

REF.: MAX-2016018.00

January 28, 2019

Meeting House Way, LLC
c/o Mr. Sean Murphy, Esquire
282 Upper Main Street
P.O. Box 1270
Edgartown, Massachusetts 02539

SUBJECT: Additional Intersection Evaluation
Proposed Residential Development
139 Meeting House Way
Edgartown, Massachusetts

Dear Mr. Murphy:

Greenman-Pedersen, Inc. (GPI) has prepared this *Additional Intersection Evaluation* letter to provide additional information requested by the Martha's Vineyard Commission (MVC). It has been requested that the impact of the proposed residential development which now consists of 34 residential homes to be located at 139 Meeting House Way be evaluated at the intersection of Peases Point Way/Katama Road and Clevelandtown Road/S. Water Street.

To date the Applicant, Meeting House Way, LLC, has provided the following documents prepared by GPI to the MVC for review and comment:

- *Traffic Impact and Access Study* dated January 30, 2018
- *Updated Traffic Impact and Access Study* dated September 21, 2018
- *Supplemental Traffic Letter* dated October 4, 2018

The *Traffic Impact and Access Study* provided any impacts of the project based on 36 new residential homes. At the request of the MVC, the *Traffic Impact and Access Study* was updated to provide a Supplemental Analysis of two additional background developments; a 5-lot subdivision adjacent to the proposed project and a future proposed affordable housing project which was assumed to consist of 20 apartment units. In addition, the proposed Meeting House Way development was reduced to 35 residential homes at that time (the development is now proposing only 34 residential homes). Each document proved minimal impact on the study area intersections as a result of the proposed residential project. The *Supplemental Traffic Letter* provided some additional information including a traffic count comparison, additional collision data, and updated speed data sheets correcting the posted speed limit to 25 miles per hour on Meshacket Road and Meeting House Way.

On January 24, 2019, over three months after the submission of the *Supplemental Traffic Letter*, the latest request for supplemental analysis from MVC was received. With the upcoming MVC Public Hearing for

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the Meeting House Place Subdivision on February 7, 2019, there is insufficient time to collect turning movement counts and analyze the impacts at the intersection of Peases Point Way/Katama Road and Clevelandtown Road/S. Water Street. The MVC does not have weekday AM and weekday PM peak period turning movement counts at this location, however, was able to provide whatever recent data collection efforts they did have at this intersection. Based on the available traffic data as well as the updated trip generation estimates based on 34 residential homes, the following tables provide the percent impact of the proposed Meeting House Place Subdivision on each roadway adjacent to the requested intersection. The MVC count data and trip generation are attached to this letter for reference.

Table 1
WEEKDAY DAILY TRAFFIC IMPACTS

Roadway	ADT ^a	Site-Generated Daily Traffic Volumes ^b	Percent Impact ^c
Clevelandtown Road	2,139	59	2.8%
Katama Road	9,496	30	0.3%
Peases Point Way	8,602	30	0.3%
South Water Street	1,841	6	0.3%

^a Average Daily Traffic volumes from MVC; 2014 data for Clevelandtown Road and 2013 data from Katama Road, Peases Point Way, and South Water Street.

^b Assumes 15% of all daily site traffic (390 trips) travels through this intersection. Of that 15% (59 trips), 100% utilizes Clevelandtown Road, an overestimated amount of 50% utilizes both Katama Road and Peases Point Way, and 10% utilizes South Water Street.

^c Site-Generated Daily Traffic Volumes divided by ADT.

Table 2
WEEKDAY PEAK HOUR TRAFFIC IMPACTS

Roadway / Peak Hour	Average Peak Hour Traffic Volumes ^a	Site-Generated Peak Hour Traffic Volumes ^b	Percent Impact ^c
Katama Road:			
<i>Weekday AM Peak Hour</i>	378	2	0.5%
<i>Weekday PM Peak Hour</i>	654	3	0.5%
Peases Point Way:			
<i>Weekday AM Peak Hour</i>	307	2	0.7%
<i>Weekday PM Peak Hour</i>	585	3	0.5%

^a Average weekday AM and weekday PM peak hour traffic volumes from MVC; 2015 data for Katama Road and 2013 data for Peases Point Way.

^b Assumes 15% of all peak hour site traffic (4 weekday AM peak hour trips and 5 weekday PM peak hour trips) travels through this intersection. Of that 15% (4 weekday AM peak hour trips and 5 weekday PM peak hour trips), an overestimated amount of 50% utilizes both Katama Road and Peases Point Way.

^c Site-Generated Peak Hour Traffic Volumes divided by Average Peak Hour Traffic Volumes.

Based on the traffic data provided between 2013 and 2015, which is expected to be higher under current day traffic conditions and would provide even less of a percent impact, the greatest impact is going to be seen on Clevelandtown Road with a 2.8% increase in daily traffic with an additional 59 daily trips on the roadway. This equates to approximately 4 to 5 additional vehicle trips per hour assuming all increases occur between 7:00 AM and 9:00 PM (14 hours). All peak hour impacts are expected to be 1% or less, which is less than the average daily fluctuation of traffic volumes.

Although Meeting House Way LLC would be willing to provide the MVC with the additional capacity and queue analysis requested at the intersection of Peases Point Way/Katama Road and Clevelandtown Road/S. Water Street, time does not allow for this due to the field work and office work that would be required for further analysis before the upcoming MVC Public Hearing on February 7, 2019. Based on the information provided, it can be concluded that the proposed Meeting House Place residential subdivision will have minimal impact at the intersection of Peases Point Way/Katama Road and Clevelandtown Road/S. Water Street. This would be expected as the findings of the *Updated Traffic Impact and Access Study* noted that **the proposed residential development can be safely and efficiently accommodated along the existing roadway network. No additional project-specific mitigation is warranted based on the incremental impacts of the development.** This was based on study area intersections much closer to the site than the intersection of Peases Point Way/Katama Road and Clevelandtown Road/S. Water Street. Since traffic is expected to disperse as it gets further away from the site, impact at the additional intersection is also expected to be negligible.



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We look forward to meeting with the MVC on February 7, 2019. Should you have any questions, require additional information, or if I can be of any assistance during the review process, please feel free to contact me at (978) 570-2968.

Sincerely,

GREENMAN – PEDERSEN, INC.

A handwritten signature in blue ink that reads "Heather Monticup".

Heather L. Monticup, P.E.
Assistant Vice President / Director of land Development

enclosure(s)

cc: (via email)
Mr. Doug Anderson
Mr. Doug Hoehn

SUPPLEMENTAL TRAFFIC LETTER

Proposed Residential Development – Edgartown, Massachusetts

ATTACHMENTS

**MVC TRAFFIC DATA
TRIP GENERATION DATA**

Site ID	Site Description	Start Date	End Date	Year	ADT	AWDT	Peak Hour	Highest Peak Hour Volume	Median Speed (mph)
208	Clevelandtown Rd. near Katama intersection	8/12/2013	8/18/2013	2013	4,153	4,087	11AM-12 PM	391	
208	Clevelandtown Rd. near Katama intersection	6/3/2014	6/10/2014	2014	2,139	2,828	12-1PM	52	
209	Katama Rd S of Clevelandtown Road	6/30/2003	7/9/2003	2003	10,039	9,867	3-4 PM	960	25-31
209	Katama Rd S of Clevelandtown Road	7/16/2004	8/4/2004	2004	9,106	9,524	4-5 PM	872	31-37
209	Katama Rd S of Clevelandtown Road	7/11/2005	7/20/2005	2005	9,086	9,342	1-2 PM	984	25-31
209	Katama Rd S of Clevelandtown Road	6/28/2006	7/6/2006	2006	9,729	9,568	5-6 PM	1077	25-31
209	Katama Road S of Clevelandtown Road	6/29/2007	7/18/2007	2007	9,276	9,357	3-4 PM	1237	25-31
209	Katama Rd S of Clevelandtown Road	8/12/2013	8/18/2013	2013	9,496	9,408	12-1 PM	890	
280	Peases Point Way North of Mullen Way	6/14/2006	6/27/2006	2006	6,391	6,598	11-12 PM	672	25-31
280	Peases Point Way North of Mullen Way	8/12/2013	8/18/2013	2013	8,602	8,864	10-11 AM	832	
250	South Water St. near Katama intersection	8/12/2013	8/18/2013	2013	1,841	1,868	11AM-12 PM	178	

MetroCount Traffic Executive Weekly Vehicle Counts

WeeklyVehicle-15 -- English (ENU)

Datasets:

Site: [209071615] Katama Rd, Edgartown
Attribute: Katama Rd Edg
Direction: 1 - North bound, A trigger first. **Lane:** 0
Survey Duration: 13:14 Thursday, July 16, 2015 => 16:36 Sunday, July 26, 2015,
Zone:
File: 20907161503Aug2015.EC0 (Plus)
Identifier: N336NV0R MC56-L4 [MC55] (c)Microcom 19Sep03
Algorithm: Factory default axle (v5.02)
Data type: Axle sensors - Paired (Class/Speed/Count)

Profile:

Filter time: 13:15 Thursday, July 16, 2015 => 16:36 Sunday, July 26, 2015 (10.1402)
Included classes: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range: 5 - 100 mph.
Direction: North, East, South, West (bound), P = North, Lane = 0-16
Separation: Headway > 0 sec, Span 0 - 300 ft
Name: Default Profile
Scheme: Vehicle classification (Scheme F2)
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Vehicles = 97385 / 99452 (97.92%)

Weekly Vehicle Counts

WeeklyVehicle-15

Site: 209071615.0.0N
Description: Katama Rd, Edgartown
Filter time: 13:15 Thursday, July 16, 2015 => 16:36 Sunday, July 26, 2015
Scheme: Vehicle classification (Scheme F2)
Filter: Cls(1-13) Dir(NESW) Sp(5,100) Headway(>0) Span(0 - 300) Lane(0-16)

Hour	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Averages		
	13 Jul	14 Jul	15 Jul	16 Jul	17 Jul	18 Jul	19 Jul	1 - 5	1 - 7	
0000-0100	*	*	*	*	57	77	94	57.0	76.0	
0100-0200	*	*	*	*	33	71	73	33.0	59.0	
0200-0300	*	*	*	*	7	21	27	7.0	18.3	
0300-0400	*	*	*	*	3	10	10	3.0	7.7	
0400-0500	*	*	*	*	3	6	13	3.0	7.3	
0500-0600	*	*	*	*	45	44	42	45.0	43.7	
0600-0700	*	*	*	*	167	119	113	167.0	133.0	
0700-0800	*	*	*	*	420	290	258	420.0	322.7	
0800-0900	*	*	*	*	567	462	399	567.0	476.0	
0900-1000	*	*	*	*	669	633	560	669.0	620.7	
1000-1100	*	*	*	*	793	681	639	793.0	704.3	
1100-1200	*	*	*	*	782	697	746	782.0	741.7	
1200-1300	*	*	*	*	773	725	770	773.0	756.0	
1300-1400	*	*	*	560	799	702	745	679.5	701.5	
1400-1500	*	*	*	703	714	683	682	708.5	695.5	
1500-1600	*	*	*	711	736	701	729	723.5	719.3	
1600-1700	*	*	*	699	646	645	678	672.5	667.0	
1700-1800	*	*	*	687	626	684	633	656.5	657.5	
1800-1900	*	*	*	575	565	589	521	570.0	562.5	
1900-2000	*	*	*	414	459	424	399	436.5	424.0	
2000-2100	*	*	*	368	396	390	305	382.0	364.8	
2100-2200	*	*	*	325	306	362	251	315.5	311.0	
2200-2300	*	*	*	215	233	229	143	224.0	205.0	
2300-2400	*	*	*	111	123	165	69	117.0	117.0	
Totals										
0700-1900	*	*	*	*	8090	7492	7360	8014.5	7624.6	
0600-2200	*	*	*	*	9418	8787	8428	9315.5	8857.3	
0600-0000	*	*	*	*	9774	9181	8640	9656.5	9179.3	
0000-0000	*	*	*	*	9922	9410	8899	9804.5	9391.3	
AM Peak	*	*	*	*	1000	1100	1100			
	*	*	*	*	793	697	746			
PM Peak	*	*	*	*	1300	1200	1200			
	*	*	*	*	799	725	770			

* - No data.

Weekly Vehicle Counts

WeeklyVehicle-15

Site: 209071615.0.0N
 Description: Katama Rd, Edgartown
 Filter time: 13:15 Thursday, July 16, 2015 => 16:36 Sunday, July 26, 2015
 Scheme: Vehicle classification (Scheme F2)
 Filter: CIs(1-13) Dir(NESW) Sp(5,100) Headway(>0) Span(0 - 300) Lane(0-16)

Hour	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Averages	
	20 Jul	21 Jul	22 Jul	23 Jul	24 Jul	25 Jul	26 Jul	1 - 5	1 - 7
0000-0100	40	40	43	45	55	70	67	44.6	51.4
0100-0200	29	24	20	33	34	58	57	28.0	36.4
0200-0300	10	8	7	6	7	20	39	7.6	13.9
0300-0400	1	1	3	5	6	7	13	3.2	5.1
0400-0500	7	7	5	8	2	6	14	5.8	7.0
0500-0600	58	52	46	52	47	47	30	51.0	47.4
0600-0700	150	146	155	158	168	130	107	155.4	144.9
0700-0800	362	365	389	357	373	340	244	369.2	347.1
0800-0900	533	591	561	612	608	510	361	581.0	539.4
0900-1000	669	634	655	738	632	616	577	665.6	645.9
1000-1100	782	666	697	728	677	800	619	710.0	709.9
1100-1200	755	747	775	723	786	805	674	757.2	752.1
1200-1300	771	732	825	804	738	782	675	774.0	761.0
1300-1400	710	729	752	688	758	742	676	727.4	722.1
1400-1500	688	752	720	726	727	720	705	722.6	719.7
1500-1600	718	665	718	758	676	690	746	707.0	710.1
1600-1700	720	710	667	641	695	646	442	686.6	645.9
1700-1800	654	704	647	615	644	616	*	652.8	646.7
1800-1900	504	537	614	571	669	568	*	579.0	577.2
1900-2000	366	444	457	420	434	417	*	424.2	423.0
2000-2100	335	293	347	366	405	370	*	349.2	352.7
2100-2200	294	271	338	316	369	301	*	317.6	314.8
2200-2300	169	205	169	214	240	239	*	199.4	206.0
2300-2400	79	81	109	100	134	145	*	100.6	108.0
Totals									
0700-1900	7866	7832	8020	7961	7983	7835	*	7932.4	7777.1
0600-2200	9011	8986	9317	9221	9359	9053	*	9178.8	9012.5
0600-0000	9259	9272	9595	9535	9733	9437	*	9478.8	9326.5
0000-0000	9404	9404	9719	9684	9884	9645	*	9619.0	9487.8
AM Peak	1000	1100	1100	0900	1100	1100	1100		
	782	747	775	738	786	805	674		
PM Peak	1200	1400	1200	1200	1300	1200	*		
	771	752	825	804	758	782	*		

* - No data.

MetroCount Traffic Executive Weekly Vehicle Counts

WeeklyVehicle-2054 -- English (ENU)

Datasets:

Site: [280] MCSetup factory setup
Direction: 1 - North bound, A hit first. **Lane:** 0
Survey Duration: 15:28 Thursday, August 15, 2013 => 12:27 Tuesday, August 20, 2013
Zone:
File: 280 - 20Aug2013 - Peases Point Way N. of Mullen Way.EC0 (Plus)
Identifier: A993SQK0 MC56-1 [MC55] (c)Microcom 07/06/99
Algorithm: Factory default (v3.21 - 15275)
Data type: Axle sensors - Paired (Class/Speed/Count)

Profile:

Filter time: 15:29 Thursday, August 15, 2013 => 12:27 Tuesday, August 20, 2013
Included classes: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Speed range: 6 - 99 mph.
Direction: North, East, South, West (bound)
Separation: All - (Headway)
Name: Default Profile
Scheme: Vehicle classification (Scheme F2)
Units: Non metric (ft, mi, ft/s, mph, lb, ton)
In profile: Vehicles = 40894 / 41220 (99.21%)

Weekly Vehicle Counts

WeeklyVehicle-2054

Site: 280.0.0N
 Description: Peases Point Way N. of Mullen Way.
 Filter time: 15:29 Thursday, August 15, 2013 => 12:27 Tuesday, August 20, 2013
 Scheme: Vehicle classification (Scheme F2)
 Filter: Cls(1 2 3 4 5 6 7 8 9 10 11 12 13) Dir(NESW) Sp(6,99) Headway(>0)

Hour	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Averages	
	12 Aug	13 Aug	14 Aug	15 Aug	16 Aug	17 Aug	18 Aug	1 - 5	1 - 7
0000-0100	*	*	*	*	71	102	85	71.0	86.0
0100-0200	*	*	*	*	54	58	68	54.0	60.0
0200-0300	*	*	*	*	39	30	31	39.0	33.3
0300-0400	*	*	*	*	10	14	19	10.0	14.3
0400-0500	*	*	*	*	14	7	4	14.0	8.3
0500-0600	*	*	*	*	39	46	44	39.0	43.0
0600-0700	*	*	*	*	114	130	88	114.0	110.7
0700-0800	*	*	*	*	303	328	258	303.0	296.3
0800-0900	*	*	*	*	522	526	394	522.0	480.7
0900-1000	*	*	*	*	677	674	569	677.0	640.0
1000-1100	*	*	*	*	649	830<	674	649.0	717.7
1100-1200	*	*	*	*	688<	812	701<	688.0<	733.7<
1200-1300	*	*	*	*	693	643	685<	693.0<	673.7<
1300-1400	*	*	*	*	659	662	629	659.0	650.0
1400-1500	*	*	*	*	631	685	556	631.0	624.0
1500-1600	*	*	*	0	677	728	634	338.5	509.8
1600-1700	*	*	*	0	748<	730<	664	374.0	535.5
1700-1800	*	*	*	417	666	691	548	541.5	580.5
1800-1900	*	*	*	612	572	620	474	592.0	569.5
1900-2000	*	*	*	421	486	490	360	453.5	439.3
2000-2100	*	*	*	350	343	415	293	346.5	350.3
2100-2200	*	*	*	290	292	329	219	291.0	282.5
2200-2300	*	*	*	246	419	283	153	332.5	275.3
2300-2400	*	*	*	118	193	147	78	155.5	134.0
Totals									
0700-1900	*	*	*	*	7485	7929	6786	6668.0	7011.3
0600-2200	*	*	*	*	8720	9293	7746	7873.0	8193.9
0600-0000	*	*	*	*	9332	9723	7977	8361.0	8603.2
0000-0000	*	*	*	*	9559	9980	8228	8588.0	8848.2
AM Peak	*	*	*	*	1100	1000	1100		
	*	*	*	*	688	830	701		
PM Peak	*	*	*	*	1600	1600	1200		
	*	*	*	*	748	730	685		

* - No data.

Weekly Vehicle Counts

WeeklyVehicle-2054

Site: 280.0.ON
Description: Peases Point Way N. of Mullen Way.
Filter time: 15:29 Thursday, August 15, 2013 => 12:27 Tuesday, August 20, 2013
Scheme: Vehicle classification (Scheme F2)
Filter: Cls(1 2 3 4 5 6 7 8 9 10 11 12 13) Dir(NESW) Sp(6,99) Headway(>0)

Hour	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Averages	
	19 Aug	20 Aug	21 Aug	22 Aug	23 Aug	24 Aug	25 Aug	1 - 5	1 - 7
0000-0100	39	37	*	*	*	*	*	38.0	38.0
0100-0200	24	36	*	*	*	*	*	30.0	30.0
0200-0300	9	7	*	*	*	*	*	8.0	8.0
0300-0400	6	9	*	*	*	*	*	7.5	7.5
0400-0500	5	8	*	*	*	*	*	6.5	6.5
0500-0600	45	46	*	*	*	*	*	45.5	45.5
0600-0700	145	118	*	*	*	*	*	131.5	131.5
0700-0800	296	323	*	*	*	*	*	309.5	309.5
0800-0900	465	516	*	*	*	*	*	490.5	490.5
0900-1000	600	602<	*	*	*	*	*	601.0<	601.0<
1000-1100	671	121	*	*	*	*	*	396.0	396.0
1100-1200	721<	0	*	*	*	*	*	360.5	360.5
1200-1300	715	0	*	*	*	*	*	357.5	357.5
1300-1400	673	*	*	*	*	*	*	673.0	673.0
1400-1500	622	*	*	*	*	*	*	622.0	622.0
1500-1600	721<	*	*	*	*	*	*	721.0<	721.0<
1600-1700	681	*	*	*	*	*	*	681.0	681.0
1700-1800	671	*	*	*	*	*	*	671.0	671.0
1800-1900	522	*	*	*	*	*	*	522.0	522.0
1900-2000	415	*	*	*	*	*	*	415.0	415.0
2000-2100	323	*	*	*	*	*	*	323.0	323.0
2100-2200	231	*	*	*	*	*	*	231.0	231.0
2200-2300	163	*	*	*	*	*	*	163.0	163.0
2300-2400	87	*	*	*	*	*	*	87.0	87.0
Totals									
0700-1900	7358	*	*	*	*	*	*	6405.0	6405.0
0600-2200	8472	*	*	*	*	*	*	7505.5	7505.5
0600-0000	8722	*	*	*	*	*	*	7755.5	7755.5
0000-0000	8850	*	*	*	*	*	*	7891.0	7891.0
AM Peak	1100	0900	*	*	*	*	*		
	721	602	*	*	*	*	*		
PM Peak	1500	*	*	*	*	*	*		
	721	*	*	*	*	*	*		

* - No data.

Institute of Transportation Engineers (ITE)

Land Use Code (LUC) 210 - Single-Family Detached Housing

General Urban/Suburban

Average Vehicle Trips Ends vs: Dwelling Units

Independent Variable (X): 34

AVERAGE WEEKDAY DAILY

$$\ln(T) = 0.92 \ln(X) + 2.71$$

$$\ln(T) = 0.92 \ln(34) + 2.71$$

$$\ln(T) = 5.95$$

$$T = 385.39$$

$$T = 386 \text{ vehicle trips}$$

with 50% (193 vpd) entering and 50% (193 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

$$T = 0.71 (X) + 4.80$$

$$T = 0.71 * 34 + 4.80$$

$$T = 28.94$$

$$T = 29 \text{ vehicle trips}$$

with 25% (7 vph) entering and 75% (22 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

$$\ln T = 0.96 \ln (X) + 0.20$$

$$\ln T = 0.96 \ln(34) + 0.20$$

$$\ln T = 3.59$$

$$T = 36.06$$

$$T = 36 \text{ vehicle trips}$$

with 63% (23 vph) entering and 37% (13 vph) exiting.

SATURDAY DAILY

$$\ln T = 0.94 \ln (X) + 2.56$$

$$\ln T = 0.94 \ln(34) + 2.56$$

$$\ln T = 5.87$$

$$T = 355.95$$

$$T = 356 \text{ vehicle trips}$$

with 50% (178 vpd) entering and 50% (178 vpd) exiting.

SATURDAY PEAK HOUR OF GENERATOR

$$T = 0.84 (X) + 17.99$$

$$T = 0.84 * 34 + 17.99$$

$$T = 46.55$$

$$T = 47 \text{ vehicle trips}$$

with 54% (25 vph) entering and 46% (22 vph) exiting.