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CIVIL, SITE, STORMWATER
SUBDIVISION, SEWAGE DISPOSAL

March 7, 2020

Town of East Hampton
Planning & Zoning Commission
20 East High Street
East Hampton, CT 06424

Re: Oleksenko, #11 Cone Road - Application #PZC-20-002 for subdivision approval.

Dear Commissioners:

I am writing to respond to the Anchor Engineering Services review memo dated February 21, 2020 for the above referenced application.

**Comment No.**

#1 – The various easements required for this subdivision will be shown on the plans once the Inland Wetland Agency grants their approval to our application for the proposed development and access drive location.

#2 – The lot depth and front yard setbacks have been reviewed on the zoning table and found no discrepancy with the tables in the zoning regulations for a R-2 zone. A front yard setback line has been shown where the access strip opens up into the lot. Note that the access strip for lot #4 is only 50 ft wide and to narrow to have a front yard setback line.

#3 – A note has been added to the "site development notes" on sheet 2 stating the design requirements for the proposed bridge/culvert crossing.

#4 – This hydraulic analysis has been submitted under separate cover through the Inland Wetland Agency application.

#5 – A single watershed map containing this information for both pre and post development was attached to the original stormwater analysis report. Note that the existing and proposed watershed areas have to be identical to properly model the stormwater requirements for the developed areas with proposed swales and detention basins. The time of concentration paths are the same in most cases. Only the ground cover conditions change. Additional prints are attached herewith.

#6 – A supplementary "stormwater analysis" dated February 29, 2020 has been prepared for the various swales and rip-rap channels modeling the 100 yr. rainfall event. The 12 inch "V" shaped channels with high flow rates and steep slopes have been shown to adequately convey the 100 yr. rainfall event throughout with non scour velocities. Note that all the swales on the site plans have been revised to be rip-rap channels to eliminate any scouring potential.

#7 – The rip-rap basins and the twin 18 inch culverts near Cone Road are an extension of the existing stormwater drainage system that was installed under the direction of the Town's previous Public Works Director. The proposed upstream basin shown on the plan is merely an extension and enlargement of that existing basin. The basin at the new culvert inlet is intended to provide nominal sediment storage which currently does not exist within the Public Works facility. As such, it is not the responsibility of the property

owner to correct the town's stormwater system installation. Similarly, the rip-rap basin at the outlet of the twin culverts is intended purely to reduce the flow velocity exiting the new culverts and rip-rap pad. Since the existing town basin outlet is only 5 or 6 feet wide, with no erosion problems, the 10 foot wide level lip spreader proposed on the plan is considered more than adequate based on the existing conditions along this intermittent watercourse. The proposed culvert system is designed purely to convey the town's stormwater under the proposed driveway based on the existing conditions set by the Public Works Dept., no sizing calc's are being provided for either of the proposed rip-rap installations.

#8 – The side slopes of basin #1 abutting the driveway have been changed to a 2:1 slope throughout with 18 inches of intermediate rip-rap. The basin location was adjusted further from the road to accommodate these flatter slopes. Additional criteria was added to the details for the stone aggregate fill material and compaction required to be used for the entire width of the driveway between Cone Road and the brook crossing which will provide a stable fill slope against the detention basin. Soil tests done for the septic system area for the abutting house show a silty-sandy loam 31-41 inches deep over a deep compact glacial till with a perched water table in the loam material. All indications show that these soil conditions exist throughout the area of the proposed driveway and detention basin. In recognition of the presence of the perched groundwater table and its potential affect on the detention basin slope, a 4 to 5 foot deep curtain drain has been placed under the access driveway from sta.0+50 to sta.2+00 located close to the southerly curb line. These proposed changes are in common use in Connecticut for these types of facilities and would not require a stability analysis.

#9 – The typical guide rail cross section has been revised to include the additional information as taken from the standard DOT guide rail installation criteria and matches the width of the proposed shoulder along this driveway.

#10 – The typical cross section for level lip spreaders has been revised to show 2:1 slopes. As indicated in response to item #6, the design of the various swales has been addressed to accommodate maximum flow conditions with low flow velocities.

#11 – This note regarding the guide rail has been added to the plans.

#12 – See response under item #8 pertaining to soil/groundwater conditions and plan revisions. Note that the USDA soil mapping shows the same soil type between Cone Road and the brook for this property. Included in the revised stormwater analysis is the routing of the 100 year flow thru basin #1 with zero exfiltration. The results show that the 100 year water surface elevation in this basin still does not reach the emergency overflow spillway.

#13 – Trash racks and an overflow grate have been added to the detention basin cross section detail.

#14 – The water quality flow calculations are included in the revised stormwater report. This flow is generated by the runoff from a 1 inch rainfall event off impervious surfaces, whereas, the design of the various diversion swales and detention basins is based on an 8 inch rainfall event off the entire watershed. The detention basin volumes are noted on the plans and the related cross section revised to show a 15 ft long overflow and level lip spreader at each of the detention basins. The adequacy of this overflow is confirmed by passing the highest 100 year flow rate from all the basins through it to show the maximum depth of flow to be less than 2 inches. Therefore, the WQF is not relevant to the design of the various structures and provides no information on the plans. The freeboard that remains to the top of the berm is more than adequate for the size and function of these basins.

#15 – The location of the proposed individual lot detention basins are shown on the plans with the required storage volume based on the 100 yr. event. Basins # 5 & 6 related to lot #1 and basin #2 related to the 18 foot

paved access drive have detailed designs shown on the plans providing the 100 year volume referenced above as these driveways will not change with the lot development. Note that the watersheds and related runoff hydrographs/design criteria for these basins has not changed from those shown in the original stormwater report.

Once a potential buyer is obtained for lots #3 and #4, the actual location of the houses, septic systems, and driveways will definitely change from that shown on the subdivision plans. Because of this, the design of the respective detention basins is premature. All the design information will change and would be determined by the engineer preparing the detailed site development plan for each lot at which time the actual criteria, sizing and flows for these basins would be confirmed. A note has been placed on the "site development notes" indicating that any revisions to basins #2, 5 & 6 and the designs for basins #3 & #4, would be subject to further review and approval by the town.

#16 – A note has been placed on the drawing for the paved lip at the roadway gutter.

#17 – The white painted centerline of the driveway has been deleted.

#18 – The access driveway between Cone Road and the cul-de-sac is required to be 22 feet wide when shared by 3 residences per zoning regulations. The paved access drive extending off the cul-de-sac to where the two individual driveways begin has been revised to be 18 feet wide.

#19 – A note for a cash performance bond has been added to the "site development notes" and "erosion sedimentation control notes".

I trust these responses and additional information adequately address all your questions and comments. If there are any further comments or questions please do not hesitate to contact me.

Respectfully Submitted,

Frank C. Magnotta

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