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N.J. STATE BOARD OF PROFESSIONAL ENGINEERS & LAND SURVEYORS
CERTIFICATE OF AUTHORIZATION NO. 24GA27985400

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Memorandum: Technical Review #1

To: Township of Long Hill Zoning Board of Adjustment
Board Chairman and Members

From: Richard Keller, PE, PP, CME
Board Engineering Consultant

Re: Application No. 2021-01Z
Joe and Carla Jbeily
Block 13407, Lot 28
75 Cottage Place, Gillette, New Jersey
C&K Project #: 1190102-29 (21-01Z)

Date: April 30, 2021

Documents Reviewed:

As part of our engineering technical review, we have received and reviewed the following documents:

1. Engineering Plan entitled "Variance Grading Plan for Lot 28 Block 13407, 75 Cottage Place Township of Long Hill, Morris County, New Jersey," prepared by Murphy & Hollows Associates LLC, dated January 6, 2021, consisting of 3 Sheets.
2. Architectural plans entitled "Proposed Alteration to Existing Structure for Mr. and Mrs. Jbeily, 75 Cottage Place, Gillette, Morris County, NJ," prepared by Scialla and Associates Architects, Incorporated dated June 4, 2020, consisting of 6 sheets.
3. Application with checklists and site photos.

Brief Project Description:

The subject property is a developed residential parcel located on the southeasterly side of Cottage Place between Tanglewood Trail and Gates Avenue.

The property is located in the R-3 Residential Zone where a Lot Area of 30,000 sq. ft. and a lot width of 150.00 feet is required. However, the Zoning Table included with the Zoning Permit Denial dated July 29, 2020 indicates that the property was part of a Density Modification Subdivision requiring a Lot Area of 21,000 sf and a Lot Width of 105 feet. The property has a lot area of 20,617 sq. ft. and a lot width of 119.25 feet.

The property slopes from the Cottage Place toward the rear of the property and a low depression along the rear lot line. The topography on the adjoining property to the South at 288 Tanglewood Trail rises for a short distance before dropping toward Tanglewood Trail. This depression along the rear property lines creates an existing drainage impoundment area.

The Applicant proposes to construct a 500 sq. ft. +/- addition and new 400 sq. ft. +/- deck at the rear of the existing dwelling. The existing 437 sq. ft +/- structurally compromised deck will be removed. The applicant also proposes to construct a new 381 sq. ft. +/- in-ground swimming pool and surrounding 3' wide, 294 sq. ft +/- walk/patio in the rear yard.

A retaining wall with a maximum height of 4 feet is proposed in the rear yard to create a level pad area for the proposed pool.

1. Observations & Comments:

- 1.1. The Zoning Schedule on the engineering plans incorrectly identifies the property as being in the R2 Zone. The engineer's schedule should be revised to reflect the zoning requirements of the R3 Zone for the subject property.
- 1.2. The Statement of Facts Addendum in the application along with the engineer's and the architect's zoning analysis are inconsistent for both the existing and proposed conditions and should be revised accordingly. The Applicant's professionals should provide testimony as to the exact amount of variance relief requested for the Board's consideration.
- 1.3. The Zoning Schedule on the Engineer's plans should be expanded to include the bulk requirements for Swimming Pools under § LU-124.5.
- 1.4. Based upon a review of the NJDEP Geo-Web GIS and the most recent FEMA mapping along with a site inspection, the subject property does not appear to contain or be near any freshwater wetlands or flood hazard areas.
- 1.5. The lot contains "Critical Areas" in the form of slopes in excess of 15% measured across a 10-foot contour interval. The Applicant's engineer should provide testimony as to the total inventory of steep slopes present and the extent of any proposed disturbance. Per §LU-142.2, if the gross area of proposed disturbance is less than 1500 sf, the project is exempt from the requirements for Development Within Critical Areas contained in §LU-142.1. If the gross area of steep slope disturbance exceeds 1,500 sf, the project will require additional variance relief.
- 1.6. Since the proposed plan creates a net increase of more than 400 sq. ft. of impervious area, the application is subject to the requirements of the Stormwater Management section of the Land Use Ordinance (Sec. 146.) Under Section 146.3b. the review of the required stormwater plan resides with the Zoning Board of Adjustment Engineer.
- 1.7. Since the area of proposed site disturbance will exceed 5,000 sq. ft. in aggregate, a Soil Erosion and Sediment Control Plan Certification from the Morris County Soil Conservation District (SCD) will be required. The plans presented appear to contain the details, sequence of construction and notes required for plan certification by the SCD.

2. Technical Review

- 2.1. The Grading Plan indicates that additional stormwater runoff from the proposed increase in impervious area will be managed through the use of a dry well to be installed in the rear yard. The grading plan indicates that 1,000 sf of existing and proposed roof area will be directed to the drywell to compensate for the 1,048 sf +/- of new impervious area proposed. Subject to the results of the required soil testing, outlined below, the dry well design appears to be nominally consistent with the requirements of the Stormwater Management section of the Land Use Ordinance (Sec. 146.)
- 2.2. The Applicant's engineer should provide testimony as to how the roof leaders from the existing dwelling are handled and the current discharge location. They all appear to discharge directly at the rear left property line in the area of the aforementioned surface water impoundment area. The Applicant's engineer should consider remediating the existing condition by directing some or all of the existing roof leaders through the drywell system which would be enlarged to accommodate the additional roof area.
- 2.3. The Applicant will be required to perform percolation/permeability testing in the vicinity of the proposed drywell/infiltration/recharge system proposed. The Applicant shall also locate the seasonal high ground water table to ensure a minimum separation of two (2) feet between the bottom of the infiltration system and the ground water table. Casey & Keller, Inc. and/or the Township Engineer shall be notified a minimum seventy-two (72) hours in advance of this testing so that a representative of either entity may be present. The engineer-of-record, shall be present during percolation/ permeability testing and shall submit a signed and sealed certification regarding the results of said testing. These tests may be performed after issuance of the requested Grading & Building Permits, but prior to the installation of the infiltration system(s). However, we strongly recommend that the testing is performed as soon as possible to confirm that the proposed design is feasible. Additionally, the engineer-of-record shall provide calculations, utilizing the observed permeability rate with a factor of safety of two (2), to demonstrate that the proposed recharge systems will completely empty within 72 hours. **Should on-site testing yield undesirable percolation/permeability rates, the Applicant may be required to provide an alternate design which does not rely on percolation consistent with Ordinance Section 146.2b.2.**

If the Board were to act favorably upon the variance relief sought by the applicant, we would take no exception to the applicant providing the information outlined above as a condition of any approval.

- 2.4. The Applicant should indicate the type and intensity of any lighting that is proposed for the deck, the covered outdoor patio under the proposed deck and around the pool area. The use full cut off fixtures to eliminate sky glow is encouraged throughout the property. Per LU-124.5j., any pool lighting *"shall be restricted to such lights as shall not be a nuisance to adjoining property owners and shall not remain lighted after 10:00 p.m."*
- 2.5. The Applicant should provide testimony regarding the material and height of the proposed fencing around the swimming pool. Plans shall be amended to include a fence detail to demonstrate compliance with ordinance requirements outlined in §LU 142.5(f) & §BH7-16 through 20.

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Block 13407, Lot 28
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- 2.6. Testimony should be provided, and the plans amended to show the location of the pool mechanical equipment and any new air conditioning condenser units.
- 2.7. The Applicant should provide testimony as the number and location of any mature trees that will be removed.
- 2.8. The Applicant should provide testimony as to the size and species of the proposed plantings. The Architect's Site Plan (Sheet 2) indicates a staggered 52-foot-long row of "new screen plantings" along the northeast side of the pool. The Engineer's plan depicts a 44-foot-long linear row of 12 plants along the top of the proposed retaining wall with the note that "where wall height exceeds 3' landscaping or a fence to be installed." The extent and purpose of the proposed landscaping should be clarified.
- 2.9. We defer to the Board's Planner for comments regarding zoning compliance and the proofs required in support of the variance requested relief.

Any revised plans or other documents should be accompanied by a cover letter responding individually to each of the comments presented in this review letter. The cover letter should also outline those changes to the plans that were requested as well as those not requested or readily apparent.