3754 and 23 U.S.C. 409 and may not be published, reproduced, released or discussed without the written permission of the Pennsylvania Department of Transportation.

E - SITE OBSERVATION CHECKLIST

Operational Checklist:

1. Do obstructions block the drivers' view of approaching vehicles? YES NO N/A
2. Do drivers respond correctly to signals, signs, or other traffic control devices? YES NO N/A
3. Is there evidence of crashes (*skid marks, property damage, tree/bush damage, broken glass/vehicle parts, etc.*)? YES NO N/A
4. Are there violations of parking regulations or other traffic movements? YES NO N/A
5. Do drivers appear confused about routes, street names, or other guidance information? YES NO N/A
6. Have you observed the location during peak hours for volume and crashes? YES NO N/A
7. Are there traffic flow deficiencies or traffic conflict patterns associated with turning movements? YES NO N/A
8. Is there significant delays and/or congestion? YES NO N/A
9. Do pedestrian movements through the location cause conflicts? YES NO N/A
10. Are there other traffic flow deficiencies or traffic conflict patterns? YES NO N/A

Physical Checklist:

1. Can slight obstructions be removed or lessened? YES NO N/A
2. Do the street alignments or widths adequately accommodate the type of traffic using the roadway? YES NO N/A
3. Are curb radii adequate for turning vehicles? YES NO N/A
4. Are pedestrian crosswalks properly located? YES NO N/A
5. Are signs adequate as to usefulness, message, size, conformity, and placement? YES NO N/A
6. Are traffic signals adequate as to placement, visibility, glare, conformity, number of signal heads, or timing? YES NO N/A
7. Are pavement markings adequate as to their conformance to standards and location? YES NO N/A
8. Is channelization (islands or paint markings) adequate for reducing conflict areas, separating traffic flows, and defining movements? YES NO N/A
9. Does the existing legal parking layout affect sight distance for through or turning vehicles? YES NO N/A
10. Is the pavement condition free of potholes, washboard, slick surface, etc.? YES NO N/A

F - SITE DATA

DATE DATA COLLECTED	PERSON CONDUCTING STUDY	TITLE
05/2018	Jay E. States, P.E.	Senior Traffic Engineer

1. Is the multiway stop being installed as an interim measure until the signal approval and installation is completed? YES NO

2. List the number of crashed for the previous 12 month period by type and/or causation factor. ****This may include non-reportable crashes.****

3. 85th percentile speed of major approach is _____ MPH.

4a. Does the vehicular volume entering the intersection from the major street approaches average at least 300 vehicles/hour for any 8 hours? YES NO

4b. Does the combined vehicular, pedestrian and bicycle volume from the minor street approaches average at least 200/hour, for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour? YES NO

4c. If #3 > 40 MPH, then the minimum vehicular volume warrants are 70% of 4a and 4b.

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F - SITE DATA (CONTINUED)

5. Where #2, #4a and #4b are satisfied to 80% of their minimum values. **Note: #4c is excluded from this condition.**

6a. Determine and list the minimum intersection sight distance for all approaches.

See attached Sight Distance Forms

6b. List the posted, approach speeds on all intersection legs.

Walden Way is 25mph, Line Road is 25mph

6c. Is there any practical method for improving the sight distance at these intersections? YES NO

7. List any other factors justifying a multiway stop.

Sight distance looking left from Line Rd Northbound is < 175 ft.; required intersection sight distance is 280 ft.
Sight distance looking right from Line Rd Southbound is <175 ft.; required intersection sight distance is 280 ft.

8. Has the municipality agreed to purchase, erect and maintain the signs necessary to legalize the above stop intersection at no cost to the Department YES NO

9. Has the Through Highway permit been modified YES NO

G - REMARKS

See attached Sight Distance Forms for the Line Road approach to the intersection. The Line Road approach is currently controlled by a STOP sign. The Walden Way approaches are free-flow.

Sight distances looking left and right from Line Road Eastbound do not meet criteria defined in PennDOT Publication 13M "Design Manual Part 2 - Highway Design" or AASHTO's "A policy on Geometric Design of Highways and Streets". The sight distances are restricted by parked vehicles and landscaping.

H - ENGINEERING JUDGEMENT

All-way STOP control should be implemented at the subject intersection of Walden Way and Line Road. STOP signs (R1-1, 30" x 30") should be placed on both Walden Way approaches. An ALL-WAY plaque (R1-3P, 18" x 6") should be installed under the STOP sign on all three (3) intersection approaches.

Details on the recommended signs, from PennDOT Publication 236 - Handbook of Approved Signs, are attached.

I - APPROVALS

Comments

Reviewed and Approved by Signature	Name/Title	Date
Reviewed and Approved by Signature	Name/Title	Date

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DRIVEWAY SIGHT DISTANCE MEASUREMENTS

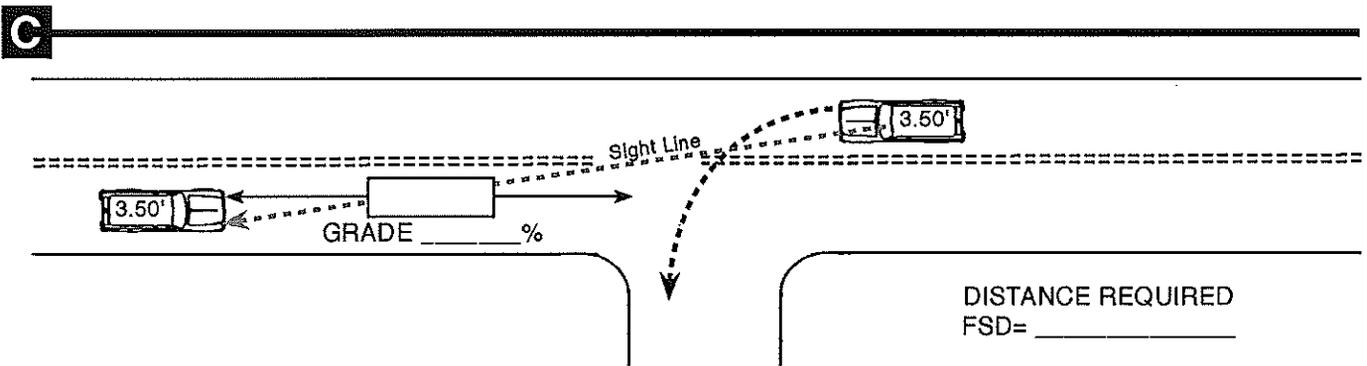
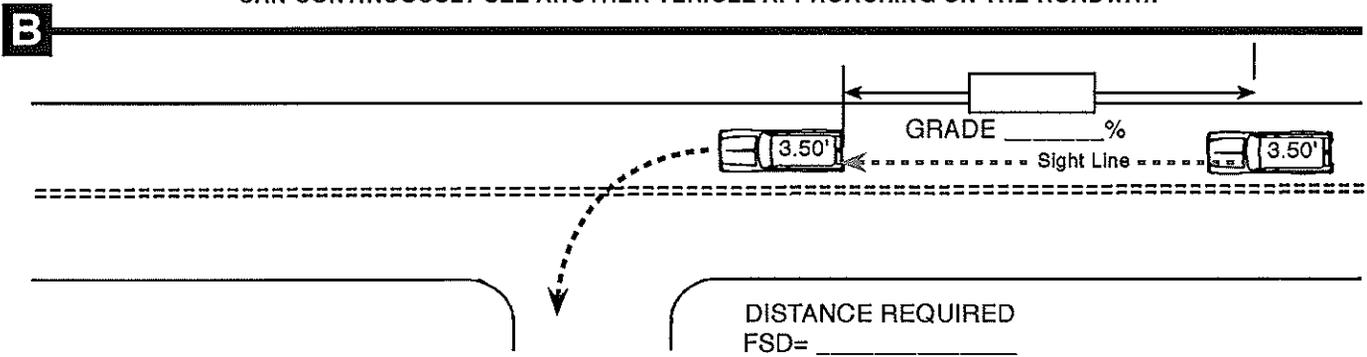
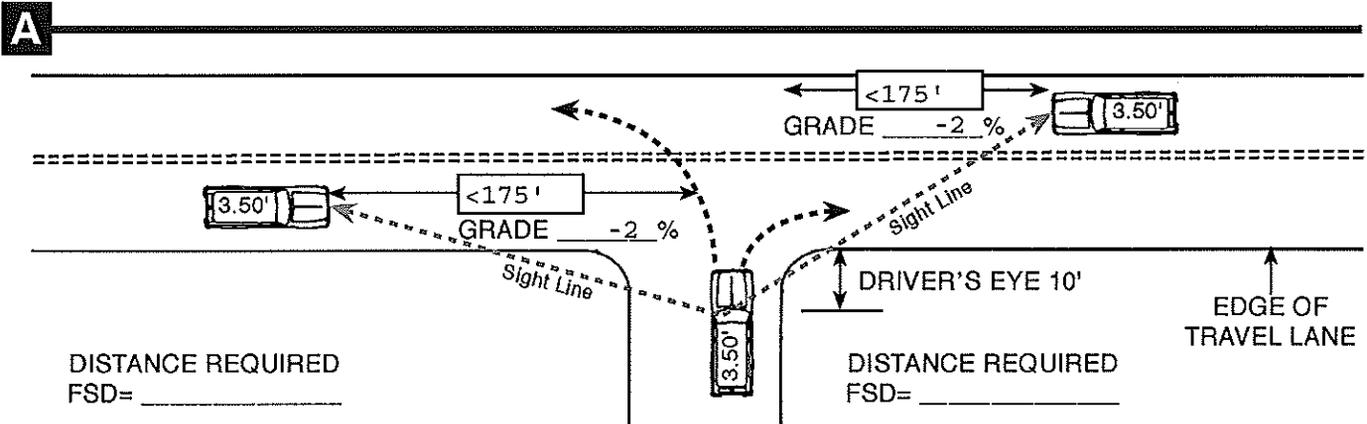
(FOR LOCAL ROADS, USE PENNDOT PUB 70)

APPLICANT WALDEN WAY AND LINE ROAD APPLICATION NO. _____

S.R. _____ SEG. _____ OFFSET _____ LEGAL SPEED LIMIT 25mph/25mph

MEASURED BY Grove Miller Engineering, Inc. DATE 05/2018

FOR DEPARTMENT USE ONLY: Safe-Running Speed _____ 85th Percentile Speed _____



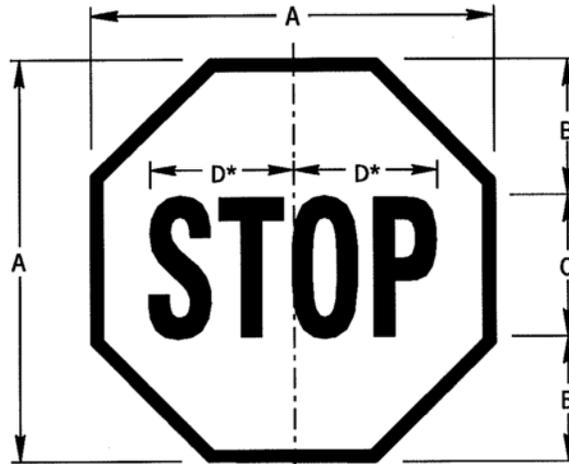
R1-1

STOP SIGN

(a) Justification. The Stop Sign (R1-1) is authorized for use on those streets or highways which intersect with a through highway or at a stop intersection so designated by the Department with reference to State-designated highways or local authorities with reference to highways under their jurisdiction. The R1-1 sign is also authorized for use in work zones involving one-lane, two-way roadways. At intersections where all approaches are controlled by an R1-1 sign, a supplemental ALL-WAY plaque (R1-3P) shall be mounted below each R1-1 sign.

(b) Authorization. Before local authorities designate any highway as a through highway or stop intersection which will intersect or affect a State-designated highway, approval of such designation shall first be obtained from the Department. Approval to install R1-1 signs in work areas shall not require the approval of the Department or local authorities when the conditions stipulated in the Department's Temporary Traffic Control Guidelines are satisfied.

(c) Size. The standard size R1-1 sign shall be 30" x 30" for single lane conventional highways and 36" x 36" for multi-lane conventional highways. The 24" x 24" size shall only be used for alleys with restrictive physical conditions and vehicle usage that prohibits the installation of the standard size R1-1. A sign that is mounted back-to-back with a R1-1 sign should stay within the edges of the R1-1 sign. If necessary, the size of the R1-1 sign should be increased so that any other sign installed back-to-back with it remains within the edges of the R1-1 sign.



DIMENSIONS - IN					
SIGN SIZE A x A	B	C	D	BOR- DER	BLANK STD.
18" x 18"	6	6C	8	0.4	—
24" x 24"	8	8C	10	0.6	B1-24
30" x 30"	10	10C	12.6	0.8	B1-30
36" x 36"	12	12C	15	0.8	B1-36
48" x 48"	16	16C	20	1.2	B1-48

* REDUCE SPACING 40%

COLOR:

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WHITE (REFLECTORIZED)

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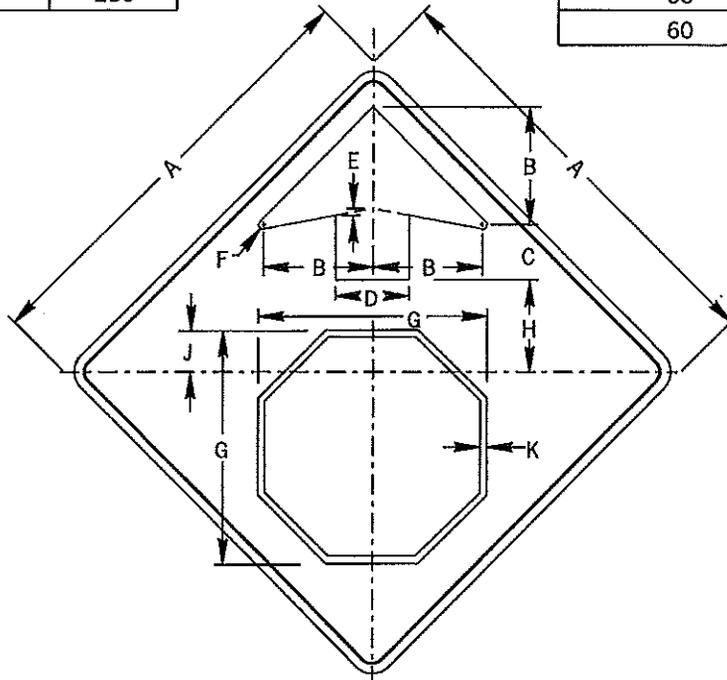
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