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June 28, 2023

Liudmila (Mila) Carter
Assistant Township Manager and Director of Zoning & Planning
Westtown Township
1039 Wilmington Pike
West Chester, PA 19382

RE: Stokes Estate – Conditional Use Application
Response letter to Westtown-East Goshen Regional Police Department
E-mail comments dated June 16, 2023
Westtown Township, Chester County
TRG Project No. 278.012.21

Dear Ms. Carter:

This letter addresses the comments outlined in Chief Bernot's email dated June 16, 2023, regarding the Stokes Estate Conditional Use Application located in Westtown Township, Chester County. The following numbered paragraphs correspond to the numbered comments in Chief Bernot's email.

Concerns

1. *Unless my memory fails me, I believe that their engineer listed the speed limit for Shiloh Road as 35 mph – it is actually 30 mph.*

The speed limit in the traffic study is listed as 30 mph, and not 35 mph.

2. *As indicated in the Transportation Impact Study, there were a notable number of crashes that have occurred on the roadway between 2018 and mid-2023. Adding additional traffic to the roadway without roadway improvements is likely to increase that number.*

The crash analysis prepared by Transportation Resource Group, Inc. was revised in June 2023 to include the latest crash data available from the Pennsylvania Crash Information Tool (PCIT) website (1/1/2018 to 12/31/2022). As shown in Table 1 a segment crash analysis was performed on the 1.56 mile segment of Shiloh Road between Street Road (S.R.0926) Little Shiloh Road (S.R.2005). The segment crash rate for Shiloh Road was lower than a typical Pennsylvania roadway displaying similar features and characteristics.

We agree that adding any level of traffic to an existing roadway will increase the chances of possible accidents from occurring since there will be more cars on the roadway.

- 3. Although the data from the traffic study (2 attached files) is a little dated (from 2020), it clearly shows that 85th percentile for speed on Shiloh Road is between 43 and 44 mph (in a posted 30 mph zone). Additionally, the study indicated that there were a notable number of vehicles traveling between 51 and 60 mph, as well as a few vehicles traveling 61 mph or higher. Please have your traffic engineer review this data thoroughly, as we feel that speed is already an issue on this roadway. As a result, we conduct traffic enforcement on the roadway on a fairly consistent basis. If requested, we would be happy to conduct an updated traffic study on this roadway but we assume that your engineer may want to conduct their own.*

No background information was provided with the Department's Speed Study, but I believe it was conducted via a point collector at one location, such as a radar or pneumatic tube counter. A possible problem with this speed survey is that it is performed at one particular location on Shiloh Road and not necessarily in the area of Hunt Drive or Oakbourne Road. Speeds vary greatly along a roadway segment. Assuming the speed survey equipment is calibrated and installed correctly, the best information it can provide is the speed at only one particular spot along Shiloh Road.

Given that speed distributions follow a "bell curve", it is not surprising that a few of the offenders are driving 61 mph or higher. That finding is consistent with a normal distribution (bell shaped curve) of speeds along a typical stretch of roadway, just as some of the motorists are driving 15 mph or lower.

- 4. Lastly, the close proximity of the proposed development to Rustin High School raises additional concerns. Due to a considerable number of students crossing Shiloh Road as pedestrians and the significant amount of vehicular traffic leaving the school, WCASD pays for traffic details at the start and end of the school day. Adding additional traffic to the roadway may negatively impact safety at this location - we would suggest that your engineer should examine this issue.*

It is assumed the "traffic details" are additional services provided by the WEGO PD and paid for by the school district. There is already a 15 mph school zone in place adjacent to Rustin High School. As shown in the crash statistics, Shiloh Road exhibits lower than average crash rate tendencies. We concur with the WEGO PD providing "traffic details" and the existing 15 mph school zone. It is believed these measures will continue to provide safe travel in the vicinity of Rustin High School.

I trust this letter adequately addresses the comments. If you have any questions, please feel free to give me a call.

Very truly yours,
Transportation Resource Group, Inc.



Jon A. Seitz, P.E., PTOE
Principal



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July 14, 2023

Liudmila (Mila) Carter
Assistant Township Manager and Director of Zoning & Planning
Westtown Township
1039 Wilmington Pike
West Chester, PA 19382

RE: Stokes Estate – Conditional Use Application
Response to Traffic Review Letter
Al Federico comments dated June 29, 2023
Westtown Township, Chester County
TRG Project No. 278.012.21

Dear Ms. Carter:

This letter addresses the comments outlined in Al Federico's Traffic Review Letter dated June 29, 2023, regarding the Stokes Estate Conditional Use Application located in Westtown Township, Chester County. The following addresses the sight distance comment in Mr. Federico's letter.

Conditional Use Plan Comment – (Sight Distance)

1. *PennDOT stopping sight distances should be provided at the intersections of Road "A" and Shiloh Road; and Road "D" and Shiloh Road {§149-908C}.*
 - a. *As previously commented, provide a speed study supporting the assumed travel speeds. It is noted that the Westtown-East Goshen Regional Police Department the operating speeds along Shiloh Road vary from the posted speed by more than ten miles per hour. {PA 67 §441.8(h)(2)(ii)}*

A speed survey was performed on Shiloh Road in an area between Oakbourne Road and Hunt Drive from July 10 to July 12, 2023. The speed limit on Shiloh Road is 30 mph. The speed survey found the average speed (50th percentile) to be 36 mph in both the northbound and southbound directions. The 85th percentile speed was determined to be 42 mph in the northbound direction and 41 mph in the southbound direction between Oakbourne Road and Hunt Drive. Copies of the speed study are attached with this letter.

Liudmila (Mila) Carter

July 14, 2023

Page 2

b. If desirable sight distances cannot be achieved provide documentation demonstrating that it is impossible to achieve the desirable value by locating the driveway at any point within the property frontage boundaries. {PA 67 §441.8(h)(2)(iv)}

The sight distance provided at Road A and D exceeds the requirements noted in Westtown Township SALDO Section 149-908.C, (Stopping sight distance at all intersections shall be in accordance with PennDOT standards.) even assuming a higher than design speed of 45 mph. The stopping sight distance at the Road A and Road D intersections with Shiloh Road are documented on the attached Shiloh Road Sight Distance Analysis Plan prepared by DL Howell.

The driveways for Road A and D are situated at the only two logical locations along the property's frontage, directly opposite Hunt Drive and Oakbourne Road to meet Township SALDO requirements for intersection spacing and to maximize sight distance for motorists. (PennDOT Chapter 441.8.h.(2) (iv))

I trust this letter adequately addresses the comments. If you have any questions, please feel free to give me a call.

Very truly yours,

Transportation Resource Group, Inc.



Jon A. Seitz, P.E., PTOE
Principal

JAS/vaw

cc: Al Federico, Albert Federico Consulting, LLC
Attachments

Tri-State Traffic Data, Inc.

610-466-1469

TSTData.com

Road: Shiloh Rd
 Location: 165 ft S of Oakbourne Rd
 Counter: 39602

Site Code: 1
 Station ID:
 A to B NB
 Latitude: 39' 94775.0000 North
 Longitude: 75' 55539.0000 West

NB

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	85th Percent	95th Percent
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
07/10/23	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	2	3	6	20	22	36	18	4	0	0	0	0	0	0	111	41	44
13:00	1	2	8	22	35	33	15	2	1	0	0	0	0	0	119	40	44
14:00	0	1	8	20	37	44	28	6	0	0	0	0	0	0	144	42	44
15:00	0	0	1	24	51	43	25	8	1	0	0	0	0	0	153	42	45
16:00	1	2	4	21	52	50	34	7	0	0	0	0	0	0	171	42	44
17:00	0	0	2	11	41	38	49	11	2	0	0	0	0	0	154	43	47
18:00	0	0	3	17	38	49	29	6	0	0	0	0	0	0	142	42	44
19:00	0	3	2	12	22	29	17	6	0	0	0	0	0	0	91	42	46
20:00	0	1	4	24	30	45	29	4	0	0	0	0	0	0	137	42	44
21:00	0	0	1	8	13	23	14	4	1	2	0	0	0	0	66	43	49
22:00	0	0	0	1	8	8	1	2	0	0	0	0	0	0	20	40	47
23:00	0	0	0	0	4	2	2	3	0	0	0	0	0	0	11	47	49
Total	4	12	39	180	353	400	261	63	5	2	0	0	0	0	1319		
Percent	0.3%	0.9%	3.0%	13.6%	26.8%	30.3%	19.8%	4.8%	0.4%	0.2%	0.0%	0.0%	0.0%	0.0%			

AM Peak

Vol.

PM Peak	12:00	12:00	13:00	15:00	16:00	16:00	17:00	17:00	17:00	21:00		16:00
Vol.	2	3	8	24	52	50	49	11	2	2		171

Tri-State Traffic Data, Inc.

610-466-1469

TSTData.com

Road: Shiloh Rd
 Location: 165 ft S of Oakbourne Rd
 Counter: 39602

Site Code: 1
 Station ID:
 A to B NB
 Latitude: 39' 94775.0000 North
 Longitude: 75' 55539.0000 West

NB

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	85th Percent	95th Percent
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
07/11/23	0	0	1	0	2	3	0	1	0	0	0	0	0	0	7	39	48
01:00	0	0	0	0	0	0	1	2	0	0	0	0	0	0	3	48	49
02:00	0	0	0	1	3	0	0	0	1	0	0	0	0	0	5	51	53
03:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	39	39
04:00	0	0	0	0	1	1	1	0	0	0	0	0	0	0	3	42	44
05:00	0	0	3	1	2	8	2	2	0	0	0	0	0	0	18	43	47
06:00	0	0	1	5	15	16	8	3	1	0	0	0	0	0	49	42	47
07:00	1	1	5	11	33	71	38	3	1	1	0	0	0	0	165	42	44
08:00	0	0	7	31	71	90	57	7	1	0	0	0	0	0	264	42	44
09:00	0	0	0	23	37	48	25	4	0	0	0	0	0	0	137	41	44
10:00	0	0	1	9	32	60	38	5	1	0	0	0	0	0	146	42	44
11:00	0	0	9	19	58	66	34	3	0	0	0	0	0	0	189	41	44
12 PM	0	0	2	15	37	50	43	6	1	0	0	0	0	0	154	43	44
13:00	0	3	1	10	39	50	38	4	0	0	0	0	0	0	145	42	44
14:00	0	1	3	12	34	47	26	11	0	0	0	0	0	0	134	43	46
15:00	0	1	4	21	50	64	29	9	1	0	0	0	0	0	179	42	45
16:00	0	1	4	19	36	82	43	9	1	0	0	0	0	0	195	42	45
17:00	0	6	11	35	33	56	42	7	0	0	0	0	0	0	190	42	44
18:00	0	0	3	11	41	43	32	6	1	0	0	0	0	0	137	42	45
19:00	0	0	4	18	47	48	25	7	1	0	0	0	0	0	150	42	45
20:00	1	0	0	12	24	23	10	4	1	1	0	0	0	0	76	42	47
21:00	0	0	0	4	15	17	5	3	1	0	0	0	0	0	45	42	47
22:00	0	0	0	1	7	19	4	3	0	0	0	0	0	0	34	42	47
23:00	0	0	1	2	4	1	6	0	0	0	0	0	0	0	14	43	44
Total	2	13	60	260	621	864	507	99	12	2	0	0	0	0	2440		
Percent	0.1%	0.5%	2.5%	10.7%	25.5%	35.4%	20.8%	4.1%	0.5%	0.1%	0.0%	0.0%	0.0%	0.0%			
AM Peak	07:00	07:00	11:00	08:00	08:00	08:00	08:00	08:00	02:00	07:00					08:00		
Vol.	1	1	9	31	71	90	57	7	1	1					264		
PM Peak	20:00	17:00	17:00	17:00	15:00	16:00	12:00	14:00	12:00	20:00					16:00		
Vol.	1	6	11	35	50	82	43	11	1	1					195		

Tri-State Traffic Data, Inc.

610-466-1469

TSTData.com

Road: Shiloh Rd
 Location: 165 ft S of Oakbourne Rd
 Counter: 39602

Site Code: 1
 Station ID:
 A to B NB
 Latitude: 39' 94775.0000 North
 Longitude: 75' 55539.0000 West

NB

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	85th Percent	95th Percent
Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
07/12/23	0	0	0	0	1	0	2	0	1	0	0	0	0	0	4	52	54
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
02:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2	33	34
03:00	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2	43	44
04:00	0	0	0	0	0	3	0	0	1	0	0	0	0	0	4	52	53
05:00	0	0	2	2	3	7	2	3	0	0	0	0	0	0	19	45	48
06:00	0	0	0	4	16	16	19	1	0	1	0	1	0	0	58	43	45
07:00	0	0	3	12	20	55	42	9	1	0	0	0	0	0	142	43	46
08:00	1	1	6	31	47	104	50	9	0	0	0	0	0	0	249	42	44
09:00	1	0	7	12	40	50	27	9	1	0	0	0	0	0	147	42	46
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	2	1	19	62	128	235	143	31	4	1	0	1	0	0	627		
Percent	0.3%	0.2%	3.0%	9.9%	20.4%	37.5%	22.8%	4.9%	0.6%	0.2%	0.0%	0.2%	0.0%	0.0%			
AM Peak	08:00	08:00	09:00	08:00	08:00	08:00	08:00	07:00	00:00	06:00		06:00			08:00		
Vol.	1	1	7	31	47	104	50	9	1	1		1			249		
PM Peak																	
Vol.																	
Total	8	26	118	502	1102	1499	911	193	21	5	0	1	0	0	4386		
Percent	0.2%	0.6%	2.7%	11.4%	25.1%	34.2%	20.8%	4.4%	0.5%	0.1%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 30 MPH
 50th Percentile : 36 MPH
 85th Percentile : 42 MPH
 95th Percentile : 45 MPH

Stats
 10 MPH Pace Speed : 31-40 MPH
 Number in Pace : 2601
 Percent in Pace : 59.3%
 Number of Vehicles > 30 MPH : 3732
 Percent of Vehicles > 30 MPH : 85.1%
 Mean Speed(Average) : 37 MPH

Tri-State Traffic Data, Inc.

610-466-1469

TSTData.com

Road: Shiloh Rd
 Location: 165 ft S of Oakbourne Rd
 Counter: 39602

Site Code: 1
 Station ID:
 A to B NB
 Latitude: 39' 94775.0000 North
 Longitude: 75' 55539.0000 West

SB

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	85th Percent	95th Percent
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
07/10/23	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	5	10	9	18	26	20	16	6	3	0	0	0	0	0	113	42	47
13:00	0	4	8	22	25	38	28	1	1	1	0	0	0	0	128	42	44
14:00	1	2	5	20	30	40	21	7	2	0	0	0	0	0	128	42	46
15:00	0	4	6	27	42	55	31	5	1	1	1	0	0	0	173	42	44
16:00	1	2	17	48	50	80	32	9	1	0	0	0	0	0	240	40	44
17:00	0	4	8	33	76	83	38	2	3	0	0	0	0	0	247	40	44
18:00	1	4	9	31	38	49	26	2	0	0	0	0	0	0	160	40	43
19:00	0	1	9	22	25	36	12	1	0	0	0	0	0	0	106	39	43
20:00	0	1	1	7	20	19	14	1	0	0	0	0	0	0	63	41	44
21:00	0	0	1	10	10	21	5	4	0	1	0	0	0	0	52	42	48
22:00	0	1	2	2	8	9	1	3	0	0	0	0	0	0	26	40	47
23:00	0	0	0	0	2	4	3	3	1	0	0	0	0	0	13	48	51
Total	8	33	75	240	352	454	227	44	12	3	1	0	0	0	1449		
Percent	0.6%	2.3%	5.2%	16.6%	24.3%	31.3%	15.7%	3.0%	0.8%	0.2%	0.1%	0.0%	0.0%	0.0%			

AM Peak

Vol.

PM Peak	12:00	12:00	16:00	16:00	17:00	17:00	17:00	16:00	12:00	13:00	15:00				17:00		
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Vol.	5	10	17	48	76	83	38	9	3	1	1				247		
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Tri-State Traffic Data, Inc.

610-466-1469

TSTData.com

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 Location: 165 ft S of Oakbourne Rd
 Counter: 39602

Site Code: 1
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 A to B NB
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Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	85th Percent	95th Percent
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
07/11/23	0	0	0	0	2	0	1	0	0	1	0	0	0	0	4	57	58
01:00	0	0	0	0	1	0	1	1	0	0	0	0	0	0	3	47	49
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2	33	34
04:00	0	0	2	1	2	1	0	1	0	0	0	0	0	0	7	39	48
05:00	0	0	1	5	6	8	1	0	1	0	0	0	0	0	22	39	44
06:00	0	0	1	13	7	17	13	0	1	1	0	0	0	0	53	42	44
07:00	0	0	5	15	31	39	21	4	1	0	0	0	0	0	116	42	44
08:00	0	0	5	24	34	65	38	10	2	0	0	0	0	0	178	43	46
09:00	0	0	8	28	42	50	29	7	0	0	0	0	0	0	164	41	44
10:00	0	2	8	17	22	47	29	7	1	0	0	0	0	0	133	42	45
11:00	0	0	9	19	30	55	33	7	0	0	0	0	0	0	153	42	44
12 PM	0	3	5	18	38	58	35	12	0	0	0	0	0	0	169	43	46
13:00	0	5	2	15	22	53	25	6	2	0	0	0	1	0	131	42	47
14:00	0	0	2	9	25	64	21	6	0	0	0	0	0	0	127	41	44
15:00	0	2	7	31	51	75	39	2	0	0	0	0	0	0	207	41	43
16:00	0	1	2	30	71	117	55	12	0	0	0	0	0	0	288	42	44
17:00	1	1	18	41	70	145	49	7	0	0	0	0	0	0	332	40	44
18:00	0	1	12	26	37	56	18	5	1	0	0	0	0	0	156	40	44
19:00	0	1	5	15	31	41	12	2	0	1	0	0	0	0	108	39	43
20:00	0	2	2	17	27	29	10	1	0	0	0	0	0	0	88	39	43
21:00	0	0	4	8	6	11	9	3	1	0	0	0	0	0	42	43	48
22:00	0	0	0	3	10	7	8	0	1	0	0	0	0	0	29	42	44
23:00	0	0	1	1	4	4	1	1	0	1	0	0	0	0	13	45	56
Total	1	18	99	337	570	942	448	94	11	4	0	0	1	0	2525		
Percent	0.0%	0.7%	3.9%	13.3%	22.6%	37.3%	17.7%	3.7%	0.4%	0.2%	0.0%	0.0%	0.0%	0.0%			
AM Peak		10:00	11:00	09:00	09:00	08:00	08:00	08:00	08:00	00:00					08:00		
Vol.		2	9	28	42	65	38	10	2	1					178		
PM Peak	17:00	13:00	17:00	17:00	16:00	17:00	16:00	12:00	13:00	19:00			13:00		17:00		
Vol.	1	5	18	41	71	145	55	12	2	1			1		332		

Tri-State Traffic Data, Inc.

610-466-1469

TSTData.com

Road: Shiloh Rd
 Location: 165 ft S of Oakbourne Rd
 Counter: 39602

Site Code: 1
 Station ID:
 A to B NB
 Latitude: 39' 94775.0000 North
 Longitude: 75' 55539.0000 West

SB

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	85th Percent	95th Percent
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
07/12/23	0	0	0	0	1	1	2	1	0	0	0	0	0	0	5	46	48
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
02:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	24	24
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
04:00	0	0	0	0	1	3	1	1	0	0	0	0	0	0	6	45	48
05:00	0	0	2	4	5	4	3	0	0	0	0	0	0	0	18	40	43
06:00	0	0	3	12	13	15	14	8	0	0	0	0	0	0	65	44	47
07:00	0	0	1	12	30	79	34	7	1	1	1	0	0	0	166	42	46
08:00	0	0	10	19	44	76	36	9	2	0	0	0	0	0	196	42	45
09:00	0	2	7	22	31	44	24	7	0	0	0	0	0	0	137	42	45
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	0	2	25	69	125	222	114	33	3	1	1	0	0	0	595		
Percent	0.0%	0.3%	4.2%	11.6%	21.0%	37.3%	19.2%	5.5%	0.5%	0.2%	0.2%	0.0%	0.0%	0.0%			
AM Peak		09:00	08:00	09:00	08:00	07:00	08:00	08:00	08:00	07:00	07:00				08:00		
Vol.		2	10	22	44	79	36	9	2	1	1				196		
PM Peak																	
Vol.																	
Total	9	53	199	646	1047	1618	789	171	26	8	2	0	1	0	4569		
Percent	0.2%	1.2%	4.4%	14.1%	22.9%	35.4%	17.3%	3.7%	0.6%	0.2%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 28 MPH
 50th Percentile : 36 MPH
 85th Percentile : 41 MPH
 95th Percentile : 44 MPH

Stats
 10 MPH Pace Speed : 31-40 MPH
 Number in Pace : 2665
 Percent in Pace : 58.3%
 Number of Vehicles > 30 MPH : 3662
 Percent of Vehicles > 30 MPH : 80.1%
 Mean Speed(Average) : 36 MPH

DRIVEWAY SIGHT DISTANCE MEASUREMENTS

(FOR LOCAL ROADS, USE PENNDOT PUB 70)

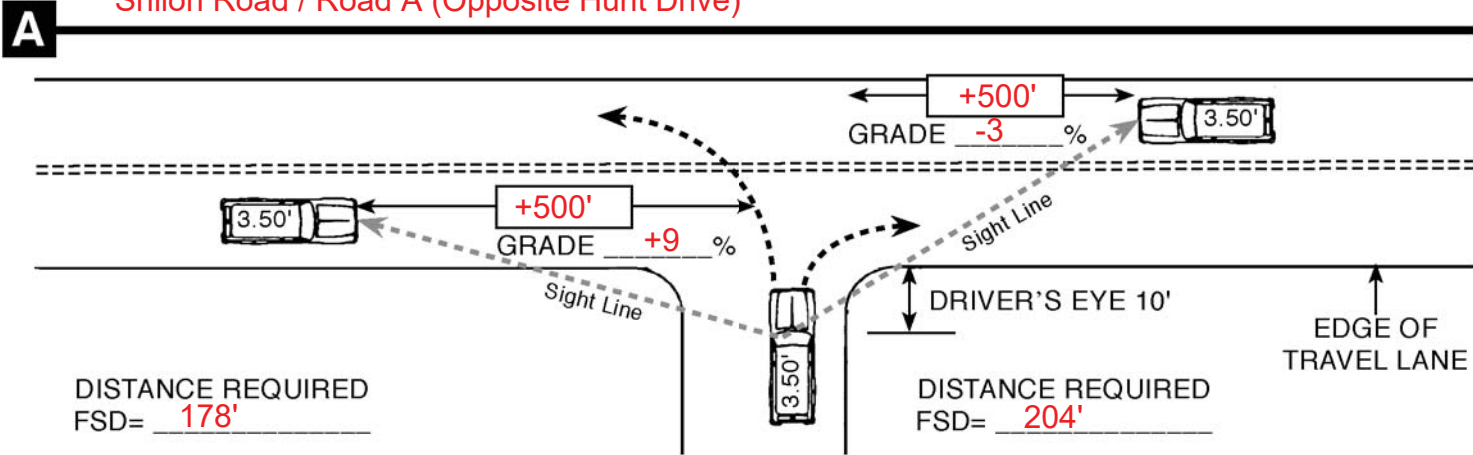
APPLICANT Fox Clearing, LLC APPLICATION NO. _____

S.R. -- SEG. -- OFFSET -- LEGAL SPEED LIMIT 30 MPH

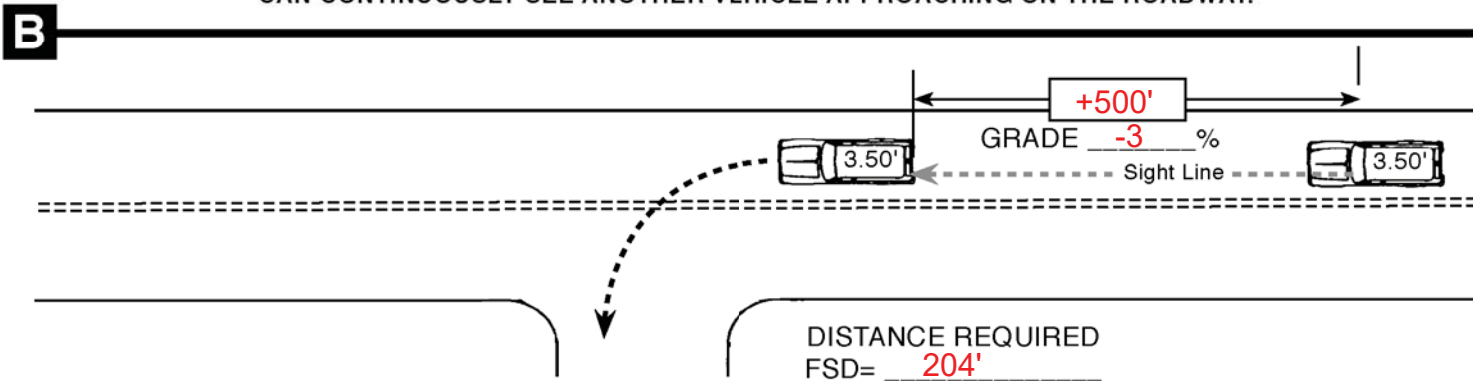
MEASURED BY JAS DATE 1/22/2023

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

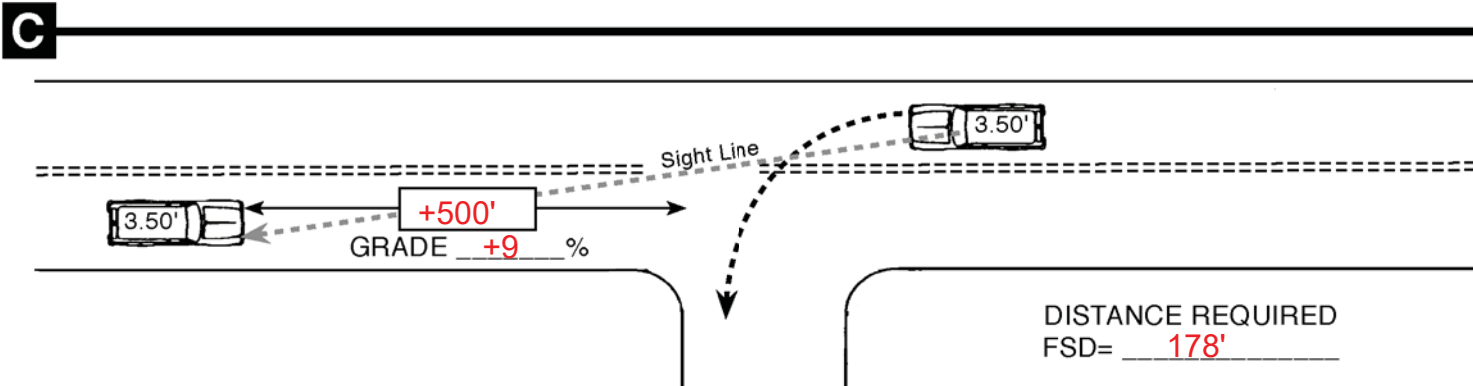
A Shiloh Road / Road A (Opposite Hunt Drive)



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.

DRIVEWAY SIGHT DISTANCE MEASUREMENTS

(FOR LOCAL ROADS, USE PENNDOT PUB 70)

APPLICANT Fox Clearing, LLC APPLICATION NO. _____

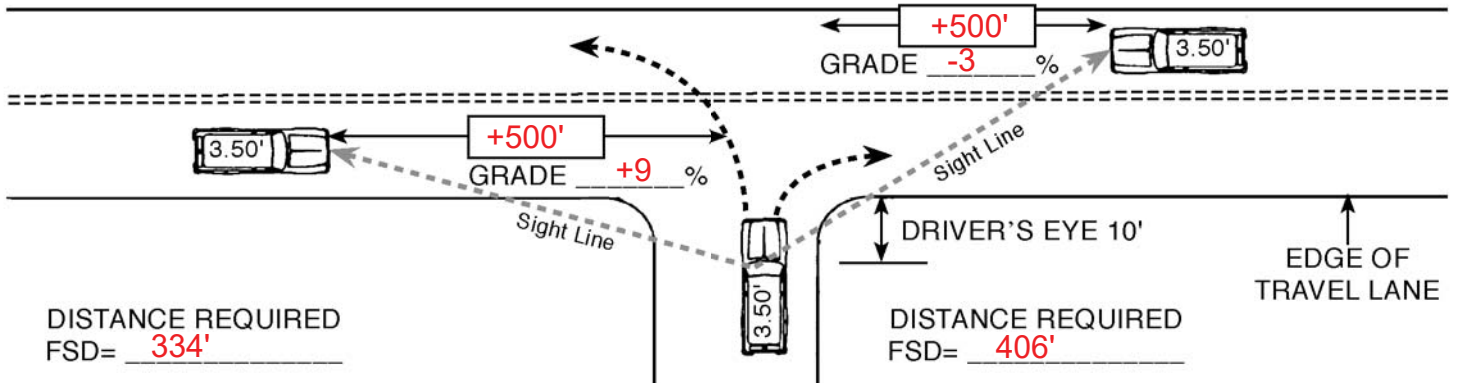
S.R. -- SEG. -- OFFSET -- LEGAL SPEED LIMIT 30 MPH**

MEASURED BY JAS DATE 1/22/2023

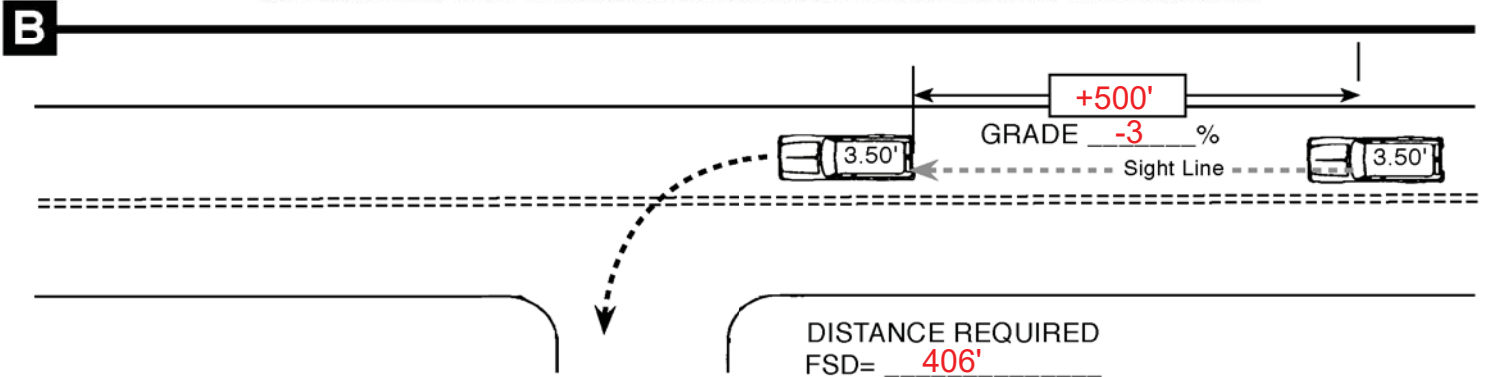
FOR DEPARTMENT USE ONLY: Safe-Running Speed _____ 85th Percentile Speed 41 mph SB

A Shiloh Road / Road A (Opposite Hunt Drive)

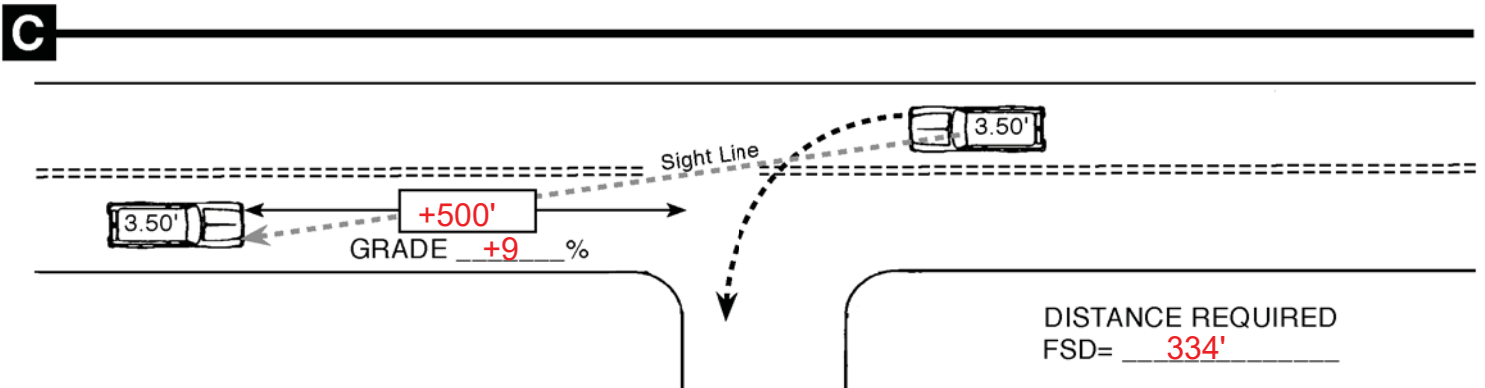
PERFORMED AT 45 mph



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.



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DRIVEWAY SIGHT DISTANCE MEASUREMENTS

(FOR LOCAL ROADS, USE PENNDOT PUB 70)

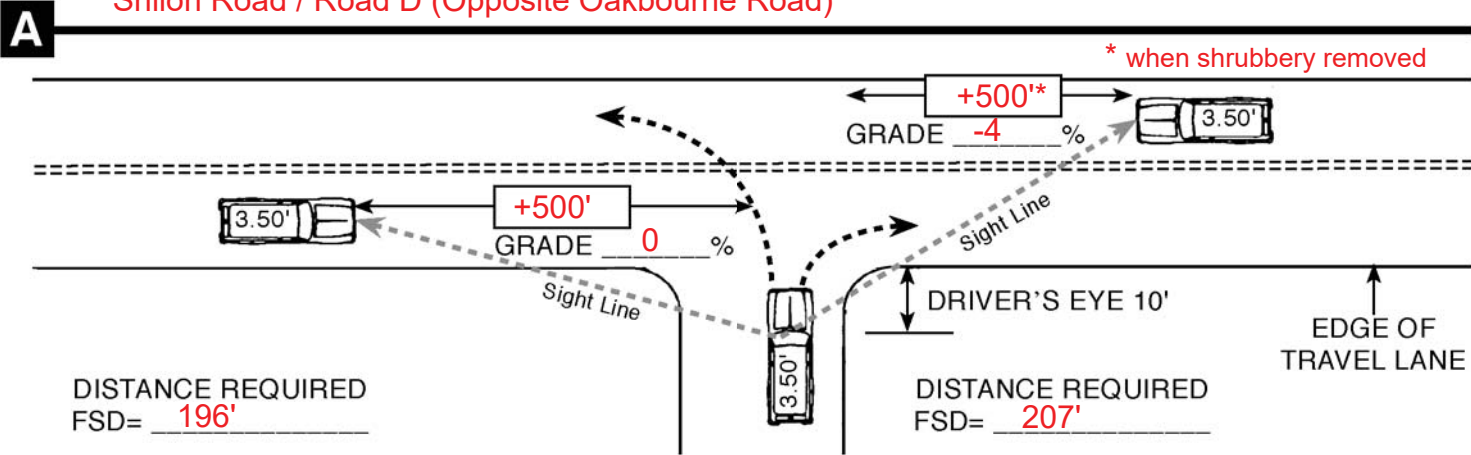
APPLICANT Fox Clearing, LLC APPLICATION NO. _____

S.R. -- SEG. -- OFFSET -- LEGAL SPEED LIMIT 30 MPH

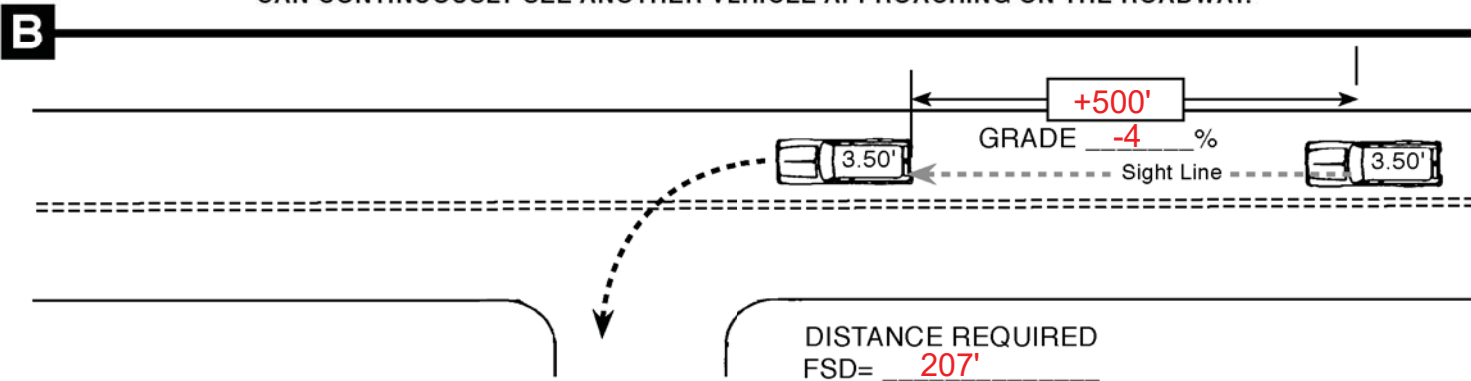
MEASURED BY JAS DATE 1/22/2023

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

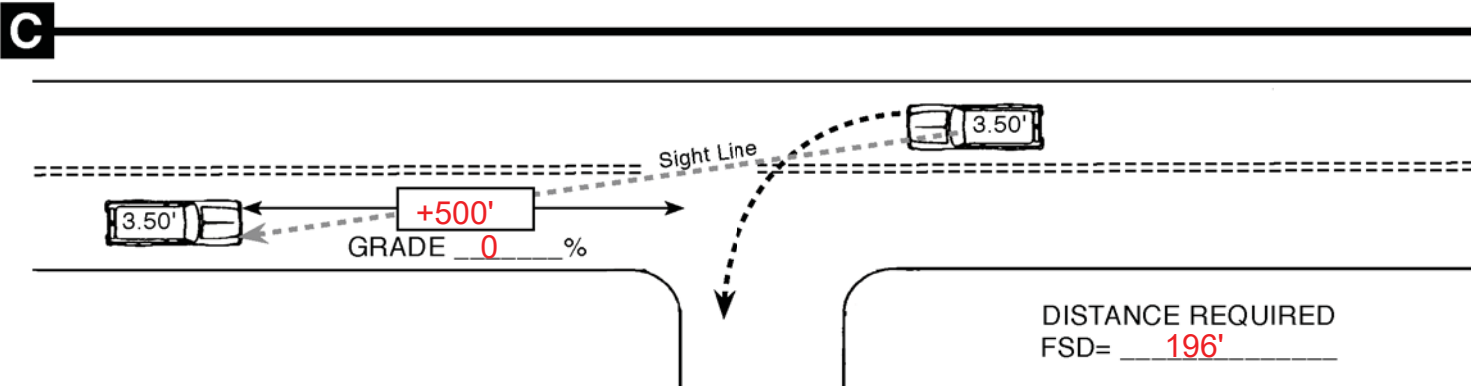
Shiloh Road / Road D (Opposite Oakbourne Road)



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.

DRIVEWAY SIGHT DISTANCE MEASUREMENTS

(FOR LOCAL ROADS, USE PENNDOT PUB 70)

APPLICANT Fox Clearing, LLC APPLICATION NO. _____

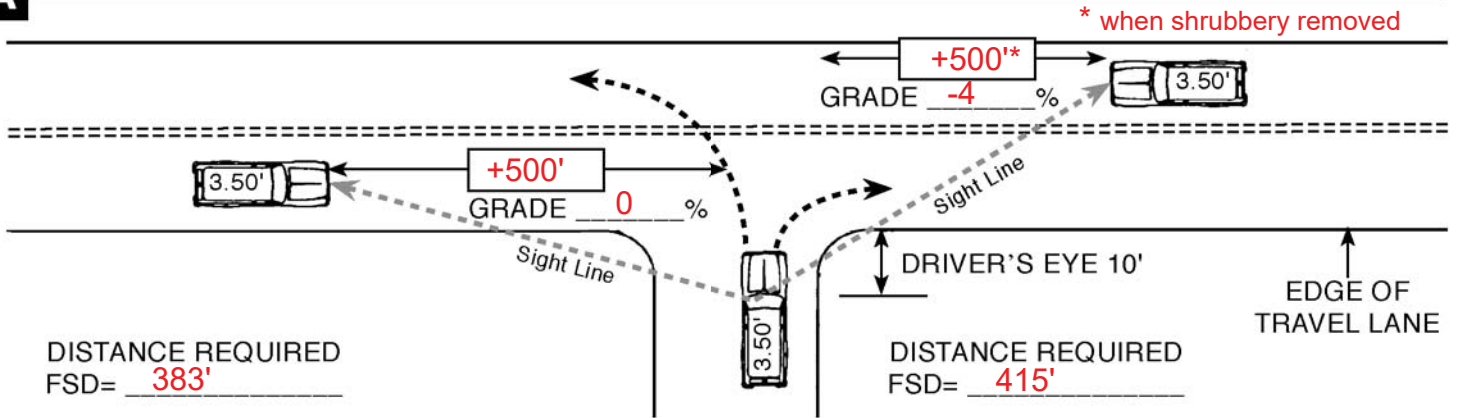
S.R. -- SEG. -- OFFSET -- LEGAL SPEED LIMIT 30 MPH**

MEASURED BY JAS DATE 1/22/2023

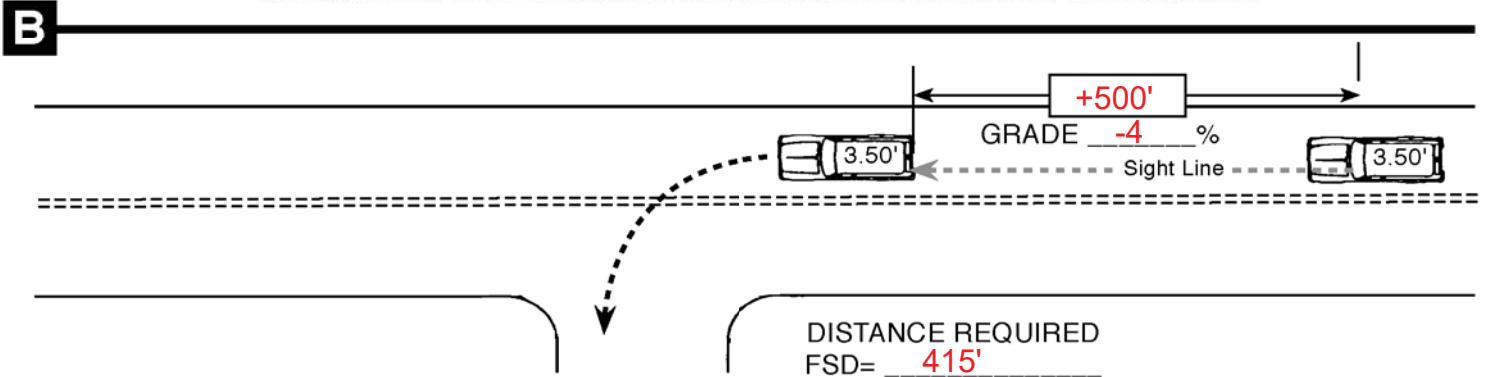
FOR DEPARTMENT USE ONLY: Safe-Running Speed _____ 85th Percentile Speed 41 mph SB

A Shiloh Road / Road D (Opposite Oakbourne Road)

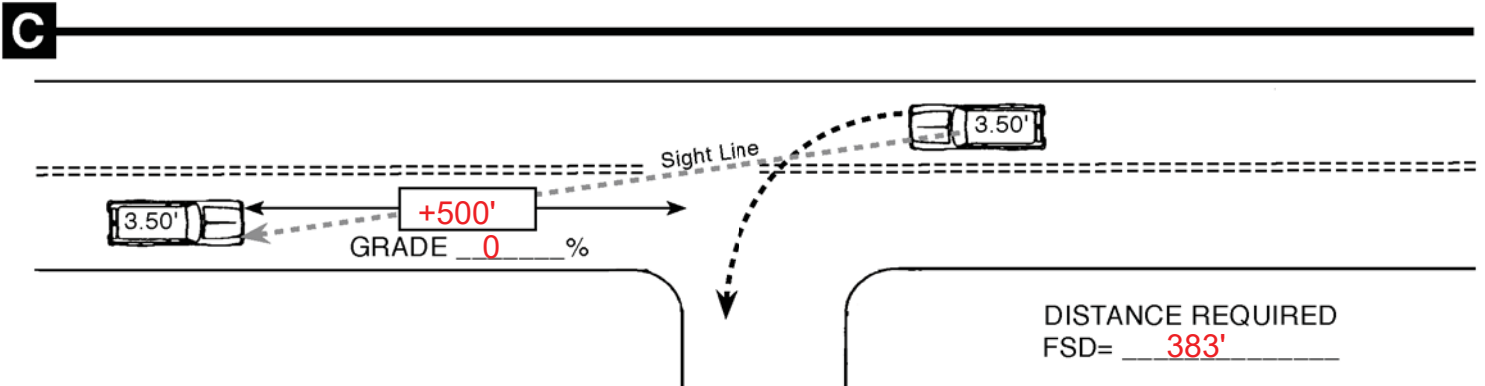
PERFORMED AT 45 mph



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.

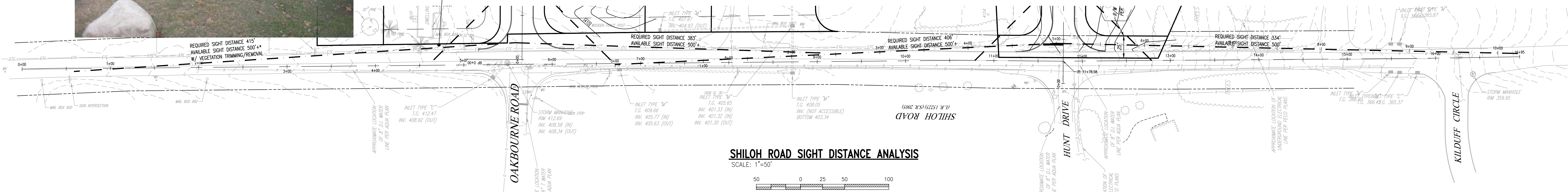
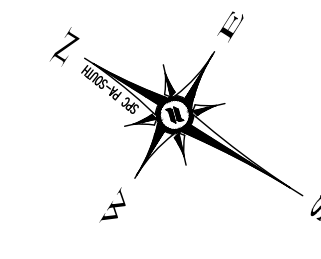


THE MAXIMUM LENGTH OF ROADWAY ALONG WHICH A DRIVER OF A VEHICLE INTENDING TO MAKE A LEFT TURN INTO A DRIVEWAY CAN CONTINUOUSLY SEE A VEHICLE APPROACHING FROM THE OPPOSITE DIRECTION.

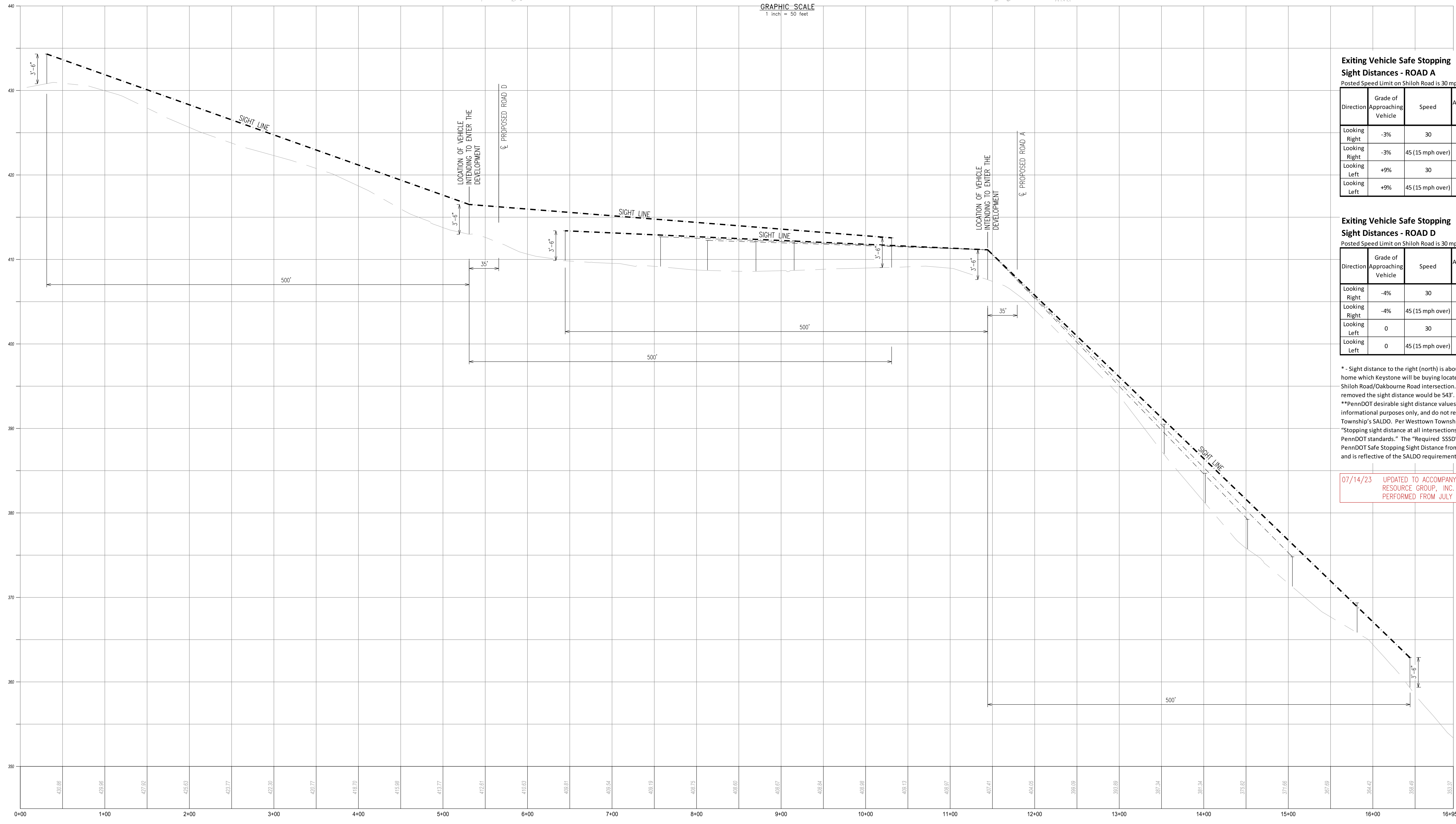


VEGETATION AND SHRUB TRIMMING/REMOVAL IS NEEDED TO MAINTAIN REQUIRED SIGHT DISTANCE

GENERAL NOTE:
TOPOGRAPHY AND PHYSICAL IMPROVEMENTS SHOWN ALONG SHILOH ROAD AND LITTLE SHILOH ROAD ARE FROM FIELD SURVEY BY HOWELL KLINE SURVEYING, LLC. PERFORMED JULY 26TH AND 28TH 2021, & JANUARY 2023.



SHILOH ROAD SIGHT DISTANCE ANALYSIS
SCALE: 1"=50'



SHILOH ROAD CENTERLINE PROFILE
HORIZ SCALE: 1"=50'
VERT SCALE: 1"=5'

Exiting Vehicle Safe Stopping Sight Distances - ROAD A

Posted Speed Limit on Shiloh Road is 30 mph

Direction	Grade of Approaching Vehicle	Speed	Available SSSD	Required SSSD	PennDOT Desirable SSSD** @ 45 MPH
Looking Right	-3%	30	+500'	204'	273'
Looking Right	-3%	45 (15 mph over)	+500'	406'	570'
Looking Left	+9%	30	+500'	178'	360'
Looking Left	+9%	45 (15 mph over)	+500'	334'	635'

Exiting Vehicle Safe Stopping Sight Distances - ROAD D

Posted Speed Limit on Shiloh Road is 30 mph

Direction	Grade of Approaching Vehicle	Speed	Available SSSD	Required SSSD	PennDOT Desirable SSSD** @ 45 MPH
Looking Right	-4%	30	+500'	207'	273'
Looking Right	-4%	45 (15 mph over)	+500'	415'	570'
Looking Left	0	30	+500'	196'	360'
Looking Left	0	45 (15 mph over)	+500'	383'	635'

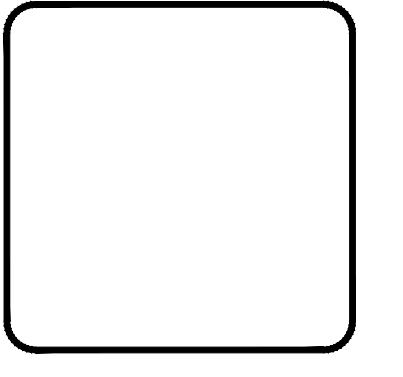
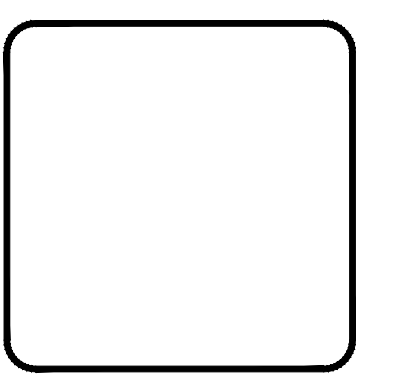
* - Sight distance to the right (north) is about 230' due to shrubbery at the home which Keystone will be buying located at the NE corner of the Shiloh Road/Oakbourne Road intersection. If the shrubbery were removed the sight distance would be 543'.
**PennDOT desirable sight distance values are provided for informational purposes only, and do not reflect a requirement per the Township's SALDO. Per Westtown Township SALDO Section 349-908.C. "Stopping sight distance at all intersections shall be in accordance with PennDOT standards." The "Required SSSD" noted on the table is the PennDOT Safe Stopping Sight Distance from PennDOT Chapter 441.8.(h) and is reflective of the SALDO requirement.

07/14/23 UPDATED TO ACCOMPANY TRANSPORTATION RESOURCE GROUP, INC. SPEED STUDY PERFORMED FROM JULY 10, 2023 TO JULY 12, 2023



DLHowell
Civil Engineering
Land Planning
Environmental
www.DLHowell.com

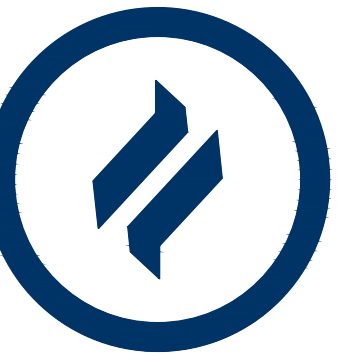
1250 Wrights Lane
West Chester, PA 19380
Phone: (610) 918-9002
Fax: (610) 918-9003



REV	DATE	DESCRIPTION
1	06/15/23	REVISED PER TOWNSHIP CONSULTANT REVIEW
2		
3		
4		
5		
6		
7		
8		

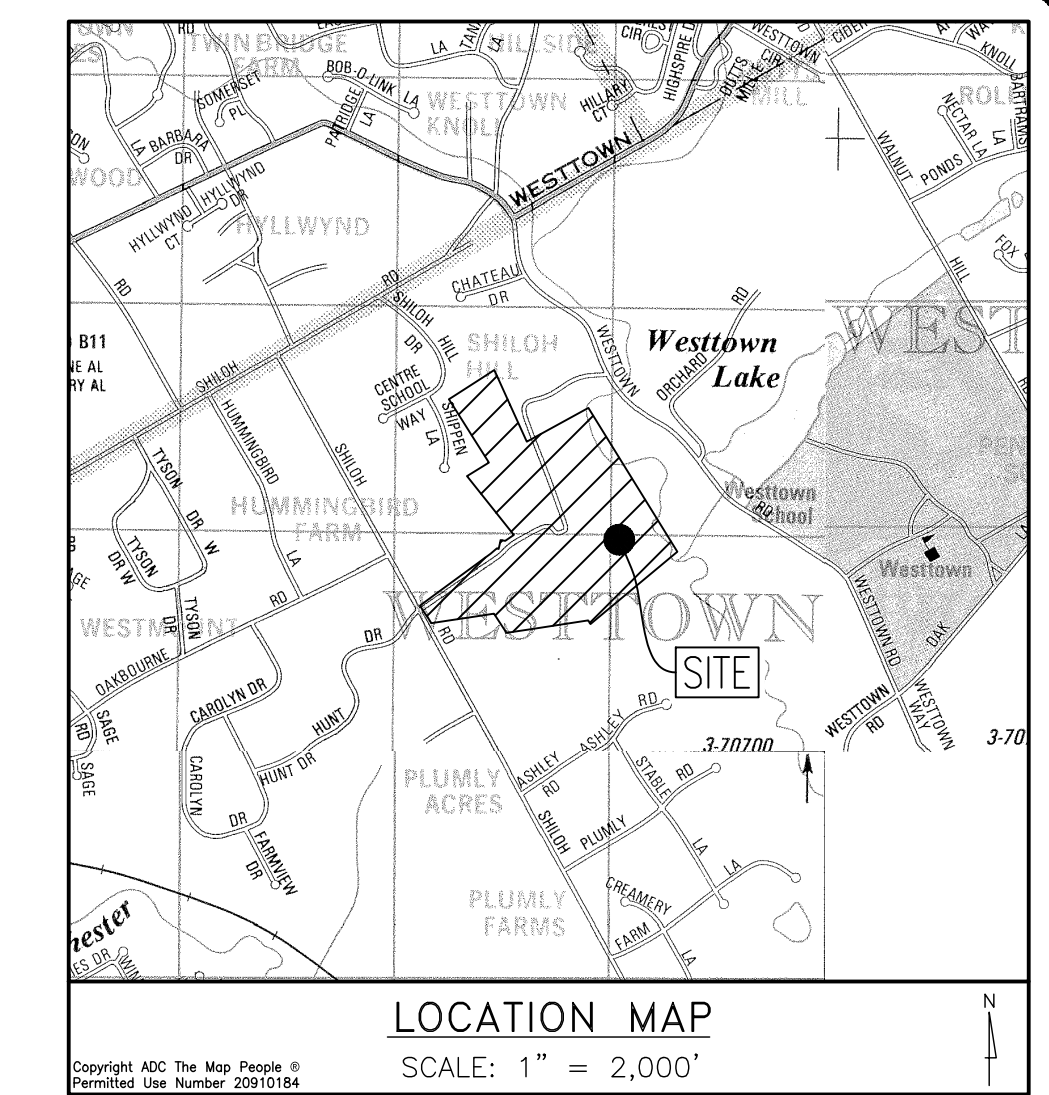
CONDITIONAL USE
SHILOH ROAD SIGHT DISTANCE ANALYSIS
CLIENT: FOX CLEARING, LLC
PROJECT: STOKES ESTATE
LOCATION: 1013 SHILOH ROAD
WESTTOWN TOWNSHIP, CHESTER COUNTY, PA

DATE:	04/14/23
SCALE:	1"=50'
DRAWN BY:	ADM
CHECKED BY:	DWG
PROJECT NO.:	3868
CAD FILE:	3868 Plc.dwg
PLOTTED:	06/15/23
DRAWING NO.:	SD-1.1
SHEET:	35 of 38

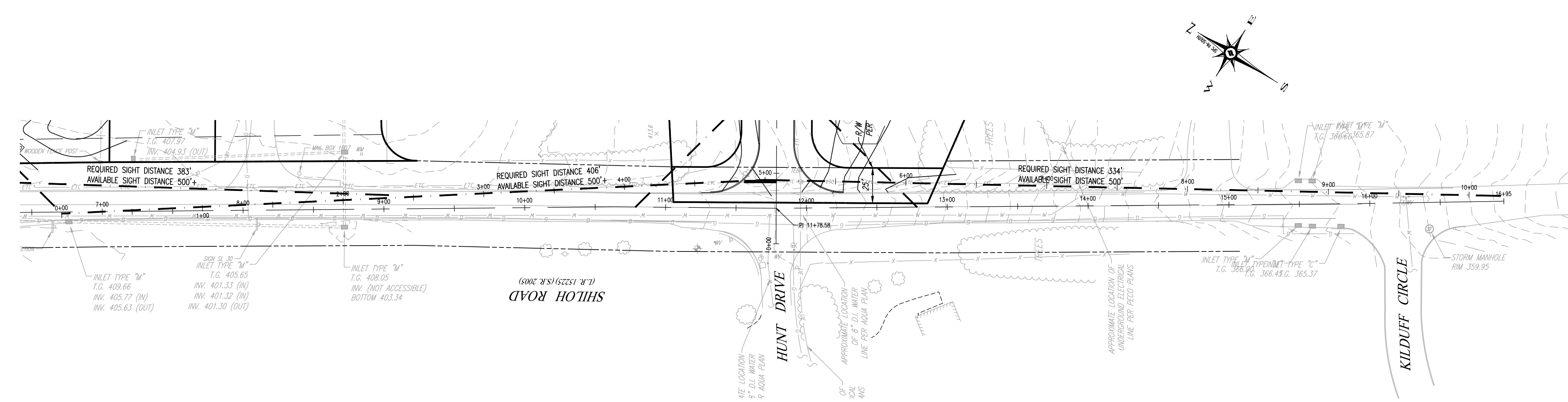


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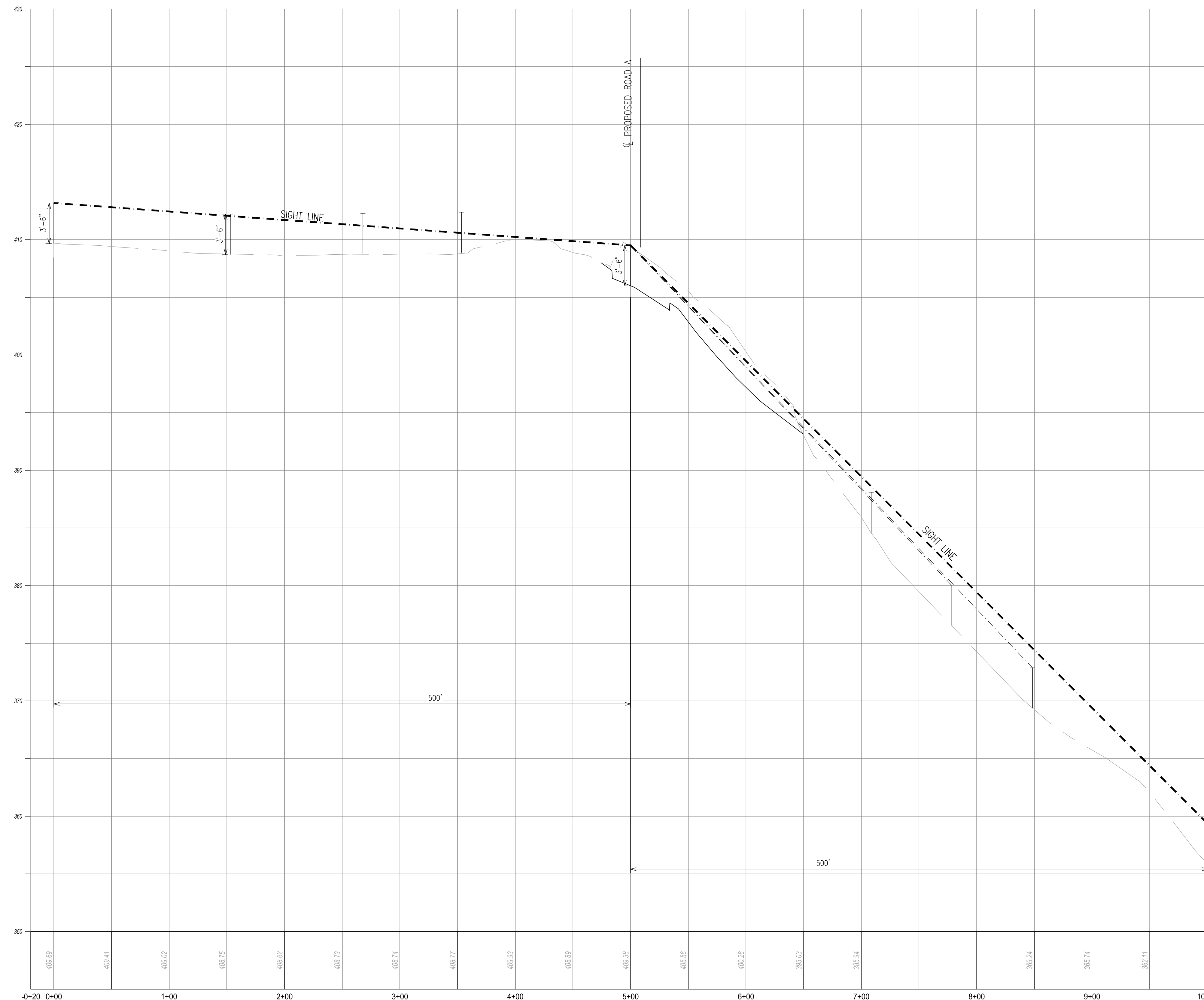
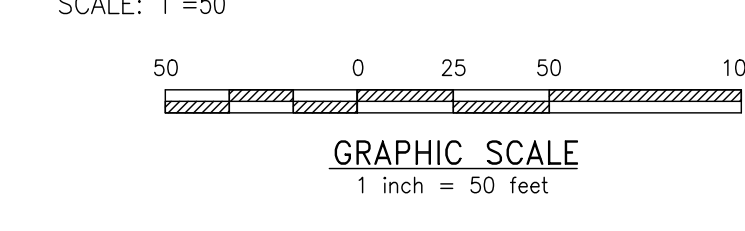
1250 Wrights Lane
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GENERAL NOTE:
TOPOGRAPHY AND PHYSICAL IMPROVEMENTS SHOWN ALONG SHILOH ROAD AND LITTLE SHILOH ROAD ARE FROM FIELD SURVEY BY HOWELL KLINE SURVEYING, LLC, PERFORMED JULY 26TH AND 28TH 2021, & JANUARY 2023.



SHILOH ROAD SIGHT DISTANCE ANALYSIS



SIGHT DISTANCE ROAD A @ SHILOH PROFILE
HORIZ SCALE: 1"=50'
VERT SCALE: 1"=5'

**Exiting Vehicle Safe Stopping
Sight Distances - ROAD A**

Posted Speed Limit on Shiloh Road is 30 mph

Direction	Grade of Approaching Vehicle	Speed	Available SSSD	Required SSSD	PennDOT Desirable SSSD** @ 45 MPH
Looking Right	-3%	30	+500'	204'	273'
Looking Right	-3%	45 (15 mph over)	+500'	406'	570'
Looking Left	+9%	30	+500'	178'	360'
Looking Left	+9%	45 (15 mph over)	+500'	334'	635'

**Exiting Vehicle Safe Stopping
Sight Distances - ROAD D**

Posted Speed Limit on Shiloh Road is 30 mph

Direction	Grade of Approaching Vehicle	Speed	Available SSSD	Required SSSD	PennDOT Desirable SSSD** @ 45 MPH
Looking Right	-4%	30	+500'	207'	273'
Looking Right	-4%	45 (15 mph over)	+500'	415'	570'
Looking Left	0	30	+400'	196'	360'
Looking Left	0	45 (15 mph over)	+500'	383'	635'

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07/14/23 UPDATED TO ACCOMPANY TRANSPORTATION RESOURCE GROUP, INC. SPEED STUDY PERFORMED FROM JULY 10, 2023 TO JULY 12, 2023

REV	DATE	DESCRIPTION
1	06/15/23	REVISED PER TOWNSHIP CONSULTANT REVIEWS
2		
3		
4		
5		
6		
7		
8		

CONDITIONAL USE
SHILOH ROAD SIGHT DISTANCE ANALYSIS
CLIENT: FOX CLEARING, LLC
PROJECT: STOKES ESTATE
LOCATION: 1013 SHILOH ROAD
WESTTOWN TOWNSHIP, CHESTER COUNTY, PA

DATE:	04/14/23
SCALE:	1"=50'
DRAWN BY:	ADM
CHECKED BY:	DWG
PROJECT NO.:	3868
CAD FILE:	3868 Proj.dwg
PLOTTED:	06/15/23
DRAWING NO.:	SD-1.2
SHEET:	36 of 38