

**TOWN OF BEDFORD
PLANNING BOARD MEETING**

**425 Cherry Street
Bedford Hills, New York 10507**

**Tuesday
March 24, 2015
8:00 PM**

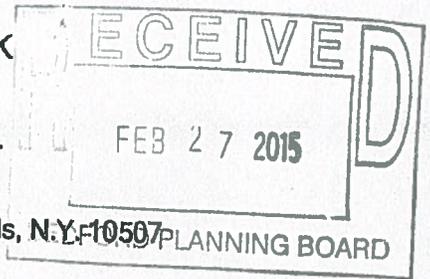
Public Hearings:

8:00 PM Special Use Permit – Accessory Structure Over 20 Feet in Height
-Installation of Bamboo Sculpture
Section 59.11 Block 1 Lot 11, R- 4A Zone
443 Haines Road, Bedford Corners
Owners/Applicants: **Michael and Judith Steinhardt**
(Consider application for special use permit.)

8:05 PM Scoping Session
Proposed Conservation Development
Section 84.18 Block 1 Lot 14, R-1A and R-2A Zones
325-361 Old Post Road, Bedford
84.14-1-6 and 7, R-1/4A Zone
307 and 301 Old Post Road, Bedford
84.14-1-8, R-1/4 A Zone
7 Crusher Road, Bedford
84.14-2-1, R-1/4 A Zone
1 Vinton Avenue, Bedford
Owner: **Old Post Holdings, LLC**
Applicant: **Wilder Balter Partners, Inc.**

**Supporting documentation for all items on this agenda is available at the Town of Bedford website.
(www.bedfordny.gov) – Larger documents and plans are available at the office of the Planning Board.
Agenda items subject to change.**

PLANNING BOARD
TOWN OF BEDFORD
WESTCHESTER COUNTY, NEW YORK



APPLICATION FOR A SPECIAL USE PERMIT

Submit to: Bedford Planning Board, Town House, Bedford Hills, N.Y. 10507

1. IDENTIFICATION OF OWNER

Name of owner: Michael & Judy Steinhardt
Address: 443 Haines Rd., Mt. Kisco, NY 10549 Phone: (914) 290-9947

2. IDENTIFICATION OF APPLICANT, IF OTHER THAN OWNER

Name of applicant: Michael & Judy Steinhardt
Address: 443 Haines Rd., Mt. Kisco, NY 10549 Phone: (914) 290-9947

3. PROFESSIONAL PERSON PREPARING SUBDIVISION PLAT

Name: Jeffrey DeRosa, LS
Address 301 Fields Lane, Brewster, NY 10509 Phone: (845) 277-3404

4. IDENTIFICATION OF PROPERTY

a. Subdivision name or identifying title Croton Brook - Lot #2 on Filed Map No. 20028

b. Roads which property abuts Haines Road

c. Bedford tax map designation: Section 59.1 Block 1 Lot(s) 11

d. Property lies in a (circle one) 4A 2A, 1A 1/2A 1/4 A TF VA NB CE PB-R PB-O LI
Zoning District.

e. Total area of property in acres 5.557 Acres

5. REQUEST

The applicant requests that the Planning Board approve the issuance of a Special Use Permit under the following section of the Code of the Town of Bedford:

Article: 111, Section: 125-27 D(3)

The applicant proposes the following Special Permit Use:

Installation of bamboo sculpture, a part of a series of "Big Bambu"
art installations by artists Doug and Mike Starn. The maximum height of
this artwork is 52 feet.

6. PUBLIC NOTICE

Notice of the public hearing shall be published at least 10 days prior to the hearing in the Town newspaper and shall be mailed by the applicant at least 10 days prior to the hearing to all owners of property within 500 feet of the perimeter of the subject lot. The expense of publishing and mailing any notice shall be paid by the applicant, who shall file an affidavit mailing with the Board Secretary prior to the hearing.

7. SITE PLAN

Attach a Preliminary Site Plan Application Form, fee and eleven (11) copies of a Preliminary Site Plan complying with all requirements of Article IX, Section 125-88 of the Bedford Town Code.

8. FEES (make checks payable to the Town of Bedford)

Special Use Permit Application: \$300.00 \$300.00

Preliminary Site Plan: \$500 plus \$25 per parking space required by the Bedford Town Code: \$ N/A

Total: \$300.00

Permission is hereby given to the Town of Bedford, its agents, servants and employees to enter upon the above described property solely for the purposes incidental to the within application at reasonable times upon reasonable notice to the owner or tenant in possession.

All applications shall be signed by the owner of the property affected by this application and by the applicant, if other than the owner.

Signature of Owner [Handwritten Signature] Date 2-22-15

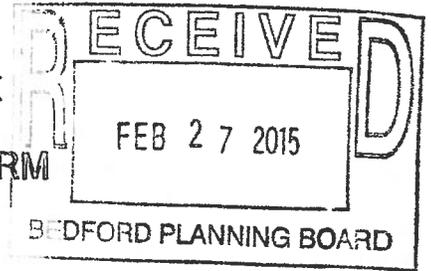
Signature of Applicant _____ Date _____

Name of Owner (Please Print) Jason Hayes Date 2-22-15

Name of Applicant (Please Print) _____ Date _____

PLANNING BOARD
TOWN OF BEDFORD
WESTCHESTER COUNTY, NEW YORK

ENVIRONMENTAL CLEARANCE FORM
(This Side to be Completed by Applicant)



1. IDENTIFICATION OF OWNER

Name of owner: Michael & Judy Steinhardt
Address: 443 Haines Road, Mt. Kisco, NY 10549 Phone: (914) 290-0047

2. IDENTIFICATION OF APPLICANT, IF OTHER THAN OWNER

Name of applicant: Michael & Judy Steinhardt
Address: 443 Haines Road, Mt. Kisco, NY 10549 Phone: (914) 290-9947

3. IDENTIFICATION OF SITE INVOLVED, if any

- a. Name or other identification of site Lot #2 on Croton Brook Subdivision, Filed Map No. 20028
- b. Roads which site abuts Haines Road
- c. Bedford tax map designation: Section: 59.11 Block 1 Lot(s) 11
- d. Total site area 5.557 Acres
- e. Does the applicant have a whole or partial interest in lands adjoining this site? Yes

4. IDENTIFICATION OF PROPOSED ACTION

- a. Description of Proposed Action Installation of bamboo sculpture part of a series of "Big Bambu" art installations by Doug and Mike Starn.
- b. Relationship to other actions:
 - 1. List any further actions which may be undertaken, of which this proposed action is part or first step, e. g. further subdivision of a large parcel of land: None
 - 2. List any related actions which may be undertaken, of which this proposed action, e.g. highway reconstruction to serve increased traffic: None
 - 3. List any actions which are dependent upon this proposed action, and therefore should be reviewed as part of this action, e.g. house construction in the case of a residential subdivision: None

All such actions must be reviewed in conjunction with the action proposed.

5. CLASSIFICATION OF PROPOSED ACTION (see lists of Type I, II, Exempt, Excluded Actions)

- Type I.** An Environmental Impact Statement is required unless the applicant demonstrates conclusively that one is not needed. Proceed to Environmental Assessment Form.
- Type II or Exempt Action.** No Environmental Impact Statement is needed. Submit this form only.
- Unlisted Action.** Pending Analysis of further information, an Environmental Impact Statement may be required. Proceed to Environmental Assessment Form.

04/05

[Signature]
Signature of Applicant

2-28-15
Date

TOWN OF BEDFORD
ENVIRONMENTAL CLEARANCE FORM
(This side only for Official Use Only)

1. CLASSIFICATION APPROVED; FURTHER ACTION REQUIRED:

- Type I Action.** The proposed action will have a significant effect on the environment. An Environmental Impact Statement is required unless the applicant demonstrates conclusively that one is not needed. Proceed to Environmental Assessment Form.

- Type II or Exempt or Excluded Action.** No Environmental Impact Statement is needed. No further action required.

- Unlisted Action.** The proposed project may have a significant effect on the environment. Pending analysis of further information, an Environmental Impact Statement may be required. Proceed to Environmental Assessment Form.

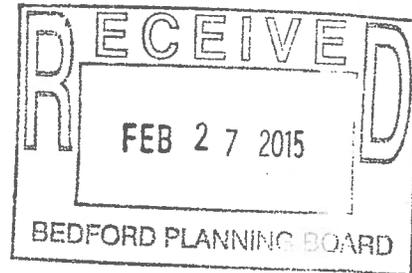
2. COMMENTS:

Town Agency

Agency Signature

Date

MICHAEL H. STEINHARDT



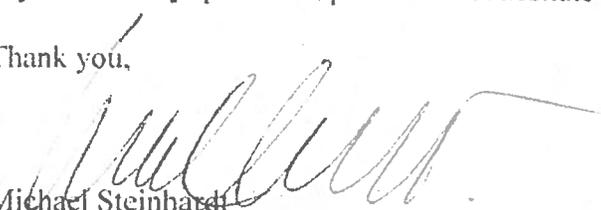
October 3, 2014

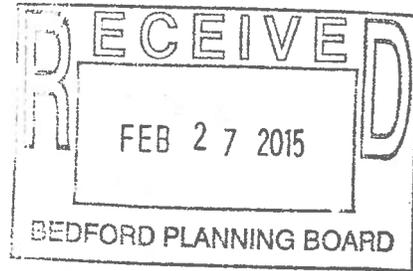
To Whom It May Concern:

I am writing to authorize my Estate Manager, Jason Hayes, to act as my agent in applying for and attaining a building permit for an art installation at 443 Haines Road.

If you have any questions, please do not hesitate to phone me at 212-371-7300.

Thank you,


Michael Steinhardt



February 17, 2015

Mr. Jason Hayes
443 Haines Road
Mt. Kisco, NY 10549

**Structural
Engineers**

32 Old Slip, 10th Floor
New York, NY 10005
212 620 7970
silman.com

RE: Bamboo sculpture
Silman Project No 16292

Dear Jason,

This letter is intended to serve as a structural report regarding the bamboo sculpture being constructed on the premises of Mr. and Mrs. Michael Steinhardt in Mt. Kisco, NY. The proposed piece is designed by artists Doug and Mike Starn of Beacon, NY and is very similar to numerous other bamboo pieces by the artists throughout the world, including the Big Bambu installation on the roof of the Metropolitan Museum of Art in New York City. Silman was the engineer of record for the Met installation and assisted both the Starn's and the Met in obtaining approval from the New York City Department of Buildings. The completed installation will measure approximately 70 feet by 30 feet by 40 feet tall and will weigh approximately 21,000 pounds when completed. As with other pieces completed by the artists, this piece will be constructed entirely out of bamboo utilizing hundreds of bamboo stalks lashed together with climbing rope. And as with previous pieces, pathways within the piece will allow for human occupancy. In the past the Starns have performed load tests on the installations to ensure their safety and stability. Typically this involves loading the piece (either with sandbags or water bladders) to *twice* the expected occupancy load, surveying the piece, and then leaving the loads on the piece for 10 to 24 hours and re-surveying the piece. The installations have always passed the load tests without fail. At the Met, we loaded the piece with almost 9,000 pounds of sand bags – the equivalent of 4.5 Volkswagen Beetles – with virtually no movement and no instances of failure either of the bamboo or the lashings.

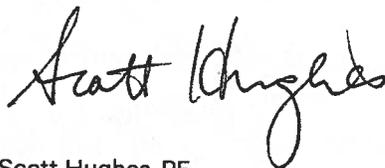
Silman was asked to review the installation's structural integrity, its ability to support the loads imposed (including its self-weight, the weight of human occupants, as well as wind loads), and provide advice regarding any additional measures that should be taken to allow the piece to be safely completed and occupied, including any tie-downs necessary to hold the piece down under wind loads. Silman visited the piece on December 8, 2014, to observe

the progress of construction and the piece's similarity to other works by the artists. We were also provided with the final weight and dimensions (referenced above) of the completed piece.

Given the information described above, we analyzed the piece to resist snow/ice loads and wind loads in accordance with ASCE 7, "Minimum Design Loads for Buildings and Other Structures" (calculations are attached), and provided the artists with specifications regarding hold-downs for the piece (attached). While the piece is not only protected within a wooded area on the land as well as being sloped and exposed to wind, which should minimize any snow accumulation, we did investigate the possibility of snow accumulating on the pathways and the creation of drifts under extreme snow events. Based on our experience with past works by the artists as well as our observations of the current work, we are confident that the installation is capable of supporting its self-weight as well as the weight of human occupants or accumulated snow. Bamboo has a very high strength-to-weight ratio. In addition, the "randomized" layout of structural elements provides numerous diverse load paths to carry the weight of the piece and its occupants to the ground. These properties result in a redundant framework that is not reliant upon any single bamboo element or lashing, but utilizes their sheer numbers to resist gravity and wind loads.

Therefore we can confidently state that the piece is stable and capable of safely resisting the loads described above.

Sincerely,

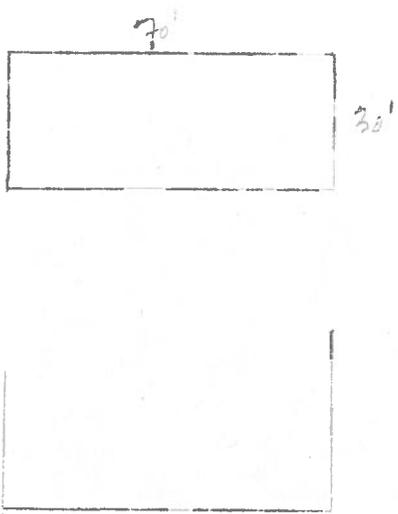


Scott Hughes, PE
Principal
Silman



PROJECT BAMBOO MT. KISCO JOB NO 10292 PAGE _____

SUBJECT HOLD-DOWNS BY SH DATE _____



DESIGN WIND PRESSURE

$$P_s = K_z K_{zt} I P_{s30}$$

$$= 1.05 (1.0) (0.87) (19.1)$$

WORST CASE (E)

17.4 PSF

$$K_h = K_z = 0.73 \quad (h = 35')$$

$$\bar{a} = 1/40 = 0.025$$

$$\bar{b} = 0.45$$

$$V = 100$$

$$V_z = 0$$

$$= 41.2$$

$$T_2 = C_t h_n^x$$

FOR BAMBOO STRUCTURE,
TAKE $C_t = 0.02$
 $x = 0.75$
 $h_n = 35'$

$$= .02 (35)^{.75}$$

$$= 0.288 \text{ sec}$$

$$= \lambda_a$$

$$= 3.47 \text{ CYCLES/SEC.}$$

ASSUMPTIONS

- TAKE SCULPTURE AS 30' x 70' x 35' TAN.
- WEIGHT = 21,000# (ASSUME EVEN DISTRIBUTED)
- TAKE FACTOR OF SAFETY = 1.5 FOR O.T.
- TAKE WIND ON SURFACE AS:
 - PER ASCE 7-05
 - "OPEN" STRUCTURE
 - V = 100 MPH
 - EXPOSURE 'B' (WOODED AREA)
 - h = 35'
 - CATEGORY I (LOW HAZARD)
 - (K₁, K₂ = 0)
 - S (LATTICE FRAMEWORK)
 - "FLEXIBLE" STRUCTURE

$$\eta = \frac{4.6 \pi h}{V_z} = \frac{4.6 (3.47) (35')}{41.2}$$

$$= 13.56$$

$$R_h = \frac{1}{\eta_h} = \frac{1}{2 \eta_h^2} (1 - e^{-2 \eta_h})$$

$$= .071$$



PROJECT BAM. 200 MT. HSCD JOB NO. 16292 PAGE 2

SUBJECT HOLD-DOWNS BY Sit DATE _____

$$\eta = \frac{4.67 \eta_{EB} + 0.347(70)}{41.2} = 27.12$$

$$R_{\eta} = \frac{1}{27.12} - \frac{1}{2(27.12)^2} (1 - e^{-2(27.12)}) = 0.036$$

$$\eta_{LL} = \frac{15.4 \eta_{LL}}{41.2} = \frac{15.4(3.47)(30)}{41.2} = 38.9$$

$$R_{\eta} = \frac{1}{38.9} - \frac{1}{2(38.9)^2} (1 - e^{-2(38.9)}) = 0.0254$$

$$L_2 = 1 \left(\frac{7}{33} \right)^{1/3} = 320 \left(\frac{35}{33} \right)^{1/3} = 326$$

$$R_{\eta} = \frac{2.47(27.5)}{(1 + 10.3(27.5))^{0.8}} = 0.0167$$

$$R = \frac{1}{0.2} (0.0167)(0.07)(0.036)(534) = 0.01$$

$$R = \sqrt{2 \ln(3600(3.47)) + \frac{.577}{\sqrt{2 \ln(3600(3.47))}}} = 4.34 + 1.20 = 5.55$$

$$CF = 0.925 \left(\frac{1 + 1.7(2.97) \sqrt{(3.4)^2(2.97)^2 + (5.55)^2}}{1 + 1.7(3.4)(2.97)} \right) = 0.920$$

$$I_z = 0.3 \left(\frac{33}{35} \right)^{1/6} = 0.297$$

$$Q = \sqrt{1 + 0.63 \left(\frac{70 + 35}{326} \right)^{0.63}} = 0.874$$

$C_{Dp_i} = 0$ FOR OPEN BLDGS.

$C_N = 1.2$ (OPEN BLDG, $\theta = 0$, CLEAR WIND FLOW)

$$C_N = 0.92(1.2) = 1.104$$

$$= 0.0256(73)(1.0)(.85)(100)^2(.87) = 13.82 \text{ PSF}$$



PROJECT BAMBOO WT W.S.O JOB NO 10292 PAGE 3
SUBJECT HOLD-DOWNS BY SH DATE _____

$$p = q_h \cdot C_{FCN}$$

$$= 13.82(1.104)$$

$$= \underline{\underline{15.3 \text{ PSF}}}$$

WIND ON BROAD FACE

$$H_{TOT} = 70' \times 35' \times 15.3 \text{ PSF}$$

$$= 37,485 \text{ \#}$$

$$= 37.5 \text{ k}$$

$$M.O.T. = 37.5 \left(\frac{35'}{2} \right)$$

$$= 656 \text{ k-ft} \quad \div 30$$

$$= 21.9 \text{ k}$$

UPLIFT

$$P_{UP} = 0.6D + W$$

$$= 0.6 \left(\frac{21}{2} \right) - 21.9$$

$$= -15.6 \text{ k TOTAL}$$

\div BY 8 ANCHORS

$$T = 1.95 \text{ k PER ANCHOR}$$

ASSUME 2.5' x 2.5' vi "FTB" / DETAILMAN

$$W = 2.5 \times 2.5 \times 1 \times .15$$

$$= 0.94 \text{ k}$$

$$\text{SOIL} = 1.95 - 0.94$$

$$= 1.01 \text{ k} \div 0.12 \text{ kCF}$$

$$= 8.42 \text{ FT}^3 \text{ OF SOIL}$$

$$\div (2.5')^2$$

$$= 1.35'$$

SKA 212

DRILL & ~~PORT~~ ^{GROUT} $\frac{1}{2}$ " ϕ S.S. THREADED RODS INTO SOUND ROCK — OR —
INSTALL $\frac{1}{2}$ " ϕ S.S. THREADED RODS INTO 2.5' x 2.5' x 1" TH. "FTB." & MIN 18" COVER

Scott Hughes

From: Scott Hughes
Sent: Tuesday, January 06, 2015 12:33 PM
To: 'mike@starnstudio.com'
Cc: doug@starnstudio.com Starn
Subject: RE: checking in
Attachments: pds-cpd-SikaGrout212-us.pdf

Mike/Doug – Many apologies. The holidays were a bit frenzied, not only with the typical holiday rush (and coverage for people away on vacation), but NYC is switching Building Codes in 2015, and in order to file under the old Code, drawings needed to be submitted before the end of the year. Anyway, I'm sorry, this slipped through the cracks.

As expected, the uplift is fairly minimal. My recommendation is to use traditional, 1/2" diameter stainless steel threaded rods (or stainless steel eye bolts that are threaded at the end) and drill and grout them into the rock. A few parameters/caveats:

1. The embedment should be a minimum of 6" into solid rock. The surface rock may be "weathered", or decomposed due to exposure to the elements. We would need to get past that layer into fairly stable, solid rock. That layer could be anywhere from 1" to 4" thick (possibly thicker, but I doubt it).
2. The grout should be a cementitious, non-shrink grout. Sika makes such a grout (SikaGrout 212, attached), and I think it's readily available (perhaps even at a Home Depot or Lowe's). It's important to adequately clean out the holes (usually with pressurized air) and allow the grout to cure per manufacturer's instructions.
3. We would need a total of 8 such anchors, distributed roughly equally throughout the piece, but towards the outside of the footprint. In other words, roughly four anchors along the "north" side of the piece and another four along the "south" side. ("North" and "south" sides refer to the long sides of the piece.)
4. The tie-downs could be rope that you're already using, but it should be the heavier thickness. The critical thing here will be the knot used to tie the piece to the anchor bolts. It needs to be able to develop the capacity of the rope.

Let me know if that all makes sense, or if you have any questions. And let me know if you need me to be at the planning board meeting.

Talk soon.

Scott

SikaGrout® 212

High performance, cementitious grout

Construction

Description	SikaGrout® 212 is a non-shrink, cementitious grout with a unique 2-stage shrinkage compensating mechanism. It is non-metallic and contains no chloride. With a special blend of shrinkage-reducing and plasticizing/water-reducing agents, SikaGrout® 212 compensates for shrinkage in both the plastic and hardened states. A structural grout, SikaGrout® 212 provides the advantage of multiple fluidity with a single component. SikaGrout® 212 meets ASTM C-1107 (Grade C).
Where to Use	<ul style="list-style-type: none"> ■ Use for structural grouting of column base plates, machine base plates, anchor rods, bearing plates, etc. ■ Use on grade, above and below grade, indoors and out. ■ Multiple fluidity allows ease of placement: ram in place as a dry pack, trowel-apply as a medium flow, pour or pump as high flow.
Advantages	<ul style="list-style-type: none"> ■ Easy to use, just add water. ■ Multiple fluidity with one material. ■ Non-metallic, will not stain or rust. ■ Low heat build-up. ■ Excellent for pumping: Does not segregate, even at high flow. No build-up on equipment hopper ■ Superior freeze/thaw resistance. ■ Resistant to oil and water. ■ Meets ASTM C-1107 (Grade C). ■ Shows positive expansion when tested in accordance with ASTM C-827. ■ SikaGrout® 212 is USDA-approved.
Coverage	Approximately 0.44 cu. ft./bag at high flow.
Packaging	50-lb. multi-wall bags; 36 bags/pallet

Typical Data (Material and curing conditions @ 73°F (23°C) and 50% R.H.)

RESULTS MAY DIFFER BASED UPON STATISTICAL VARIATIONS DEPENDING UPON MIXING METHODS AND EQUIPMENT, TEMPERATURE, APPLICATION METHODS, TEST METHODS, ACTUAL SITE CONDITIONS AND CURING CONDITIONS.

Shelf Life	One year in original, unopened bags.		
Storage Conditions	Store dry at 40°-95°F (4°-35°C). Condition material to 65°-75°F before using.		
Color	Concrete gray		
Flow Conditions (ASTM C-109, Plastic & Flowable; ASTM C-939, Fluid)	Plastic¹	Flowable¹	Fluid²
Typical Water Requirements:	6 pt. +	6.5 pt.	8.5 pt.
Set Time (ASTM C-266): Initial	3.5-4.5 hr.	4.0-5.0 hr.	4.5-6.5 hr.
Final	4.5-5.5 hr.	5.5-6.5 hr.	6.0-8.0 hr.
Tensile Splitting Strength, psi (ASTM C-496)			
28 day	600 (4.1 MPa)	575 (3.9 MPa)	500 (3.4 MPa)
Flexural Strength, psi (ASTM C-293)			
28 day	1,400 (9.6 MPa)	1,200 (8.2 MPa)	1,000 (6.8 MPa)
Bond Strength, psi (ASTM C-882 modified): Hardened concrete to plastic grout			
28 day	2,000 (13.7 MPa)	1,900 (13.1 MPa)	1,900 (13.1 MPa)
Expansion % (CRD C-621)	28 day	+0.021%	+0.056%
Compressive Strength, psi (CRD C-621)			
1 day	4,500 (31 MPa)	3,500 (24.1 MPa)	2,700 (18.6 MPa)
7 day	6,100 (42 MPa)	5,700 (39.3 MPa)	5,500 (37.9 MPa)
28 day	7,500 (51.7 MPa)	6,200 (42.7 MPa)	5,800 (40 MPa)

¹CRD C-227: 100-124% (plastic), 124-145% (flowable)

²CRD C-611: 10-30 sec efflux time.



PRIOR TO EACH USE OF ANY SIKA PRODUCT, THE USER MUST ALWAYS READ AND FOLLOW THE WARNINGS AND INSTRUCTIONS ON THE PRODUCT'S MOST CURRENT PRODUCT DATA SHEET, PRODUCT LABEL AND SAFETY DATA SHEET WHICH ARE AVAILABLE ONLINE AT [HTTP://USA.SIKA.COM/](http://USA.SIKA.COM/) OR BY CALLING SIKA'S TECHNICAL SERVICE DEPARTMENT AT 800.933.7452 NOTHING CONTAINED IN ANY SIKA MATERIALS RELIEVES THE USER OF THE OBLIGATION TO READ AND FOLLOW THE WARNINGS AND INSTRUCTIONS FOR EACH SIKA PRODUCT AS SET FORTH IN THE CURRENT PRODUCT DATA SHEET, PRODUCT LABEL AND SAFETY DATA SHEET PRIOR TO PRODUCT USE.

How to Use

Surface Preparation

Remove all dirt, oil, grease, and other bond-inhibiting materials by mechanical means. Anchor bolts to be grouted must be de-greased with suitable solvent. Concrete must be sound and roughened to a CSP 4 or higher to promote mechanical adhesion. Prior to pouring, surface should be brought to a saturated surface-dry condition. Steel should be cleaned and prepared thoroughly by blastcleaning to a white metal finish. Follow standard industry and Sika guidelines for use as an anchoring epoxy.

For pourable grout, construct forms to retain grout without leakage. Forms should be lined or coated with bond-breaker for easy removal. Forms should be sufficiently high to accommodate head of grout. Where grout-tight form is difficult to achieve, use SikaGrout® 212 in dry pack consistency.

Mixing

Mix manually or mechanically. Mechanically mix with low-speed drill (400-600 rpm) and Sika mixing paddle or in appropriately sized mortar mixer.

Make sure all forming, mixing, placing, and clean-up materials are on hand. Add appropriate quantity of clean water to achieve desired flow. Add bag of powder to mixing vessel. Mix to a uniform consistency, minimum of 2 minutes. Ambient and material temperature should be as close as possible to 70°F. If higher, use cold water; if colder, use warm water.

Product Extension: For deeper applications, SikaGrout® 212 (plastic and flowable consistencies only) may be extended with 25 lbs. of 3/8" pea gravel. The aggregate must be nonreactive, clean, well-graded, saturated surface dry, have low absorption and high density, and comply with ASTM C33 size number 8 per Table 2. Add the pea gravel after the water and SikaGrout® 212.

Application

Within 15 minutes after mixing, place grout into forms in normal manner to avoid air entrapment. Vibrate, pump, or ram grout as necessary to achieve flow or compaction. SikaGrout® 212 must be confined in either the horizontal or vertical direction leaving minimum exposed surface. SikaGrout® 212 is an excellent grout for pumping, even at high flow. For pump recommendations, contact Technical Service. Wet cure for a minimum of 3 days or apply a curing compound which complies with ASTM C-309 on exposed surfaces.

Tooling & Finishing

After grout has achieved final set, remove forms, trim or shape exposed grout shoulders to designed profile

Limitations

- Minimum ambient and substrate temperature 45°F and rising at time of application.
- Minimum application thickness: 1/2 in.
- Maximum application thickness (neat): 2 in. However, thicker applications can be achieved. Contact Sika's Technical Services Department (800-933-7452) for further information.
- Do not use as a patching or overlay mortar or in unconfined areas.
- Material must be placed within 15 minutes of mixing.
- As with all cement based materials, avoid contact with aluminum to prevent adverse chemical reaction and possible product failure. Insulate potential areas of contact by coating aluminum bars, rails, posts etc. with an appropriate epoxy such as Sikadur® Hi-Mod 32.

PRIOR TO EACH USE OF ANY SIKA PRODUCT, THE USER MUST ALWAYS READ AND FOLLOW THE WARNINGS AND INSTRUCTIONS ON THE PRODUCT'S MOST CURRENT PRODUCT DATA SHEET, PRODUCT LABEL AND SAFETY DATA SHEET WHICH ARE AVAILABLE ONLINE AT [HTTP://USA.SIKA.COM/](http://usa.sika.com/) OR BY CALLING SIKA'S TECHNICAL SERVICE DEPARTMENT AT 800.933.7452 NOTHING CONTAINED IN ANY SIKA MATERIALS RELIEVES THE USER OF THE OBLIGATION TO READ AND FOLLOW THE WARNINGS AND INSTRUCTIONS FOR EACH SIKA PRODUCT AS SET FORTH IN THE CURRENT PRODUCT DATA SHEET, PRODUCT LABEL AND SAFETY DATA SHEET PRIOR TO PRODUCT USE.

KEEP CONTAINER TIGHTLY CLOSED. KEEP OUT OF REACH OF CHILDREN. NOT FOR INTERNAL CONSUMPTION. FOR INDUSTRIAL USE ONLY. FOR PROFESSIONAL USE ONLY.

For further information and advice regarding transportation, handling, storage and disposal of chemical products, users should refer to the actual Safety Data Sheets containing physical, ecological, toxicological and other safety related data. Read the current actual Safety Data Sheet before using the product. In case of emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product's most current Product Data Sheet, product label and Safety Data Sheet which are available online at <http://usa.sika.com/> or by calling Sika's Technical Service Department at 800-933-7452. Nothing contained in any Sika materials relieves the user of the obligation to read and follow the warnings and instruction for each Sika product as set forth in the current Product Data Sheet, product label and Safety Data Sheet prior to product use.

SIKA warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Product Data Sheet if used as directed within shelf life. User determines suitability of product for intended use and assumes all risks. Buyer's sole remedy shall be limited to the purchase price or replacement of product exclusive of labor or cost of labor. NO OTHER WARRANTIES EXPRESS OR IMPLIED SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. SIKA SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS. SALE OF SIKA PRODUCTS ARE SUBJECT SIKA'S TERMS AND CONDITIONS OF SALE AVAILABLE AT [HTTP://USA.SIKA.COM/](http://usa.sika.com/) OR BY CALLING 201-933-8800.

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Doug + Mike Starn
studio

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Beacon, NY 12508
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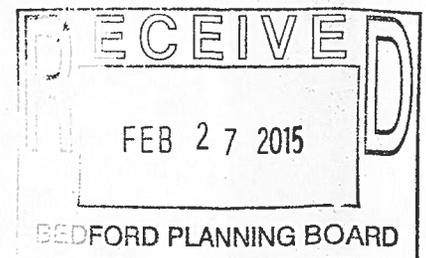
845.765.1071 phone
www.DMStarn.com

Big Bambú is a series of art installations by American Artists Doug and Mike Starn. ***Big Bambú*** has been exhibited around the world and is currently on view at the Israel Museum Jerusalem; The Naoshima Museum in Japan; and the Macro Museum in Rome. ***Big Bambú*** was first shown to the public in 2010 at the Metropolitan Museum of Art in NY where it was an unprecedented success and was the 9th most attended exhibit in the Metropolitan's history with 631,000 visitors.

Steinhardt Commission:

"The installation for Judy and Michael Steinhardt is the first private commission of ***Big Bambú***, it is at a more modest and intimate scale than the public museum installations and is intended for their family and friends' enjoyment. It is a place of quiet contemplation and is in tune with the beautiful grounds of their property. The piece is sighted at the highest point on the property and is meant as an overlook on the property and metaphorically of Michael's life achievements. Alongside the installation is an unusual rock outcropping and we have taken our inspiration from it, it is reminiscent of Japanese rock gardens and Chinese *penjing* suggesting miniature landscapes seen from a distant perspective. The artwork has already reached its fullest height at ~~30~~⁵⁰' at the pinnacle. All that remains to complete the artwork is the detailing and filling out of the elements." Doug and Mike Starn

This is a large sculpture- not a building. Big Bambú is very safe and structurally sound alternative to rectilinear building techniques- it cannot be engineered with normal standards, but is proven safe before it is used. World renown architects and firms Renzo Piano; Tadao Ando; SANAA; Diller Scofidio and Renfro; Herzog & de Meuron; and SOM have all embraced this philosophical architecture. We have worked with engineers from Renzo Piano's firm on our two projects in Italy and work with Robert Silman Associates here in the US. The load tests are a recognized proof of stability (described below), and is the only way the stability of a bamboo project can be ascertained, whether it is built by us, or the famous Colombian bamboo architect Simon Velez. <http://archleague.org/2011/02/simon-velez/>



GENERAL INFORMATION:

- The structures are always tested by engineers and signed off as structurally sound.
- Load tests can be done every few years to confirm its stability (described below)

Load test description:

a survey team takes measurements from a few target locations under the platforms to the ground, then load the project with the weight of the assigned capacity of people at x 1.5 the weight.

The most efficient way to load the weight is with water bladders, the filled water bladders are kept in the artwork for some hours (decision of amount of hours by the local engineer usually 10 to 24 hours) and then again measure the same target locations to see how much it has dipped (as bamboo is flexible). It will be very little, usually less than 10 cm- sometimes only 1 cm and it is now proven that the art is safe for the capacity assigned. For example, if we want the maximum capacity of a particular platform to be 12 people at a time, and we say each person weighs 80kg, we would load $12 \times 80\text{kg} = 1600\text{kg} \times 1.5 = 2,400\text{kg}$, or 2,400 liters of water into the bladders onto that platform.

- Some people have concern that a project will blow over in the wind-
- the sculpture is not flimsy nor is it tied with bun-jee cords- it is made of what is known as 'timber bamboo' (a few specific bamboo varieties that are very strong- they actually have greater tensile strength than steel for its weight).
- We use rock climbing cord- incredibly strong and is tied by very trained and experienced rock climbers that know how to tie a knot to save their lives.
- the sculpture is not lightweight - the 1,600 poles we are using weigh in at about 20,000 pounds total.
- In 2010, there was a huge storm while our project was at the Metropolitan Museum Of Art , hurricane force winds knocked over more than 1,000 trees in NYC, but Big Bambu, high on the roof of the Met above Central Park with nothing breaking the wind, was unscathed and merely skittered about 10 inches. The project is tied down to the ground for extra precaution- the placement of these tie downs is determined with an engineer . Here are two links about that storm:
http://www.nytimes.com/2010/03/16/nyregion/16storm.html?_r=0
<http://www.nytimes.com/2010/03/15/nyregion/15storm.html?pagewanted=all>
- when super storm Sandy hit Long Island in 2012, we had a Big Bambu project on the movie set of the Russell Crowe Noah film that was released last spring in movie theaters, BB is very much part of the movie. Big Bambu was the scaffolding around the ark- it was only tied to the ark in few places- only with 5mm cord- not the

10mm cord we have used for the piece here. Big Bambu survived super storm Sandy without problem, no issues whatsoever. With wind gusts of 96 mph at the height of 70' in an open field in Long Island and sustained winds around 75 mph.

Doug and Mike Starn, American artists, identical twins, born 1961. First having received international attention at the 1987 Whitney Biennial, for more than 20 years the Starns were primarily known for working conceptually with photography, and are concerned largely with interconnection and interdependence. Over the past two and half decades, they have continued to defy categorization, effectively combining traditionally separate disciplines such as photography, sculpture, architecture. Currently they are working on a 18' tall x 45' long glass and steel sculpture commission for the Princeton University Museum, and a 100' long glass facade for the US Embassy in Moscow.

Their art has been the object of numerous solo and group exhibitions in museums and galleries worldwide. The Starns have received many honors including two National Endowment for the Arts Grants, and artists in residency at NASA. They have received critical acclaim in The New York Times, Corriere della Sera, Le Figaro, The Times (London), amongst many other notable media. Major artworks by the Starns are represented in public and private collections including: The Museum of Modern Art (NYC); San Francisco Museum of Modern Art; Moderna Museet (Stockholm); The National Gallery of Victoria (Melbourne); Yokohama Museum of Art; La Bibliothèque Nationale (Paris); Los Angeles County Museum of Art, amongst many others.





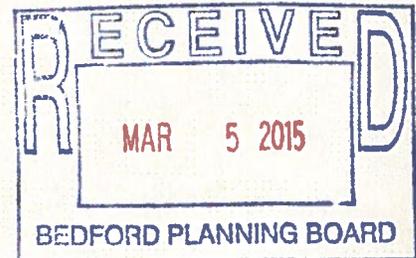
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March 4, 2015

Deirdre Courtney-Batson, Chair
Town of Bedford Planning Board
425 Cherry Street
Bedford Hills, New York 10507



Re: Special Use Permit Application
Applicants/Owners: Michael & Judy Steinhardt
Premises: 443 Haines Road
Section 59.11, Block 1, Lot 11

Dear Ms. Courtney-Batson and
Members of the Bedford Planning Board:

I am legal counsel to Michael and Judy Steinhardt who have made application to your Board for a Special Use Permit for the "Big Bambú" sculpture being installed on their 5.557 acre parcel at 443 Haines Road. The Building Department referred us to your Board for a Special Use Permit pursuant to Article III, Section 125-27D(3) as this bamboo sculpture is greater than 20 feet in height.

We have submitted the following documents in support of our application:

1. Survey of the Property;
2. Planting Plan;
3. A description written by Doug & Mike Starn (the artists) of their other "Big Bambú" installations across the globe. We note that the Steinhardts will have the only privately commissioned "Big Bambú" installation by the Starn brothers.
4. Report by Silman, Structural Engineers, based in New York, which certifies the installation's structural integrity, its ability to support the loads imposed including its self-weight, the weight of the Steinhardts and their guests who may enter the structure, as well as wind loads.

Michael Fuller Sirignano

Attorney and Counselor at Law

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In addition to the above documents, I enclose six (6) color photographs of the Bamboo sculpture taken from various angles and distances. You will note that photograph number 6 shows both the sculpture and the nearest home owned by the Steinhardts' neighbors Greg Palitz and Susan Kane, 431 Haines Road, Mount Kisco, New York 10549. The Steinhardts have offered to pay for additional plantings on their neighbors' side of the common boundary line.

As outdoor sculpture and/or art installations are not distinct Special Permit Uses under Article VIII of the Zoning Code or listed as Special Permit Uses on 125 Attachment 4:1, this application is governed by the General Standards set forth in Article III, Section 125-60. I shall address each General Standard *ad seriatim*:

§ 125-60. General standards.

- A. The proposed use will serve a community need or convenience and will not adversely affect the public health, safety and general welfare.

Although this privately commissioned bamboo sculpture is intended to be enjoyed only by the Steinhardts and their guests, it will not adversely affect the public health, safety and general welfare. This sculpture has no plumbing, heating or electrical components.

- B. The location and size of the use, the nature and intensity of the operations involved in or conducted in connection with it, the size of the site in relating to it and the location of the site with respect to streets giving access to it are such that it will be in harmony with the appropriate and orderly development of the area in which it is located.

This 70' x 30' art installation when completed will occupy only 2,100± s.f. on a 5.557 acre parcel. It was purposefully sited in a wooded area surrounded by mature trees. It cannot be readily seen from Haines Road. In addition to the natural screening, the Steinhardts have planted screening and will supplement existing screening as shown on our Planting Plan. The sculpture is made entirely of bamboo which is in harmony with its wooded site.

- C. Operations in connection with any special permit use will not be more objectionable to nearby properties by reason of noise, fumes, vibration, light or other characteristics than might be the operations of any permitted use not requiring a special use permit.

As stated above, only the Steinhardts and their guests will enter inside and walk up the interior ramp of the sculpture. There will be no resulting

Michael Fuller Sirignano
Attorney and Counselor at Law

-3-

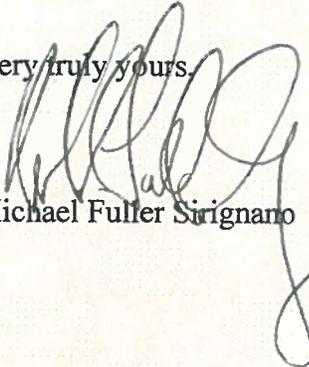
noise, fumes, vibration or lighting. It is far less objectionable than other permitted uses which would not require a special use permit.

- D. Parking areas will be of adequate size for the particular use, properly located and suitably screened from adjoining residential uses, and the entrance and exit drives shall be laid out so as to achieve adequate safety.

Existing parking is adequate for the occasional use and enjoyment of this art installation by the Steinhardts and their guests. No changes to the driveway or parking area are being proposed.

In conclusion, we believe this bamboo sculpture satisfies all of the relevant General Standards and we respectfully ask your Board to grant the Special Use Permit so that this installation can be completed and enjoyed by the Steinhardts during the 10± year expected life of this unique and original piece of art.

Very truly yours,


Michael Fuller Sirignano

MFS/cp
Enclosure

1.



2.





4.



5.



6.



DRAFT SCOPING OUTLINE
WILDER BALTER RESIDENTIAL DEVELOPMENT
TOWN OF BEDFORD, NEW YORK
FEBRUARY 27, 2015

DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)
PRELIMINARY LISTING OF SCOPE OF ISSUES TO BE ADDRESSED

Location of Action: The subject property is located in the southeastern portion of the Town of Bedford, approximately 1.3 miles northeast of Interstate 684 and roughly four tenths of one mile north of the Town of North Castle municipal boundary. The site is located south of, and possesses frontage along, NYS Route 22 to the north. Greenwich Road is generally situated to the east of the site and a small portion of Greenwich Road abuts the site to the east.

The subject site is situated entirely within the Bedford Central School District and is under the jurisdiction of the Bedford Village Volunteer Fire Department and the Town of Bedford Police Department. The site lies within the R-1A and R-2A zoning districts and is designated on the Town of Bedford tax maps as Section 84.18 Block 1 Lot 14.

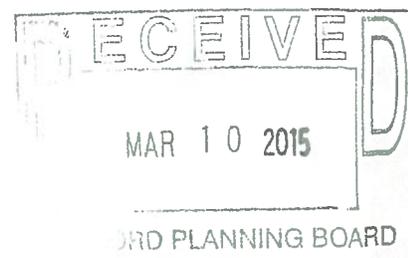
The proposed Wilder Balter Residential Development is a conservation development of 118.1 acres of land in the Town of Bedford. 79 homes are proposed of which 9 will be affordable and in compliance with the Fair and Affordable Housing requirements of the Westchester County settlement with the US Department of Housing and Community Renewal. The remaining 70 homes will be age targeted to empty nesters through the inclusion of first floor master suites and optional elevators and these homes will include single-family houses and attached housing in two unit buildings. Approximately 60% of the site will be preserved as open space. There will also be a 4 acre neighborhood farm.

Classification of Action: Type I

Lead Agency: Town of Bedford Planning Board
Town House
425 Cherry Street
Bedford, New York 10507

Involved Agencies: See Attached List

Scoping Meeting Held On: March 24, 2015



GENERAL DEIS GUIDELINES:

- i. The DEIS shall address all items in this Scoping Outline. Each impact issue (e.g., wetlands, groundwater, etc.) shall be presented in a separate subsection and include a discussion of existing conditions, projected impacts associated with the proposed action and mitigation measures designed to minimize the identified impacts.
- ii. Narrative discussions shall be accompanied by appropriate tables, charts, graphs and figures whenever possible. If a particular subject can be most effectively described in graphic format, the narrative discussion shall merely summarize and highlight the information presented graphically.
- iii. All discussions of mitigation measures shall consider at least those measures identified in this Scoping Outline. Where reasonable and necessary, such mitigation measures shall be incorporated into the proposed action, if not already included.
- iv. The DEIS shall be written in the third person, i.e., the terms “we” and “our” shall not be used. The project sponsor's conclusions, opinions, and assumptions shall be identified as those of “the project sponsor” or those of the “applicant”.
- v. Information shall be presented in a manner which can be readily understood by the public. Efforts shall be made to avoid the use of technical jargon. Where practical, impacts and mitigation measures shall be described in terms which the lay-person can readily understand.
- vi. The DEIS may incorporate pertinent SEQRA documentation in connection with the Rippowam Cisqua School Proposed High School Campus – the former subject application for the property.
- vii. The entire DEIS shall be prepared and reviewed carefully to ensure consistency with respect to the information presented in various other DEIS sections and appendices.

I. FRONT MATERIAL

- A. Cover Sheet: The DEIS shall begin with a cover sheet that identifies the following:
 1. That it is a Draft Environmental Impact Statement.
 2. Date submitted.
 3. The name and location of the project.

4. The Town of Bedford Planning Board as the Lead Agency for the project and the name and telephone number of the following person to be contacted for further information: Mr. Jeffrey Osterman, Town of Bedford Director of Planning (914) 666-4434.
 5. The name and address of the project sponsor and the name and telephone number of a contact person representing the project sponsor.
 6. The name and address of the primary preparer of the DEIS and the name and telephone number of a contact person representing the preparer.
 7. A space marked for the date of acceptance of the DEIS (to be inserted later).
 8. A space marked for the deadline by which comments on the DEIS are due (to be inserted later).
- B. Table of Contents: All headings which appear in the text shall be presented in the Table of Contents along with the appropriate page numbers. In addition, the Table of Contents shall include a list of exhibits, tables, appendices, and a list of additional DEIS volumes, if any.
- C. List of Consultants Involved with the Project: The names, addresses, telephone numbers and project responsibilities of all consultants involved with the project shall be listed.
- D. Appendices: The appendices shall contain all related SEQR documents including separate, stand-alone technical reports.

II. SUMMARY

- A. The DEIS shall include a summary of the proposed action and alternatives. The summary shall include information found elsewhere in the main body of the DEIS and shall be organized as follows:
1. Brief description of the proposed action and an explanation of the purpose and public need/benefits of the project. The description shall include, in summary form, the following information:
 - a) Precise location, size, zoning and tax map designation of the site.
 - b) Description of the existing site character, including any natural features, past site disturbances (i.e., excavated quarry pits) and the

character of the surrounding area, including the site's relationship to the Mianus River and its importance as a source of drinking water.

- c) A summary history of the site, including any past-established development restrictions.
 - d) Description of the existing and proposed total acreage of impervious surface area (roofs, roads, driveways, walkways, etc.), projected amount of land to be disturbed, open space considerations and any areas proposed for conservation easements and other development restrictions.
 - e) Description of the site's location relative to surrounding land uses, transportation corridors and natural features.
 - f) Description of the expected year of project completion, construction phasing plan and anticipated construction schedule.
2. Identify the Involved Agencies, interested parties, and required approvals/permits. The list of Involved Agencies and interested parties shall include addresses for each agency identified.
 3. Requested changes or variances to the zoning regulations, if any, shall be identified.
 4. A simple and concise listing of the anticipated short and long term impacts (significant, beneficial and adverse) and proposed mitigation measures for each impact issue identified in the DEIS.
 5. Brief description of the project alternatives considered in the DEIS. A table shall be included which assesses and quantitatively compares each alternative to the various impact issues associated with the proposed action.
- B. Site Features Plan: The DEIS shall include a site features plan drawn to a scale of not less than 1" = 100'. The site features plan shall illustrate the following:
1. Ownership and features within 150 feet of the property line.
 2. Existing topography at 2' contour intervals.

3. Slopes 0 - 14%, 15 - 24% and greater than 25% with a distinction between man-made and natural slopes.
4. Existing on-site wetlands, including, but not limited to Town, State and Federally regulated wetlands, 100' wetland buffers/adjacent areas and water features.
5. Approximate location of off-site wetlands and wetland buffers/adjacent areas within 100' of the project's perimeter. Correct 100' buffers shall be shown from all on-site wetlands.
6. 100-year floodplain boundary.
7. On-site soil classifications.
8. The extent of Westchester County and Town of Bedford Critical Environmental Areas and the Town Aquifer Protection Zone.

III. IMPACT ISSUES - THE NATURAL ENVIRONMENT

A. Topography

1. Existing Conditions

- a) Description of the site's topography including a discussion of any prominent or unique physiological features.
- b) A topographic map shall be included in the DEIS. Said map shall indicate all slopes 0- 14%, 15 - 24% and greater than 25%.
- c) Acreage quantification of the following slope categories:
 - 0 - 14%
 - 15 - 24%
 - 25% and greater
- d) A distinction shall be outlined between naturally occurring slopes and man-made slopes.

2. Potential Impacts

- a) Quantitative analysis of the projected disturbance to each slope category identified above with a distinction between disturbance to naturally-occurring slopes and man-made slopes.
- b) Discussion of the necessity for steep slopes permits based upon the definitions as set forth in Chapter 102-2 of the Code of the Town of Bedford.
- c) Discussion of slope impacts associated with construction activity that continues for more than one (1) year or in multiples phases.
- d) Discussion of the relative cut/fill balance on the site.
- e) Discussion of the maximum area to be disturbed at any one time.
- f) Proposed grading plan for all proposed improvements at a maximum contour interval of two (2) feet.

3. Mitigation Measures

- a) The preparation of a Sediment and Erosion Control narrative, Plans and Details in conformance with the New York State Standards and Specifications for Erosion & Sediment Control.
- b) Compliance with steep slopes legislation (Chapter 102-2 of Town Code) and measures taken to avoid/minimize steep slope intrusions.

B. Soils and Geology

1. Existing Conditions

- a) A discussion of the site's subsurface geology including depth to and nature of bedrock formations and impermeable layers.
- b) Identification of soil classifications and preparation of soil map in accordance with Soil Survey of Putnam and Westchester Counties, New York, latest edition.

- c) Soil types evaluated in terms of:
 - 1) Distribution of soil types at subject site.
 - 2) Erosion potential.
 - 3) Permeability.
 - 4) Runoff potential.
 - 5) Construction limitations, including suitability to support septic systems.
 - 6) Depth to bedrock.

2. Potential Impacts

- a) A discussion of soil impacts at projected site disturbance locations (i.e., sewage treatment plant, discharge point(s), dwelling sites, roads/driveways, etc.) based upon soil type construction limitations and soil ratings outlined in Soil Survey of Putnam and Westchester Counties, New York, latest edition.
- b) A discussion of any potential adverse impacts to underlying bedrock and adjacent properties without implementing the Town of Bedford Blasting Protocol.
- c) Analysis of material, if any, to be imported to or exported from the site. This analysis shall include an earthwork cut/fill calculation associated with the site construction. Discuss whether a balanced site has been achieved and quantify truck trips required to remove or import material, as applicable.

3. Mitigation Measures

- a) The preparation of a Sediment and Erosion Control narrative, Plans and Details in accordance with the New York State Standards and Specifications for Erosion and Sediment Control.
- b) A construction phasing plan for clearing, earthwork and stabilization.

- c) Conformance with the Planning Board's Blasting Protocol and discuss mitigation measures to minimize impacts on neighboring properties.
- d) Mitigation of potential impacts from construction vehicles utilizing New York State Route 22 and Crusher Road.

C. Wetlands

1. Existing Conditions

- a) Mapping of existing on-site wetlands, including, but not limited to Town, State and Federally-regulated wetlands, adjacent areas and buffers.
- b) An assessment of the wetland geographical area.
- c) An assessment of the wetlands type.
- d) An assessment of the existing wetland functions as identified in Chapter 122 of the Code of the Town of Bedford. Wetlands shall be assessed and updated, as appropriate, from the previous functional analysis, using the Hollands-Magee Model (HM) in a pre-development scenario.
- e) Describe the existing conditions and physical characteristics of the wetland buffers/adjacent areas.

2. Potential Impacts

- a) An assessment of the potential impacts to existing wetland functions, as identified in Chapter 122 of the Code of the Town of Bedford. Potential impacts to wetland functions shall be assessed using the HM Model during both pre-development and post-development scenarios of the proposed action. Potential for siltation and turbidity in the wetlands/ponds shall be discussed.
- b) Discuss the potential impacts of fertilizers, pesticides, herbicides, fungicides and any other chemical applications which may be used for maintenance of the grounds/ponds.

3. Mitigation Measures

- a) Identification of stormwater runoff quality and quantity control measures.
- b) Identification of compensation measures for the loss of existing wetland buffer/adjacent areas, if applicable. Such measures may include mitigation planting plans, wetland and/or buffer enhancement areas, removal/management of invasive plant species, establishment of limited/no-mow zones, establishment of disturbance restriction areas, conservation easements, etc.
- c) The preparation of a Sediment and Erosion Control narrative, Plans and Details in conformance with the New York State Standards and Specifications for Erosion & Sediment Control.

D. Surface and Groundwater

1. Existing Conditions

- a) A description of the existing drainage patterns, floodplains and wetland areas.
- b) Discharge points of existing drainage systems directing flow onto or off of the property.
- c) For the existing conditions, the on-site volume of stormwater runoff and peak discharge rates for the 2, 10, 25, 50 and 100 year storms shall be provided utilizing the Soil Conservation Service Technical Release Number 55. Calculation parameters such as soil types, ground cover, and time of concentration shall be verifiable in the report's calculations.
- d) The plans shall correctly indicate the Mianus River floodplain.

2. Potential Impacts

- a) An assessment of stormwater runoff quantity and quality impacts shall be provided for the developed condition. The on-site volume of stormwater runoff and peak discharge rates for the 2, 10, 25, 50 and 100 year storms shall be provided for the developed condition utilizing the Soil Conservation Service Technical Release Number 55. Calculation parameters such as soil types, ground cover, and

time of concentration shall be verifiable in the report's calculations.

- b) A determination that sufficient available groundwater recharge exists to accommodate the calculated daily demand of the proposed action (including irrigation needs), along with the estimated existing water usage within the subwatershed. This analysis shall confirm that the projected water usage will not result in significant water level drawdown of any adjacent off-site wells, and will not impact on-site or nearby wetlands. The methodology for this analysis shall be approved by the Town's hydrogeologic consultant.
- c) The proximity of neighboring wells to proposed sewage treatment plant, sewage treatment plant discharge point(s) and stormwater practices shall be determined.
- d) Discuss the potential impacts of fertilizers, pesticides, herbicides, fungicides and any other chemical applications which may be used for maintenance of the grounds/ponds.
- e) Confirmation that existing drainage patterns will not be modified as a result of the development.

3. Mitigation Measures

- a) The preparation of a Sediment and Erosion Control narrative, Plans and Details in accordance with the New York State Standards and Specifications for Erosion and Sediment Control.
- b) Preparation of a Stormwater Pollution Prevention Plan (SWPPP) complying with the requirements of the Town of Bedford and NYSDEC.
- c) Groundwater monitoring/restitution program, if required.
- d) Describe an emergency plan for maintenance of the stormwater control plan during a major flood.
- e) Describe measures taken during design to (a) avoid, or (b) minimize wetland and wetland setback/adjacent area intrusions.

E. Vegetation

1. Existing Conditions

- a) Floral inventory shall be determined by field verification and expansion, where necessary, of previous inventory established as part of the former Rippowam Cisqua High School SEQRA record.
- b) Generic determinations and quantification of woodland and vegetation age, condition and successional stage shall be provided to characterize the ecology of the vegetation communities, characterized by community type (ref. New York Natural Heritage Program, March, 2014).
- c) Landmark trees as previously defined on a list of trees enunciated and established by the Bedford Town Board shall be identified. Any tree 12" and over d.b.h. located outside of the previously disturbed/mined site areas and within the proposed disturbance areas shall be identified and located on the "Vegetative Community Map".

2. Potential Impacts

- a) The impact of the proposed action on the site's vegetative communities versus existing conditions shall be graphically shown. The significance of the loss, if any, to native vegetative communities, trees defined as "landmark trees" and trees 12" or greater d.b.h. located outside of the previously disturbed/mined site areas and within the proposed disturbance areas shall be presented in quantitative terms, with a development overlay on the "Vegetative Community Map".
- b) The ecological effects of vegetative losses outlined in b. above, shall be discussed qualitatively.

3. Mitigation Measures

- a) The preparation of a Landscape and/or Screening Plan in appropriate areas of proposed site disturbance.

Integrated into the Landscape and/or Screening Plan may include areas of "Ecoscaping" which would define the portions of the site

to be re-vegetated with native species, aimed at replacing or compensating for significant vegetation losses, if required.

- b) Mitigation for the impact to “landmark trees” and trees 12" or greater d.b.h. located outside of the previously disturbed/mined site areas and within the proposed disturbance areas shall be provided.

F. Wildlife

1. Existing Conditions

- a) Faunal inventory, including amphibious and invertebrates, shall be determined by field verification and expansion, where necessary, of the Ecological Assessment prepared as part of the former Rippowam Cisqua High School SEQRA record. The existing data shall be supplemented, as necessary, by field observations and requests for updates from NYSDEC Natural Heritage Program (which will also address Endangered, Threatened or species of Special Concern).
- b) Generic determinations of relative population density and distribution shall be provided to characterize the wildlife ecology of each of the vegetative communities identified above in Section F.
- c) Areas of wildlife transit through the site linking green space on adjacent lands shall be identified and mapped on the “Vegetative Community Map”.

2. Potential Impacts

- a) The significance of the qualitative effect of development on groupings of species shall be discussed to reveal generically which elements of the fauna are more or less disturbance sensitive.
- b) The ecological “chain-reaction” effects of vegetative loss shall be reviewed qualitatively to provide an analysis of the potential for loss to wildlife of cover and food resources.
- c) Impact of the proposal on the displacement of wildlife, including the impact on surrounding neighborhoods.

3. Mitigation Measures

- a) Ecological Management Plan: this plan will detail ecological habitats to be preserved, restored or created and quantify (in area (square footage)) replacement or compensation for impacts to wildlife resources identified by the DEIS.
- b) Landscape Plan: integrated into the Landscape Plan shall be areas of "Ecoscaping", which define the portions of the site to be re-vegetated with native species, aimed at replacing or compensating for vegetative losses identified in the DEIS.

IV. IMPACT ISSUES - THE HUMAN ENVIRONMENT

A. Traffic and Transportation

1. Existing Conditions

- a) Provide a brief description of Routes 22 and 172 including other local roads in the vicinity of the project site.
- b) Conduct manual traffic movement surveys for weekday Peak AM and Peak PM Hours, including a vehicle classification and school bus traffic at the following locations:
 - Route 22/Route 172 Split (at the Village Green)
 - Route 22/Greenwich Road
 - Route 22/The Farms
 - Route 22/Vinton Avenue
 - Route 22/Hunting Ridge Mall
 - Route 22/Crusher Road
 - Route 22/Route 172
- c) Indicate accident history at the study intersections for a 3-year period and include location, date, time of day, number of vehicles involved, number of injuries, traffic control, weather/road conditions, type of accidents and probable causes.
- d) Complete analysis of existing sight distance at the project's proposed access point(s).
- e) Graphically indicate the existing traffic volumes for the above locations for each of the peak hours.

- f) Complete intersection capacity analysis for existing conditions at each intersection identified above following the procedures of the latest edition of the Highway Capacity Manual.

2. Potential Impacts

- a) Project future background traffic volumes for the Design Year 2019 based upon an annual growth factor applied to the existing traffic volumes and include any planned/proposed developments in the immediate area of the project.
- b) Graphically indicate the future Year 2019 No-Build Condition and complete intersection capacity analysis at the study area intersections.
- c) An estimate of the impact of the proposal on travel time from the Village Green to the Route 22/Route 172 intersection (Shell Service Station).
- d) Complete projections of site-generated traffic on the area roadways based upon accepted trip generation. A summary table shall be provided identifying these site-generated traffic volumes.
- e) Graphically indicate the future traffic volumes (Year 2019 Build Condition) and complete intersection capacity analysis at the study area intersections including the site access.

3. Mitigation Measures

- a) Evaluate mitigation measures needed as a result of the proposed project including roadway improvements and sight distance improvements.

B. Planning and Zoning

1. Existing Conditions

- a) Description of applicable land use plans and regulations (i.e., Town Zoning Ordinance, Town Subdivision Regulations, Town Comprehensive Plan) for the site and surrounding area.
- b) Describe existing (and any pending) development in the area.

2. Potential Impacts

- a) An analysis of the proposed development's consistency with established land use regulations and articulated land use policies and ordinances. Specific discussion of the project's conformance to the Town's Affordable Housing Ordinance shall be included.

3. Mitigation Measures

Mitigation measures to address identified impacts shall be evaluated.

C. Community Services

1. Existing Conditions

- a) Educational facilities.
- b) Police protection.
- c) Fire protection.
- d) Ambulance service.
- e) Solid waste disposal.
- f) Recreation.
- g) Sewage treatment/water supply.

A discussion of the existing public sewer/water services within the vicinity of the site, if any, or discuss alternative methods of sewage treatment/water supply currently being provided to landowners in the area of the site if public services are not available.

2. Potential Impacts

- a) Potential impacts (adverse and beneficial) on the Town's community services resulting from the proposed development shall be discussed.
- b) An analysis of the proposed development's proximity to and impact on the capacity of existing services.

- c) Discussion of water resources available for firefighting.
- d) A discussion of the methods to provide sewage treatment/potable water supply to the future residents, employees within the development. Discuss potential impacts to the site's underlying groundwater resources, ponds and receiving surface waters from the development's sewage treatment and potable water supply systems.

3. Mitigation Measures

- a) A discussion of the proposed benefits to the Town's recreation program, the inclusion of on-site passive recreational and agricultural/horticultural opportunities, and potential increase in tax revenue for the Town.
- b) Discuss mitigation measures that will be implemented to adequately offset any potential adverse impacts to the site's underlying groundwater resources, ponds and receiving surface waters from the development's sewage treatment and potable water supply systems. A list shall be provided of all required Local and State permits/approvals for construction of the sewage treatment/potable water supply systems. A discussion shall be provided of all ongoing and future maintenance and reporting criteria associated with the proposed sewage treatment/potable water supply systems.

D. Socio-Economic Conditions

1. Existing Conditions

- a) Analysis of the tax base and property value under the current, undeveloped property.

2. Potential Impacts

- a) Comparison of anticipated revenues between the existing property and the applicant's proposed action after full build-out.
- b) Analysis of the costs for providing public service to the proposed residential development.

3. Mitigation Measures

Mitigation measures to address identified impacts shall be evaluated.

E. Aesthetic Resources

1. Existing Conditions

- a) Describe the existing community character of the specific area around the subject property and generally with respect to the Town of Bedford.

2. Potential Impacts

- a) Light: Describe the impacts from the proposed residential dwellings and street lights potentially creating a sky-glow effect brighter than that of the existing condition.
- b) Visual: Describe the potential visual impacts of the development from publicly-accessible vantage points. The discussion should include both potential seasonal and year-round views into the site.
- c) Open Space and Recreation: Describe the potential impacts to the existing trails and ponds located within the site. Discussions shall include the potential for re-routing the trails.

3. Mitigation Measures

- a) Mitigation measures to address identified impacts shall be evaluated, including the potential use of the property's agricultural/horticultural areas and trail system by local residents not living in the proposed development.

F. Other Areas of Study

1. Trails

- a) Describe the existing trails on the property, the Mianus Green Belt cited in the Town's Open Space Plan and discuss mitigation or replacement.

2. Water Features

- a) A discussion of the steps that will be taken to ensure the safety of the residents/hikers making use of the trail system to access the pond areas.

3. Construction Impacts

The impacts from construction activities shall be discussed including noise, dust, safety and condition of the access roads.

G. Alternatives

A description and evaluation of the range of reasonable alternatives to the proposed action that are feasible, considering the objectives and capabilities of the project sponsor. The description and evaluation of each alternative shall be at a level of detail sufficient to permit a comparative assessment of the alternatives discussed.

The following alternatives to the proposed action are to be evaluated in terms of the impact issues listed above. If a particular alternative analysis can be most effectively described in a graphic comparison format (i.e., charts, tables, etc.), the narrative discussion shall merely summarize the information presented graphically.

1. No action.
2. 58 lot conventional subdivision.

V. MISCELLANEOUS

A. Adverse Environmental Effects that Cannot be Avoided if the Project is Implemented

Adverse environmental impacts expected to occur if the proposed action is implemented regardless of the mitigation measures considered.

B. Irreversible and Irretrievable Commitment of Resources

Those natural and human resources that will be consumed, converted or made unavailable for future use if the proposed action is implemented shall be identified.

C. Growth Inducing Impacts

1. Future growth potential.
2. Impact upon local roadways, future commercial and residential development.

D. Effects on the Use and Conservation of Energy Resources

This discussion shall include a demonstration that the development will satisfy electric generating capacity needs or other electric systems needs in a manner reasonably consistent with the most recent state energy plan.

E. Appendices

1. All SEQR documentation, the Positive Declaration and DEIS Scoping Outline.
2. Copies of all official correspondence related to issues discussed in the DEIS.
3. Copies of all technical studies and other pertinent documents in their entirety.

DISTRIBUTION LIST

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