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## MEMORANDUM

TO: Christine Nelson, AICP

DATE: December 30, 2010

FROM: Geoffrey L. Jacobson P.E. 

PROJECT No.: 0719-0014

SUBJECT: The Preserve – Preliminary Open Space Subdivision Plan Modification

COPIES: C. Costa, S. Prisloe, M. Branse, Esq., B. Hillson, P.E., D. Royston, Esq.,  
R. Doane, P.E., L.S.

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This memorandum summarizes our engineering review of the proposed Preliminary Open Space Subdivision Plan Modification. This modification includes two specific areas, located within the original Open Space Subdivision property, that are currently being referred to as the West PRD and the Ingham Hill Road Lots. The proposed modification also includes the addition of an adjacent 32 acre property, referred to as the Pianta Parcel, to the original Open Space Subdivision property.

The initial procedure established in Section 56.4 of the Zoning Regulations includes the submission of a Conceptual Standard Plan for the purpose of determining the number of conventional subdivision lots that could reasonably be developed within the property in conformance with both the Zoning Regulations and the Subdivision Regulations. The total number of lots resulting from the Planning Commissions review of the Conceptual Standard Plan becomes the maximum number of lots and/or dwelling units permitted to be developed as an Open Space Subdivision. A rigorous review of a Conceptual Standard Plan for the original Open Space Subdivision property, which includes the current areas of modification identified as the West PRD and the Ingham Hill Road Lots, was previously conducted by the Planning Commission. This previous review established a total approved lot count of 221. As such, with regard to establishing a new total lot count for expansion of the Open Space Subdivision property through the addition of the 32 acre Pianta Parcel, our review will be limited to the number of additional conventional subdivision lots that could reasonably be expected from development of the Pianta Parcel. The second portion of our review will focus on the modified Preliminary Open Space Subdivision Plan in the three specific areas where changes are proposed to occur (West PRD, Ingham Hill Road Lots, and Pianta Parcel Lots).

**A. Pianta Parcel – Conceptual Standard Plan**

The overall objective of the review of this plan is to identify those lots, which in our opinion, would realistically conform to applicable regulations and design principals that would be applied during review of a conventional subdivision layout. The resulting number of lots would then be added to the previously established lot count of 221 for the original Open Space Subdivision property in order to establish a new total lot count including the Pianta Parcel. We have the following comments regarding the subject plan:

**1. Roadway Layout**

- a. The subdivision layout should be revised to include provisions for the future extension of the proposed cul-de-sac into the "Preserve" property, which was a condition of the original Special Exception approval for the Preliminary Open Space Subdivision Plan.
- b. As required in Section 56.3.1.C.10 of the Zoning Regulations, and as requested in my November 4, 2010 memorandum, spot elevations should be shown along the proposed cul-de-sac to demonstrate compliance with road grade requirements and to determine if the lots are reasonably accessible by driveways conforming to town requirements. In this regard, it should be noted that the Planning Commission recently adopted revised road standards which are included in a new document entitled "Regulations for Public Improvements".
- c. Presuming that the vertical alignment of the proposed cul-de-sac will be similar to that which was previously proposed for this section of Road "B", and given that there is no formal storm drainage system in the vicinity of the proposed Bokum Road intersection, the subdivision layout should be revised to include a schematic storm drainage system layout with provisions for storm water detention measures. In this regard, the approved Preliminary Open Space Subdivision Plan included a detention basin on what is now proposed to be lot #7.
- d. While the horizontal alignment of the proposed cul-de-sac will be similar to that which was previously proposed for this section of Road "B", we note that it is located within the 100-foot envelope of vernal pool #37, which is an area that would typically be highly desirable to preserve in its natural state. It should also be noted that the location of the circular turnaround will result in further encroachment into the 100-foot envelope than that which was previously anticipated for Road "B". As such, at the very least, we would expect that an offset type turnaround would be required. In addition, the location of the road would also appear to intercept a significant portion of the contributing drainage area to this vernal pool, thus impacting its hydrology.

## 2. Individual Lots

- a. The MABL for lot #1 includes designated inland wetlands, which is prohibited by Section 7.2.1.C in the Zoning Regulations. In addition, the location of the proposed cul-de-sac will result in the existing residential dwelling becoming nonconforming with respect to the minimum required front yard setback, which would either require a variance or demolition and relocation.
- b. All slopes greater than 20% as measured in forty foot increments should be identified on the drawing, and an analysis conducted of each MABL to determine if these areas do not comprise more than 20% of the MABL. Based on a cursory review, slopes meeting the aforementioned criteria exist within the MABL on lots #3, #4, #5, #6, #7 and #8.
- c. There are four vernal pools located on the Pianta Parcel including #29, #30, #34 and #37. Vernal pools #29 and #30 are located along the southwestern perimeter of the property adjacent to the rail line, and would appear to have limited, if any, impact resulting from development of the proposed lots. While development should be able to occur without compromising the 100-foot envelope for vernal pool #34, developed portions of lots #7, #8, #9 and #10 are within the contributing drainage area to this vernal pool and have the potential to impact water quality. The use of low impact development techniques and careful attention to erosion control measures during construction could serve to limit water quality impacts. Vernal pool #37 will be the most vulnerable due to its centralized location. In addition to the aforementioned impacts resulting from the proposed road location, the majority of lot #3 is located within the 100-foot envelope or within the contributing drainage area. As such, consideration should be given to the elimination of lot #3.
- d. Section 56.3.1C.11 of the Old Saybrook Zoning Regulations sets forth the basic criteria for the evaluation of conceptual lots, which requires conformance with the MABL requirements. In addition to various specific dimensional requirements, the regulations state that no land included within the MABL is permitted to include soils with groundwater higher than 18-inches below the existing ground surface or ledge at depth of less than 48-inches below the existing ground surface. While conformance with these criteria normally requires confirmation through actual soil testing, for Open Space Subdivisions, the aforementioned Zoning Section does not require on-site soil testing. It instead states that such "...demonstration may be based upon soils type analysis... ". Where existing test pit data is provided, definitive conclusions can be made regarding conformance with the MABL criteria. However, in areas where no such data is provided for the MABL, a more subjective type analysis based on NRCS soils types is required. In this regard, the plans do not show the soils delineations as required in Section 56.3.1.C.6 of the Zoning Regulations, and as requested in my November 4, 2010 memorandum. Test pit data provided for lots #2, #3, #4, #6, #8, #9 and #10 indicate that soils

conforming to the required depths to ledge and groundwater exist within the MABL on these lots. However, since no test pit data is available within the MABL on lots #1, #5 and #7, we are unable to determine at this time if these lots conform.

Until such time as the comments noted above are addressed, we can not make a final recommendation regarding the lot count for this parcel. However, at this time we would not expect the lot count to exceed seven or eight at best.

**B. Pianta Parcel – Preliminary Open Space Subdivision Plan (Modified)**

The only noteworthy changes between the Conceptual Standard Plan and the Preliminary Open Space Subdivision Plan is the elimination of lot #5 to provide the required future access to the "Preserve" property, and the addition of some conservation easements on a number of the lots. We have the following comments regarding the subject plan:

1. As stated in A.1.a above, it is our opinion that the inclusion of lot #5 on the Conceptual Standard Plan is inconsistent with the conditions of the original Special Exception approval for the Preliminary Open Space Subdivision Plan. As such, elimination of a lot that should not be permitted anyway is of no consequence and lacks substance.
2. The proposed conservation easements at the rear of lots #2 and #3 have no connectivity to any other open space area, are of minimal size, lack any type of public access and do not appear to meet any of the stated objectives in Section 56.2 of the Zoning Regulations. As such, we fail to see the value in preserving these areas.
3. While the proposed easements on lots #5 through #9 are adjacent to a proposed open space area, and will provide some further protection of steeply sloped areas adjacent to vernal pools and wetlands, such easements could just as easily be provided as part of the Conceptual Standard Plan. Reservation of these proposed conservation areas in a way that would both be more meaningful and consistent with the objectives in Section 56.2 of the Zoning Regulations would be to reduce the lot areas to the minimum required area and include the balance as part of the permanent open space area.
4. Since the plans do not show the soils delineations as required in Section 56.3.1.C.6 of the Zoning Regulations, and as requested in my November 4, 2010 memorandum, we are unable to confirm if lots #1 and #6 conform to MABL (refer to comment A.2.d above for further understanding).
5. As stated in A.1.c above, the approved Preliminary Open Space Subdivision Plan included a detention basin on what is now shown on the modified plan for this parcel to be proposed lot #6.
6. As stated in A.1.d above, an offset type turnaround should be provided to reduce the impact on vernal pool #37. As stated in A.2.c above, consideration should also be given to the elimination of lot #3 for the same reason.

6. The location of individual residential lots along the frontage one of the three major access roads is somewhat inconsistent with the overall planning objective of the "Preserve", which was to locate individual lots in clusters off dead end or short private roads.
7. The lack of connection to a public water supply and centralized wastewater collection, treatment and disposal system is also inconsistent with the overall planning objective of the "Preserve".

**C. Ingham Hill Road Lots – Preliminary Open Space Subdivision Plan (Modified)**

The Ingham Hill Road Lots modification includes the development of 13 single family residential lots in an area that was shown on the approved Preliminary Open Space Subdivision Plan to be a combination of open space and active recreation areas including hiking trails, two baseball fields, two soccer fields, one basketball court, a parking area, and a nature center consisting of an open pavilion. This area was previously deemed to be an ideal location for these features due to an adjacent town owned open space area as well as topographic features that were more readily developable for active recreation fields. We have the following comments regarding the subject plan:

1. The proposed modification to use the previously designated open space and active recreation areas for residential development is not what I would view as a desirable change unless the applicant can demonstrate that there is a suitable alternative location with similar characteristics.
2. The proposed relocation of the nature center parking area that requires backing out into Ingham Hill Road, as compared to the previously proposed off street parking area, should be avoided for obvious safety reasons.
3. The previously approved plan included a nature center pavilion, which was shown on both the drawings and specifically mentioned in the Statement of Use. It should be noted that the modified Statement of Use has deleted the text regarding the pavilion. As such, it appears as though the applicant is now proposing to delete this feature.
4. The proposed conservation easements at the rear of lots #10, #11, #12, #13 and the frontage of lot #9 have no connectivity to any other open space area, are of minimal size, lack any type of public access and do not appear to meet any of the stated objectives in Section 56.2 of the Zoning Regulations. As such, we fail to see the value in preserving these areas. Reservation of land in the remaining conservation easement areas in a way that would both be more meaningful and consistent with the objectives in Section 56.2 of the Zoning Regulations would be to reduce the lot areas to the minimum required area and include the balance as part of the permanent open space area.

5. All slopes greater than 20% as measured in forty foot increments should be identified on the drawing, and an analysis conducted of each MABL to determine if these areas do not comprise more than 20% of the MABL.
6. Section 56.3.1C.11 of the Old Saybrook Zoning Regulations sets forth the basic criteria for the evaluation of conceptual lots, which requires conformance with the MABL requirements. In addition to various specific dimensional requirements, the regulations state that no land included within the MABL is permitted to include soils with groundwater higher than 18-inches below the existing ground surface or ledge at depth of less than 48-inches below the existing ground surface. While conformance with these criteria normally requires confirmation through actual soil testing, for Open Space Subdivisions, the aforementioned Zoning Section does not require on-site soil testing. It instead states that such "...demonstration may be based upon soils type analysis...". Where existing test pit data is provided, definitive conclusions can be made regarding conformance with the MABL criteria. However, in areas where no such data is provided for the MABL, a more subjective type analysis based on NRCS soils types is required. In this regard, the plans do not show the soils delineations as required in Section 56.3.1.C.6 of the Zoning Regulations, and as requested in my November 4, 2010 memorandum. While numerous test pit locations are shown on the drawings within the MABL, data has not been provided for many of them (i.e. lots #4, #5, #6, #10 and #13). In addition no test pits are shown within the MABL on lots #3, #7, #8 and #11. As such, at this time we are unable to determine if these lots conform to the MABL.
7. Two vernal pools, including #16 and #31, are located within the area that is now proposed for residential development. While vernal Pool #16 is located within an open space area, a portion of the 100-foot envelope is located on lot #1 where a conservation easement is proposed. We would recommend that the entire 100-foot envelope for vernal pool #16 be included within the open space area and the area of development on the eastern side of lot #1 be further restricted to preclude development on the steeply sloped area that drains towards this vernal pool. With regard to vernal pool #31, which is located within a narrow open space area sandwiched between lots #11 and #12, we would also recommend that the portion of the 100-foot envelope located on these two lots be included within the open space area. In addition, we would recommend that the northern portion of lot #11 and the western (front) 150-feet of lot #12 be further restricted to preclude development on the steeply sloped areas that drain toward this vernal pool.
8. As required in Section 56.3.1.C.10 of the Zoning Regulations, and as requested in my November 4, 2010 memorandum, spot elevations should be shown along the proposed cul-de-sac's to demonstrate compliance with road grade requirements and to determine if the lots are reasonably accessible by driveways conforming to town requirements. In this regard, it should be noted that the Planning Commission recently adopted revised road standards which are included in a new document entitled "Regulations for Public Improvements".

9. The subdivision layout should be revised to include a schematic storm drainage system layout with provisions for storm water detention measures.

10. We would recommend that lots #12 and #13 be eliminated for the following additional reasons:

a. Construction of the proposed cul-de-sac (less than 300-feet in length) that is required to provide access to these two lots will require a cut of more than 20-feet in depth in order to conform to maximum permitted road grade requirements.

b. Due to the aforementioned roadway cut, it will not be possible for the proposed driveways to conform to maximum permitted driveway grades.

c. The location of individual residential lots along the frontage one of the three major access roads is somewhat inconsistent with the overall planning objective of the "Preserve", which was to locate individual lots in clusters off dead end or short private roads.

12. The lack of connection to a public water supply and centralized wastewater collection, treatment and disposal system is also inconsistent with the overall planning objective of the "Preserve".

**D. West PRD – Preliminary Open Space Subdivision Plan (Modified)**

The West PRD modification includes the elimination of 28 single family residential lots varying in size from 0.5 to 0.75 acres, with the addition of 11 detached single family dwelling units located within a single PRD lot in the same general location. We have the following comments regarding the subject plan:

1. While the horizontal alignment of the proposed cul-de-sac appears to be similar to that which was previously proposed for this section of Road "A", we note that it slightly exceeds the maximum permitted length of 1,000 feet as measured from the gutter line of Route 153 to the center of the turnaround (the commission should also be aware that a private roadway extends out beyond the end of this turnaround for an additional 1,500 feet).

2. As required in Section 56.3.1.C.10 of the Zoning Regulations, and as requested in my November 4, 2010 memorandum, spot elevations should be shown along the proposed cul-de-sac to demonstrate compliance with road grade requirements. Presuming that the vertical alignment of the proposed cul-de-sac will be similar to that which was previously proposed for this section of Road "A", the turnaround will be at a grade that exceeds the maximum permitted 3%. As previously noted, the Planning Commission recently adopted revised road standards which are included in a new document entitled "Regulations for Public Improvements".

3. A plant identified as a Species of Special Concern (*Optunia Humifusa*) was previously found in what is now proposed to be disturbed for the development of units #8 and #9. In order to protect this species, the approved Preliminary Open Space Subdivision Plan retained an undisturbed area around this plant. We would recommend that the same protection be provided in the modified plan.
4. While the West PRD will be served by a public water supply, the lack of connection to a centralized wastewater collection, treatment and disposal system is inconsistent with the overall planning objective of the "Preserve". It should also be noted that while test pit locations are shown on the plan, and data provided, very few of the test pits exceeded a depth of 48-inches, and as such, there is no conclusive evidence that a suitable area exists to support the construction of subsurface sewage disposal systems.

**E. General Comment – Preliminary Open Space Subdivision Plan (Modified)**

While the original Preliminary Open Space Subdivision Plan was approved by the Planning Commission in 2005, subsequent failed efforts by the applicant to secure the required Old Saybrook Inland Wetlands & Watercourses Permit, and to obtain a permit from the Connecticut Department of Environmental Protection for crossing the Valley Railroad with one of three required road connections, brings into question whether the proposed modifications being sought are to a proposed plan that at best would appear to have a very limited potential of ever being developed as presented. In this regard, the Planning Commission should consider if the time has come for preparing an entirely new Preliminary Open Space Subdivision Plan that clearly recognizes the issues that have prevented the current plan from moving forward and creates a new plan that has a more realistic probability of success. I am even more concerned that the proposed modifications amount to little more than a convenient way to chip away at the perimeter of this parcel in a manner that is inconsistent with the objectives of the original plan, and at face value would appear to be a last ditch attempt to simply pick some easy low hanging fruit. The "Preserve" is a unique property that is nearly one thousand acres in size and entirely undeveloped with rugged topography, large unbroken tracts of forest land, extensive wetlands systems including Pequot Swamp, numerous viable vernal pools, and various state listed plant and wildlife species. Planning for the future overall development of this property should therefore carefully evaluate prior concerns that have resulted in the inability to obtain critical permit approvals in order to develop a more realistic plan that addresses impacts to the community and its natural resources.

END OF MEMORANDUM