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October 21, 2004

Michelle West, Chairperson and Planning Board Members
Town of Washington Town Hall
Post Office Box 667
Millbrook, New York 12545

Re: Proposed Trumbull Home Subdivision
Stanford Road
Engineering and Environmental Review

Dear Chairperson West and Members of the Board:

Please accept the following comments into the Trumbull Home Subdivision project record, on behalf of our clients, Adelaide Camillo and Ronald S. Gross, whose residence is located immediately adjacent to the proposed Trumbull Home Subdivision. These comments are primarily focused on the issue of traffic safety relative to the proposed driveway location on proposed Lot 2, with additional comments provided with respect to the lack of protection afforded to the site's numerous sensitive environmental features and valued rural character of the area.

These issues have been brought to the Board's attention in our previous March 1st, June 1st, and August 16, 2004 written comments that were submitted into the project's review record. However, their importance in the Board's review of this proposed project justify the following additional detail that more fully describes the importance of these issues.

I. Traffic Safety Issues Relative to the Proposed Lot 2 Driveway Location -

As stated in our office's March 1, 2004 comment letter to the Board (refer to p. 9, Item 4. "Traffic Safety Considerations"), the proposed Lot 2 driveway location conflicts with the Town Subdivision Code § 32.7 which prohibits driveway access directly from a major street. This section of the Town Code alternatively recommends utilizing common, shared driveways to limit traffic hazards on major Town roadways such as Stanford Road. This alternative is a well-respected planning policy that should become a guiding principle in locating driveways on major Town roadways. Applying this Code recommendation would prohibit the presently proposed driveway location for Lot 2.

Additionally, the sight distance standard used by the Town is outdated as a "one size fits all" standard that fails to account for the additional minimum sight distance required for steep roadway grades and sharp curve alignments as are present at this site. Federal highway, State highway, County highway and many local Town and Village roadway sight distance standards incorporate provisions for the additional distance required to allow for the important safety factor that accommodates for steep grades and curvilinear roadway alignments.

Our March 1, 2004 comment letter recommended using Dutchess County Highway sight distance standards, which require greater sight distance lengths (even when applied to level roadways), **and** with additional sight distance lengths when applied to accommodate steep existing roadway grades. These referenced Dutchess County Highway sight distance standards indicate that additional stopping sight distance must be added to that shown for level terrain when the roadway grade exceeds 3%. As an example, this County sight distance standard table shows that 50 feet must be added to the minimum sight distance length requirements on a 35 mph roadway when the grade is 9%. This 9% is the steepest grade shown in this County table of sight distance standards. **As a comparison to show the severity of the deficiency in the Town's standards, the grade of Stanford Road near the proposed driveway location is 13%, yet no additional sight distance length is required in the Town's standards.**

The existing grade of Stanford Road immediately north of the proposed driveway location, and all the way to the existing driveway of our clients (i.e., approximately 250 feet) averages 13% according to the topographical information shown on the proposed Trumbull Home subdivision map. As previously stated, this existing section of Stanford Road should be considered as a very steep grade by the Board. The Board may note as a part of their consideration of this public safety issue that the Town standards for even short, minor residential roadways is limited to a maximum grade of 10%. That is, roadways of any type in Town would not be allowed to be constructed nearly as steep as this section of Stanford Road under present Town standards. Accordingly, the Board should consider this particular existing steep roadway condition when applying up-to-date, minimum sight distance standards.

Applying the minimum sight distance standards will clearly indicate that the driveway location, where currently proposed, is unsafe and a public safety concern for both a new homeowner and the traveling public that use Stanford Road.

To provide more than one professional opinion on this matter of adequate sight distance, our clients engaged the expertise of a noted and well-respected Transportation Engineer, Philip J. Grealey, Ph.D., PE, a principal in the firm of John Collins Engineers, PC, to provide a professional opinion on the adequacy of the current Town sight distance standard and the proper method to determine what the proposed driveway's sight distance minimum requirements should be. This opinion confirmed our office's earlier oral and written statements to the Board that public safety requires the additional consideration of existing roadway grade and alignment conditions. Dr. Grealey's October 10th correspondence also suggested the use of the Dutchess County Highway Standard as an example of an appropriate sight distance standard to follow. A copy of Dr. Grealey's correspondence is attached for the Board's review.

Further, the residents that live along Stanford Road, as well as many community members, are well aware of the number of the traffic accidents that regularly occur on Stanford Road. To document this fact, our clients researched this matter and obtained traffic accident records in this specific area from 1985 through 2001 (i.e., the latest data available) from the Dutchess County Traffic Safety Board. A review of this information indicated numerous traffic accidents along Stanford Road, with accident rates increasing in the more recent years as the rate of development in the area has increased. Within one mile of the proposed subdivision site on Stanford Road, there have been 8 accidents in the most recent 5 years of available accident data. Several of these accidents involved personal injury and were caused by speeding, driver's inattention, defective roadway shoulders, adverse weather conditions, etc.. A majority of these accidents occurred on sections of Stanford Road that were noted to be at roadway curves and steep grades -- exactly similar to the roadway conditions at the proposed Lot 2 driveway location. This traffic accident data is voluminous, but can be provided upon request to the Board for review. The Board is strongly encouraged to review this traffic accident data as a part of their deliberations and the potential adverse public safety aspects of locating this driveway where it is currently being proposed.

When the Board considers the factors regarding adequate sight distance based on existing road conditions and the results of traffic accident data along this portion of Stanford Road, it is clearly evident that the driveway location for Lot 2, where currently proposed, is unsafe and a public safety concern for both a new homeowner and the traveling public that use Stanford Road.

II. Rear Lot Approval Issues Relative to the Proposed Driveway Location –

Our August 16, 2004 comment letter (i.e., p. 3, Item 4. "Issue Regarding Rear Lot Approval") describes the limited authority of the Board to approve "rear lot" subdivision lot configurations, in compliance with Town Subdivision Code § 32.6. This section specifically states that such lots **cannot be approved by the Board if there is evidence that public health and safety would be endangered or that natural and scenic resources would not be preserved.** Accordingly, the proposed "rear lot" (with its proposed driveway where located as shown on the most recent subdivision map) disqualifies this proposed lot as a "rear lot" configuration due to safety and the non preservation of natural and scenic resources. **For these obvious reasons, the Applicant's request for the Board's consideration to approve a "rear lot" should be rejected.**

If however, the Board decides to entertain this "rear lot" request, then the Board must require suitable mitigation to comply with the Town regulations. This mitigation must at the very least address the proposed location of the Lot 2 driveway.

Certainly this Lot 2 driveway entrance location, as proposed, raises serious questions regarding public safety for the users of Stanford Road. Additionally, no claim for preservation of natural and scenic resources can be made for the present driveway layout that requires significant excavation and embankment construction and the crossing of a federally regulated wetland.

This specific "rear lot" qualification deficiency can only be mitigated with the relocation of the proposed driveway. This relocation could take the form of a common, shared driveway that would be used by Lot 1 and Lot 2 (i.e., perhaps the existing driveway between the existing barn and the existing house). This alternative driveway location has been previously suggested for the Board's consideration and it would also comply with the recommendations of the previously referenced Town Subdivision Code § 32.7.

An alternative to this common, shared driveway location would be a location north of the existing barn (out of the viewshed of the existing house on Lot 1) and at a location of generally level grade on Stanford Road. This alternative driveway location would provide significantly improved sight distance and the associated improvement to traffic and public safety. This alternative also requires significantly less driveway length and earthwork construction, is primarily screened by vegetation and topography, and eliminates any disturbance of the federally regulated wetlands. A copy of a Sketch of this alternative driveway location is attached for the Board's consideration.

III. Building Envelopes and Conservation Easements –

As stated in our office's March 1st submitted comments (refer to p. 10, Item 5. "Visual Resource Considerations"), the application of reasonable building envelopes and conservation easements are necessary to insure that the sensitive environmental setting of this site is protected and preserved for the benefit of the entire community. The Town 1989 Master Plan Amendment (p. 6) specifically recommends the establishment of conservation easements and Town Subdivision Code §11(f) specifically requires particular attention be given to the location of proposed house sites and the protection of natural and scenic resources. Subdivision Code §30.1 authorizes the Board to require a subdivider to place conservation easements on lands to be protected, as a condition of subdivision approval. Building envelopes that are sized to provide for development areas for home sites, septic system installations and suitable lawn areas are recommended throughout the Town's Master Plan, Zoning Ordinance, and Subdivision Code. The Board only needs to refer to and rely on these existing regulations that are already in place in the Town Regulations. In compliance with these regulations will result in reasonably sized building envelopes and conservation easements designed to protect these natural and scenic resources of the Town.

The Board should also be reminded that the CAC recommended no further subdivision to prevent the potential of future resubdivision and over development of this environmentally sensitive property. This is a reasonable request, especially considering that neither building envelopes nor wetland delineation has been provided on the proposed Lot 1. Such omission provides no restriction on the future development of the largest (and subdividable) lot in this proposed subdivision.

However, the building envelopes shown on the most recent subdivision map include building envelope areas that encompass immense areas on the lots that would be allowed to be developed -- without restriction -- that could drastically change the rural character of the area. The building envelopes being proposed also include areas that cannot (or at least should not)

ever be developed such as areas of very steep slopes, and wetland areas (i.e., the building envelope shown on Lot 4 includes the end an existing federally regulated wetland).

Conservation easements could insure that a majority of the development would maintain its existing forest vegetation and rural character. The Applicant's excuse that they may apply conservation easements to the land through a local Land Conservancy is not adequate and provides no assurance to the community with regards to the future stewardship of this property. Once the property is sold, the next Owner may not have any intention to preserve the land's natural and scenic resources and the Town would be left without any recourse. **Certainly there has been ample time for the present Owner to forge a suitable Agreement with the Land Conservancy so that conservation easements are in place before subdivision approval is granted.** We urge the Board to mandate suitable conservation easements before finalizing the subdivision's review that would protect this property from future over development.

Your consideration of the above information is very important in concluding a thorough review of this subdivision proposal. Please feel free to contact me at your convenience with any questions or comments that you may have regarding this material.



Sincerely,
David Clouser & Associates

David B. Clouser
David B. Clouser, PE, LS
NYS Professional Engineer No. 069334

Encl. Correspondence from Philip J. Grealy, Ph.D., P.E., dated 10/10/04
Sketch of Alternate Driveway Location

Cc: Adelaide Camillo and Ronald S. Gross
James B. Bacon, Esq.

JOHN COLLINS ENGINEERS, P.C.

TRAFFIC - TRANSPORTATION ENGINEERS

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October 10, 2004

Ms. Adelaide Camillo
507 Stanford Road
Millbrook, NY 12545

RE: Sight Distance Provisions
Millbrook, NY

Dear Ms. Camillo:

Sight distance requirements for vehicles entering and exiting roadways are established by various agencies including the American Association of State Highway and Transportation Officials (AASHTO) and the Dutchess County Department of Public Works. The intersection required sight distance design criteria is a function of the travel speeds on the roadways. For example, as shown in the attached excerpt from the Dutchess County Standards, the intersection design criteria for a 40mph roadway requires a minimum of 275 feet of sight distance for the safe stopping sight distance along the roadway and a recommended intersection turning sight distance of some 412 feet. Both of these distances would also have to be increased for downgrades. A 6% downgrade would increase these distances by 40 feet.

The sight distance that should be provided for a particular location should be determined by measuring the actual roadway travel speeds and identifying the 85th percentile speeds. Such measurements would identify the actual travel speeds and allow the proper sight distance to be chosen for the roadway.

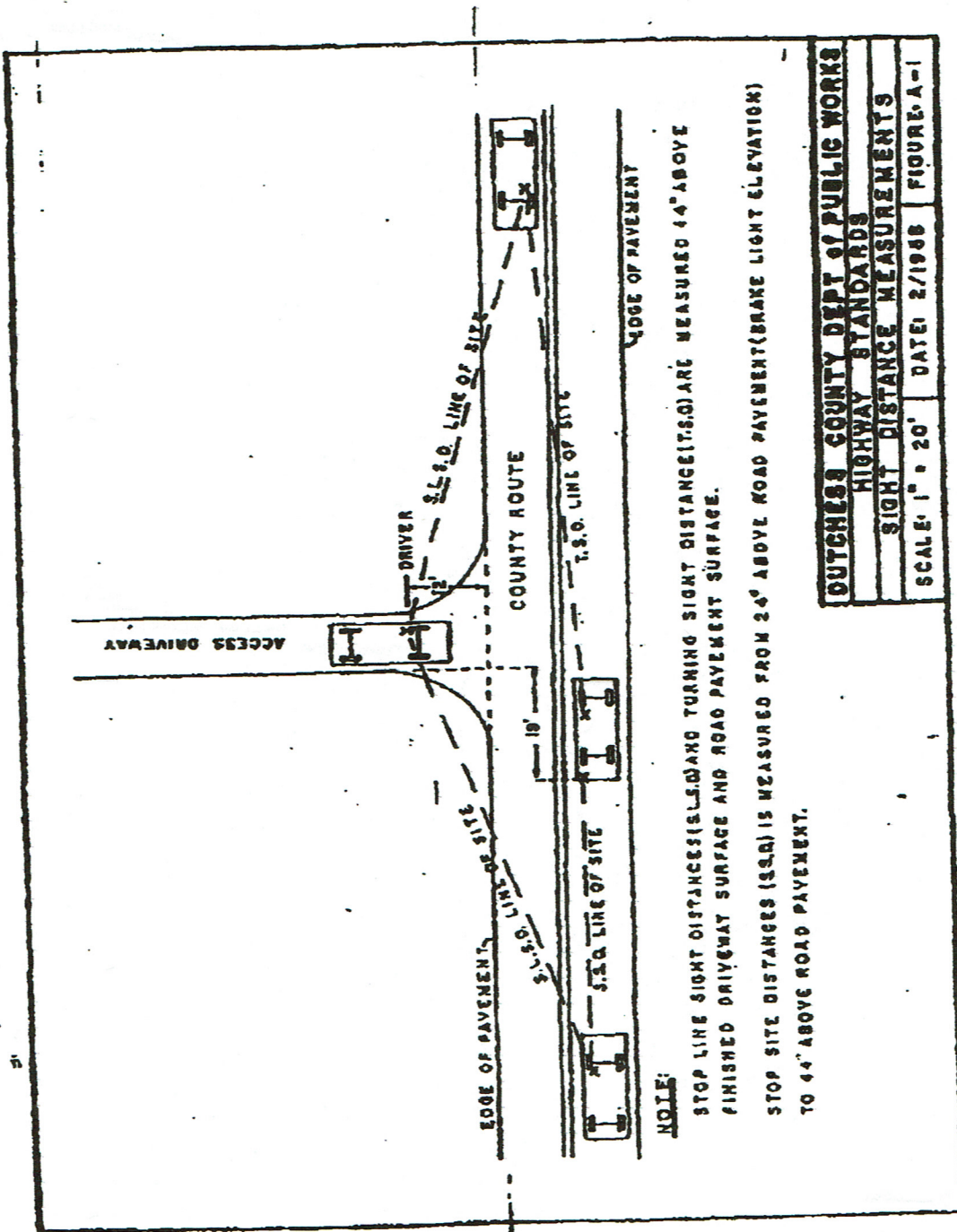
If you have any questions regarding this, please do not hesitate to contact us.

Sincerely,

JOHN COLLINS ENGINEERS, P.C.



Philip J. Grealy, Ph.D., P.E.



NOTE:
 STOP LINE SIGHT DISTANCES (SLSD) AND TURNING SIGHT DISTANCES (TSD) ARE MEASURED 44" ABOVE FINISHED DRIVEWAY SURFACE AND ROAD PAVEMENT SURFACE.
 STOP SITE DISTANCES (SSD) IS MEASURED FROM 24" ABOVE ROAD PAVEMENT (BRAKE LIGHT ELEVATION) TO 44" ABOVE ROAD PAVEMENT.

OUTCHESSE COUNTY DEPT. OF PUBLIC WORKS	
HIGHWAY STANDARDS	
SIGHT DISTANCE MEASUREMENTS	
SCALE: 1" = 20'	DATE: 2/1988
FIGURE A-1	

DUTCHESS COUNTY
DEPARTMENT OF PUBLIC WORKS
COUNTY HIGHWAY ACCESS SIGHT DISTANCE MEASUREMENT REQUIREMENTS

V-MPH	SLSD - L	SLSD - R	SSD	TSD	DOWNGRADE APPROACH	UPGRADE APPROACH
30	265	309	200	309	3% = +10 6% = +20 9% = +30	3% = 0 6% = -10 9% = -20
35	309	360	250	360	3% = +15 6% = +30 9% = +50	3% = -10 6% = -20 9% = -30
<u>40</u>	<u>353</u>	<u>412</u>	<u>275</u>	<u>412</u>	3% = +20 <u>6% = +40</u> 9% = +70	3% = -15 6% = -25 9% = -30
45	397	463	325	463	3% = +25 6% = +55 9% = +70	3% = -20 6% = -30 9% = -30
50	441	515	400	515	3% = +30 6% = +70 9% = +70	3% = -30 6% = -50 9% = -50
55	485	566	450	566	3% = +40 6% = +90 9% = +90	3% = -30 6% = -60 9% = -60

This Department realizes that the legal speed limit may not be physically attainable over certain portions of the County road due to its alignment. Based on advice from the County Attorney's Office, the minimum sight distance requirements may be reduced provided that the following measures are taken by the developer / applicant.

- * A qualified professional engineer with expertise in traffic engineering is engaged for the purpose of compiling a speed study of the questionable area.
- * The physical study is coordinated through this Department to ensure that an acceptable method is used and the exact measurement locations are determined.
- * Yielded from this study will be the 85 percentile speed of the traffic during a relevant time period determined by this Department.
- * The 85 percentile speed will then be used in the sight distance equation to determine each respective footage, which will then be subject to a 10% increase.

If the calculated resultant(s) of the above steps fall within the physical and / or improved field conditions, access will be permitted.

CALCULATION BASED ON SIGHT DISTANCE EQUATION: $d = 1.67v \sqrt{h_1 + h_2}$
PER AASHTO "POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS 1990".

PREPARED BY:
OPW - ENGINEERING
TRAFFIC & SAFETY

R:\SHARED\TRAFFIC\STANDARDS\SightDist

