February 14, 2011

Mr. Robert McIntyre, Chairman
Old Saybrook Planning Commission
302 Main Street
Old Saybrook, CT 06457

RE: River Sound Development
Preliminary Open Space Subdivision Modification

Dear Mr. McIntyre:

I am writing in response to REMA Ecological Services' January 19, 2011 review letter regarding the referenced proposal, as well as Connecticut Fund for the Environment's (CFE's) Notice of Intervention and their letters of January 5 and 19, 2011. This letter summarizes my comments and conclusions and the attached technical documents provide additional detail. Please note that I do not have an opinion as to the procedural and legal issues raised by CFE; except to note that the neither the existing approved Preliminary Open Space Subdivision Plan, nor the proposed modifications have any environmental impact in and of themselves. Neither plan allows any construction, nor is any final approval by either your Commission, or any other town commission, inevitable.

The modifications are fully compatible with the approved Preliminary Open Space Subdivision Plan. They do not foreclose any options for development of the "core" property. The three access points remain fixed and the modifications continue to maintain the access toward the core of the property, along the approved routes. The final revised plans call for 11 new single family homes in the Ingham Hill Road area, 8 new single family homes, plus the existing home on Bokum Road, and an 11 unit single family detached PRD east of the Old Saybrook-Westbrook town line. These three separate perimeter locations comprise a total of 114.5 acres, with a density of 1 unit per 3.7 acres. To put this in perspective, CT DEP considers that one unit per 2 acres is adequate to protect water quality in drinking water supply watersheds. Twenty-two of the homes are within the area originally approved for 28 lots. They represent re-located units. The proposed modifications do not require filling, clearing, draining, or otherwise altering any wetlands or watercourses. The plans demonstrate that there is adequate area for construction of a home, driveway and sub-surface sewage disposal system for each unit, while maintaining significant separation distances to wetlands, watercourses, and vernal pools.

Intensive biological surveys conducted by EPS and Dr. Michael Klemens, over a seven year period from 2003 to 2010, demonstrate that there are no U.S. or CT-listed endangered or threatened plant or animal species on the site. Populations of five CT species of special concern have been documented and they remain protected under the proposed modifications.

The ecological connectivity that was the cornerstone of the approved design has been carefully reviewed and remains intact, as can be seen by a comparison of the current Ecological Connectivity Map and that which was prepared in 2005 (Exhibit 67b). As Dr. Klemens describes in more detail in his February 12, 2011 letter, the proposed modifications are also consistent with the vernal pool protection principles used to develop the approved plan.

As noted above, I have reviewed the objections raised by CFE (December 1, 2010 Intervention Petition, January 5 and 19 letters) and their consultant, REMA Ecological Services (January 5 and January 19, 2011 letters). My detailed responses to each are attached. My January 18, 2011 response to REMA's January 5, 2011 letter is also attached since it does not appear in the most current list of Exhibits. In summary, I find their comments are, for the most part, inaccurate or un-supported by the record or the documentation they provided. In my professional opinion, there is no reasonable likelihood that the proposed modifications will result in <u>any</u> pollution or impairment of the air, water, or natural resources of the state, much less unreasonable pollution or impairment.

I would be happy to clarify or expand on any of these comments, if necessary.

Yours truly,

MSKlein

Michael S. Klein, Principal
Registered Soil Scientist
Certified Professional Wetland Scientist

EPS TECHNICAL RESPONSE TO CONNECTICUT FUND FOR THE ENVIRONMENT (CFE) DECEMBER 1, 2010 NOTICE OF INTERVENTION

CFE's original text is shown in **bold face text** and my specific response is shown *in italics text.*

4. CFE asserts that the Town of Old Saybrook has recognized the significance of the site by zoning it as a "Residence C Conservation District," mandating an "Open Space Subdivision." Section 56 of the Old Saybrook Zoning Regulations requires that at least 50% of the area covered by an application be preserved as open space and mandates consideration of a score of potential environmental impacts including, inter alia, the extent to which any proposed development:

a. **Preserves and protects all floodplains, wetlands, and steep slopes from clearing, grading, filling or construction (except as may be approved by the commission for essential infrastructure or active or passive recreation amenities);**

The proposed modifications affect three areas (the Ingham Hill Road "pod", the Bokum Road "pod" and the West PRD "pod"), which together make up about 5% of the site. The proposed modifications will not result in clearing, grading, filling or construction on any floodplains or wetlands in any of the pods. The proposed modifications do not require any clearing, grading, filling or construction on steep slopes in any of the three pods, except for very small areas that are necessary to provide access (essential infrastructure). All of the proposed new lots meet the Minimum Area of Buildable Land (MABL) requirements of the regulations.

b. **Preserves and maintains mature woodlands, existing fields, pastures, meadows, orchards, and wildlife corridors, and creates sufficient buffer areas to minimize conflicts between residential and agricultural uses;**

There are no existing fields, pastures, meadows, or orchards on any of the three pods. There are no areas where residential development is proposed adjacent to agricultural uses. Wildlife corridors will remain intact.

c. **Maintains or creates an upland buffer of natural native species vegetation adjacent to wetlands and watercourses;**

The minimum buffer provided for the proposed modifications is 100 ft. In most cases the proposed lot lines or limits of conservation restrictions are more than 125 ft from the nearest wetland or watercourse.

d. **Minimizes impacts on large woodlands (greater than five acres), especially those containing mature trees or a significant wildlife habitat;**

1. *Portions of the site contain mature woodlands and portions have been logged recently. The total open space acreage is approximately 575 acres, over 90% of which will be deeded to the Town of Old Saybrook. The balance will be protected in perpetuity*

under conservation easements. The value of the proposed open space is magnified by the ecological principals that were used in its selection. The primary design criteria were preservation of bio-diversity and wildlife habitat, as well as maintenance of ecological connectivity, which were accomplished in the original plan and fully maintained in the modifications.

e. **Leaves scenic views and vistas unblocked or uninterrupted, particularly as seen from public thoroughfares;**

There will be no impact on views and vistas. A pedestrian easement adjacent to Pequot Swamp Pond has been provided.

f. **Protects wildlife habitat areas of species listed as endangered, threatened or special concern by the EPA and/or DEP;**

There are no EPA or DEP listed endangered or threatened species at the site. *All state-listed special concern species at the site will remain protected.*

g. **Provides open space that is reasonably contiguous.**

All open space provided is connected to open space in the original plan. The total open space has been increased.

5. **CFE asserts that, while the developer has proposed some modifications to the Preliminary Open Space Subdivision Plan as conditionally approved on March 23, 2005, it has not proposed modifications to the majority of that plan.**

We agree. The Preliminary Open Space Subdivision Plan, as approved by the Planning Commission remains largely the same. The proposed modifications do not alter the ecological connectivity, which remains unimpaired, nor do they alter the potential to access the balance of the property in any reasonable way. Therefore, all alternatives remain available.

6. **CFE asserts that the Preliminary Open Space Subdivision plan as submitted with modifications would result in activities which have been found by the Old Saybrook Inland Wetlands Commission to result in the pollution, impairment, or destruction of the public trust in the following natural resources of the state, as summarized below:**

The proposed modifications remain subject to the review of the Old Saybrook Inland Wetlands Commission. The Preliminary Open Space Subdivision plan is a conceptual framework that establishes the unit count and mix, the open space areas, main road locations, as well as the general location of homes, driveways, sanitary facilities, etc. The existing Planning Commission approval for the area outside of the three "pods" is not at issue. The proposed modifications are not reasonably likely to result in any pollution or adverse impacts on the environment or natural resources.

7. **CFE further asserts that the proposed modifications to the Preliminary Open Space Subdivision Plan may actually exacerbate those impacts found to result from the original proposal, particularly with respect to the issues of the quality and connectivity of the proposed open space areas and construction activities adjacent to wetland areas.**

   We have analyzed the impacts of the proposed modifications on the quality and connectivity of the proposed open space. There will be no change in the ecological connectivity and wildlife corridors as a result of the modifications. There will be no change in the conservation status of any of the vernal pools (as defined by Calhoun and Klemens 2002 methodology). As noted above, no wetland filling, clearing, or grading is required to implement the modifications. No large blocks of contiguous open space will be bi-furcated. No populations of state-listed species will be impaired.

EPS TECHNICAL RESPONSE TO CONNECTICUT FUND FOR THE ENVIRONMENT (CFE) JANUARY 5, 2011 LETTER FROM CHARLES ROTHENBERGER

CFE's original text is shown in **bold face text** and my response is given *in italics text.*

With respect to the Bokum Road/Pianta Parcel, we have concerns about the potential impacts to two wetlands on the site. The Southwest comer of lot # 8 infringes on the Upland Review Area of what was identified as Vernal Pool #29 during the hearings on the original application.

We share the Wetland Commission's specific concerns about the significant amount of disturbance in the Upland Review Area of what has been labeled Vernal Pool #37

The proposed modifications do not change the conservation status of Vernal Pool #29 or #37. Vernal Pool #37 is a very low productivity pool, and is likely a long-term "sink" for amphibians. Any access to the center of the Pianta parcel and/or the central core will require activity in its vicinity. The road alignment in this area is essentially identical to the approved plan and has the additional advantage of shifting development away from other, more significant pools. Vernal Pool #29 will be optimally conserved under both the existing approval and the proposed modifications. Finally, the potential for adverse impacts from lot development must be analyzed on a site specific basis, particularly at the time of final plan submission to the Wetland Agency

With respect to the Ingham Hill Road parcel, we have concerns about the potential impacts to Vernal Pools 16 and 31... and the wetland that had been identified as wetland # 9... The Upland Review Areas of these wetlands are encroached upon by lots 1, 2, 3, 11 and 12.

The proposed modifications do not change the conservation status of Vernal Pool #16 or #31. Lots 12 and 13 have been eliminated.. The layout of the remaining lots has been revised so that all lot lines are 100 ft or more from a wetland. All of the proposed new lots meet the Minimum Area of Buildable Land (MABL) requirements of the regulations. Finally, the potential for adverse impacts from lot development must be analyzed on a site specific basis, particularly at the time of final plan submission to the Wetland Agency.

EPS TECHNICAL RESPONSE TO CONNECTICUT FUND FOR THE ENVIRONMENT (CFE) JANUARY 19, 2011 LETTER FROM CHARLES ROTHENBERGER

CFE's original text is shown in bold face text and my response is *in italics text.*

[T]he proposed development of lots #11 and #12 still raise concern about likely impacts to the two vernal pools.

Although the proposed modifications do not change the conservation status of the two vernal pools (#16 and #31), but the elimination of Lots 12 and 13 allows these areas to remain as available upland habitat. .

[I]t (the applicant, parenthesis added) has done little to lessen the likely adverse impacts to those verbal [sic] pools from erosion and sedimentation. This appears to be particularly the case with respect to the steep slopes along the southern boundary of lot #12 and the eastern boundary of lot #3 (which remains within the Upland Review Area of wetland #9).

Lot 12 has been eliminated. Lot 3 has been revised so that the area near wetland 9 is protected by a conservation easement. The developable portion of the lot is nearly level (0-3% slope) and is separated from the more sloping land and the wetland by a stone wall, which will remain.

With respect to the Ingham Hill section, the applicant itself has recognized that keeping that entire area as open space is both warranted by the value of the natural resources present in that area and is a prudent and feasible alternative to development, since that is in fact what was proposed (and approved by this Commission) during the original application.

The original Special Exception application was approved with conditions that resulted in these pools no longer meeting the highest level of the Calhoun and Klemens conservation criteria. Dr. Klemens February 12, 2011 letter provides a detailed analysis of this issue and concludes that the final revised plans maintain the conservation status of these pools.

[I]mpairment and/or destruction on natural resources is, at a minimum, "reasonably likely" if the proposal is approved.

The proposed modifications are consistent with both the intent and the substance of the approved plan with respect to protection of wetlands, vernal pools, steep slopes, and bio-diversity. Approval (and ultimately implementation) will not have a reasonable likelihood of causing unreasonable pollution, impairment or destruction of the air, water or natural resources of the state.

EPS TECHNICAL RESPONSE TO REMA ECOLOGICAL SERVICES JANUARY 15, 2011 LETTER

REMA's original text is shown **in bold face text** and my specific response is *in italics text.*

[T]he applicant should have produced *a separate document* outlining, detailing, and discussing the natural features on these sites, based on a comprehensive inventory.

As REMA has verbally acknowledged, the public record related to this site includes detailed natural resources inventory data, including surveys of vegetation, mammals, birds, bats, reptiles and amphibians, wetlands, and vernal pools. The present application is for a modification of the existing approval. The initial application, supporting documents and approval covered the entire site, including the areas proposed for modification at this time.

[T] data.. are over 5 years old, with much of the information over 7 years old. In ecological and natural resource inventory it is well known that data can change in just a few years.

The detailed inventory data, which was provided to Mr. Logan through his client in 2004 and 2005, is recent. Absent any major site disturbance, it is highly unlikely that the flora or fauna at the site has changed in any significant way. EPS biologists conducted reconnaissance level surveys in 2010 to verify that the site remains largely unaltered from its condition in 2004-2005. We also collected quantitative data to verify that the vernal pool productivity had not changed in any significant way. That information was presented at the first session of the public hearing and re-iterated at the subsequent sessions.

[M]uch discussion has taken place regarding the vernal pools at the Pianta parcel, especially Vernal Pool #37, which according to Mr. Michael Klein, the applicant's wetlands and ecological consultant, is a low productivity pool. That may very well be the case, but he bases this opinion only on one Spring season inventory (Klemens 2005).

This is incorrect. Additional data were collected in 2010 and reported to the Commission at the onset of the public hearing. These data demonstrated that, if anything, Vernal Pool #37 is lower in productivity than originally estimated and may in fact be a long term "sink" where breeding is unsuccessful in most years.

It is our opinion that the vernal pools should have been inventoried again in the Spring of 2010, before application [sic] was made for the modification.

The pools were inventoried in the Spring of 2010, which confirmed the prior analysis.

[A]t the Ingham Hill Road parcel, [the] siting of Lots 12 and 13, with massive cuts and fills for the short roadway and cul-de-sac, and in the siting of Lots 7 and 8, where the houses are shown on slopes steeper than 20 percent and where little land exists which have a slope less than 18%.

Lots 12 and 13 have been eliminated. All of the homes and driveways are shown for feasibility purposes only. Each lot contains the required Minimum Area of Buildable Land (MABL), demonstrating that it is feasible to develop these lots in a responsible manner. Additional

engineering data has been provided to demonstrate that driveway access is also feasible.

[A]t the Bokum Road pod...the access roadway, which have been designed to [sic] also provide potential future access to the remainder of River Sound holdings to the west. In the originally approved Special Exception ... only an access road was shown. At that time this roadway followed the contours more closely, and was generally aligned with an existing woods trail in the area of now proposed Lots 3 and 4. The applicant ... has shifted the alignment southwesterly, necessitating massive earth removal with cuts in the order of 20 to 30 feet.

Shifting the road alignment has been reviewed for engineering feasibility and environmental impact. It would not result in any loss of wetlands, vernal pools, unusual or unique wildlife habitat, or state-listed species.

[T]he applicant should re-align the access roadway at the Bokum Road pod and eliminate Lots 3 and 4. This will also reduce inevitable impacts to Vernal Pool #37 by the roadway, which impinges within the critical 100 foot wide vernal pool envelope (Klemens 2002) [incorrect citation in original] and also adversely affects its longterm [sic] hydrology by diverting away a significant portion of its watershed.

No change is proposed for the alignment of the access road in the vicinity of Vernal Pool #37, which as noted above, is the least significant pool on the entire property. Vernal Pool #37, which is likely to be a sink, would not be conserved under either the approved or the modified plan. Dr. Klemens' February 12, 2011 letter provides additional detail. Neither the approved nor the modified plan can accomplish this and still provide access to the core property.

[T]he record already has ample information about these features, to argue for preserving the entire land area in the proposed Ingham Hill Road pod as open space, as was previously proposed by the applicant.

In fact, the area proposed for development in the Ingham Hill Road pod is "in-fill development".

Although REMA did not participate in the site walk, reviewed [sic] aerial photographs (example attached) clearly show the extensive light gray rock outcrop areas in the vicinity of the Ingham Hill pod.

The photograph provided does not allow for the differentiation between bedrock outcrops and surface boulders.

The proposed homes and roads would *greatly reduce the ecological integrity* of the landscape in this area [.]

Even the most cursory examination of readily available aerial photographs shows that this area has already been developed for residential purposes. There will be no significant change in the ecological integrity of the landscape at the (existing) terminus of Ingham Hill Road under the proposed modifications.

[D]ry growing conditions, where soil is very shallow and also acidic, support a distinctive *woodland* community (25-60% tree cover) quite similar to droughty, sandbarren [sic] communities on outwash plains, though pitch pine is less common.

EPS' Biological Survey, which has been available to REMA for over 5 years, conclusively demonstrates that this plant community is not present.

Kenneth Metzler and Juliana Barrett (and also Nature Serve on a regional scale) [sic] have classified two such plant communities: on summits and outcrops: (I) the "pitch pine/lowbush blueberry" vegetation class with characteristic herbs including bushclovers (*Lespedeza* sp), and *pinweeds (Lechea* spp) (p. 22), and (2) on talus slopes with acidic, crystalline rocks the "red oak/rock polypody" vegetation class on p. 24. Characteristic Lichens, ferns, sedges, and mosses are also associated with these communities. The disproportionate occurrence of state-listed and uncommon species in these habitats is apparent in a seminal botany treatise for this region: The Vascular flora of Southeastern Connecticut which lists the habitats for all species found here, and whether they are rare, uncommon, abundant, etc.

EPS' Biological Survey, which has been available to REMA for over 5 years, conclusively demonstrates that these plant communities are not present.

[W]e believe that *feasible and prudent alternatives exist* that would reduce or eliminated [sic] unreasonable impacts to natural resources and the Ingham Hill Road pod. The preferred ones are: (1) No lot development at this parcel, reflecting the original intent of River Sound in the approved Special Exception, and (2) elimination of Lots 1, 2, 7, 8, 11, and 12.

Because the plans will not result in any unreasonable pollution, destruction or impairment of the air, water or natural resources at the site, there is no need to re-visit the alternatives analysis.

An entire methodology for assessment of stream impairment (EPA RBA Rapid Bioassessment) is based on the progressive loss of aquatic invertebrate and fish diversity as nutrient levels increase, with ensuing proliferation of periphyton.

The detailed natural resource and biological inventory provided by River Sound (and available to REMA for over 5 years) demonstrates that there are no fishery resources in the Ingham Hill Road or Bokum Road pods. REMA has presented no site specific data to justify their speculation that nutrient levels will increase and cause algal blooms.

One large scale study of groundwater fed streams in the Croton Watershed found that nitrate-N concentration was a function of the density of unsewered homes in the surrounding landscape (Paul Heisig, USGS 2000[6], abstract attached).

The Croton watershed is not comparable to the rural/suburban River Sound site. While some of the Croton's headwaters (East Branch) rise within the Great Swamp of Putnam/Dutchess County NY, the Croton watershed lies largely within the urbanized/suburbanized landscape of Westchester County, NY, which is within the densely developed 75-mile radius surrounding New York City as defined by the Regional Plan Association. The density of residential development is substantially higher (1.6 units/acre in Basin 20, described by the authors as characteristic of the Croton watershed) and land uses also include commercial and industrial activity. The densities proposed for the three pods at the River Sound site are much lower; 0.35 units/acre in the West PRD; 0.22 units/acre at Ingham Hill Road, and 0.27 units/acre at Bokum

road. The referenced document does not include any water quality data for wetlands of any kind, let alone headwater wetlands. Finally, the document actually concludes that even narrow riparian buffer have a positive impact on downstream nitrate concentrations. The proposed modifications include wide buffers.

Dilution is the final stage for treatment of Nitrate-N in septic effluent, after it exits the formal septic system.

Plant and algal uptake, as well as microbial denitrification, are well known processes that attenuate nitrate-nitrogen, in addition to dilution. As noted by Heisig in the 2000 USGS publication REMA cited above, "Nitrate concentrations can be diminished through 1) denitrification as groundwater passes through organic rich sediments or wetland areas prior to reaching a stream and 2) biologic (algal and plant) uptake after reaching a stream".

[A]dverse nutrient impacts to nearby wetlands from septic systems ...will be exacerbated by even modest sediment releases during construction, and any excess turf fertilizers, long-term.

REMA has provided no evidence that sediment releases or excess turf fertilization will occur, let alone that the levels that reach the wetlands will have an adverse impact. This is a planning level approval only. No grading, landscaping, or erosion control plans have been prepared. Substantial distances separate the proposed lots and the wetlands, which all lie on fee-simple, dedicated open space. Furthermore, conservation easements are proposed on the portions of the proposed lots that drain toward wetlands. Dilution, filtration, plant uptake, and denitrification will provide attenuation, IF any significant nutrient discharges occur. Nevertheless, dilution alone is likely to be sufficient due to the low housing density and complex, bedrock-controlled topography, which limits the volume of septic effluent that could reach any individual wetland. .

January 18, 2011

Mr. Robert McIntyre, Chairman
Old Saybrook Planning Commission
302 Main Street
Old Saybrook, CT 06457

RE: Riversound Development
Preliminary Open Space Subdivision Modification

Dear Mr. McIntyre:

I am writing in response to REMA Ecological Services January 5, 2011 review letter regarding the referenced proposal. In the response that follows, REMA's original text will be reproduced **in bold face text** and my specific response will be given *in italics text*. Summary comments and conclusions will be in standard text. Please note that I do not have an opinion as to the procedural and legal issues raised by REMA's client; except to note that the proposed Modification to the Preliminary Open Space Subdivision Plan do not have any environmental impact. If approved, nothing can be built, nor is any final approval by either your Commission, or any other town commission, inevitable. In fact, your approval of a special exception for a Preliminary Open Space Subdivision was followed by the Conservation Commission's denial of permits for activities in and adjacent to wetlands and watercourses, which even if granted is only a necessary pre-condition to submittal of final plans for approval by your commission.

We are concerned that development of these pods prior to the much larger, interior parcel, will limit the prudent and feasible alternatives open to the applicant to meet concerns at that stage.

The proposed modifications impose no significant limitation on the development of the interior parcel. They provide for and were designed in concert with, the layout of the approved Open Space Subdivision Plan. Interior road access is essentially identical and the areas available for infrastructure and future residential development remain substantially the same.

The Ingham Hill Road area and the portion of the West PRD (now to be developed) were originally to have been part of the proposed open space, based on the planning process in 2005, and were accordingly not analyzed in detail for potential adverse impacts from residential development.

In actual fact, all three areas were analyzed in detail as part of the original planning process. For example, wetlands were delineated, botanical, wildlife and soils data were collected, and the through roads were designed after consideration of the resources in these areas.

<u>Landscape level analysis</u> is lacking…

In fact, landscape level analysis was performed as part of the original planning process and used to inform and refine this plan, which is, in fact, a preliminary plan and not a final design.

Additional *wildlife data* is also needed…

Detailed wildlife data was incorporated into the planning of the approved Open Space Subdivision and was used to inform the planning of the proposed modifications. This information has been available to REMA for over 5 years and was updated for the current application..

Would the proposed homes impact suitable adjacent rocky upland forested amphibian upland habitat?

No homes are proposed as part of this preliminary open space plan. However, the layout of the roads and lots, as well as the conceptual location of homes and driveways, has been developed to minimize impacts on amphibian habitat to the extent practical. The vernal pools whose critical terrestrial habitat was conserved remains the same under the modified plan as under the approved plan.

***Careful vegetation surveys* are essential for decisions regarding appropriate locations of open space in open space subdivisions.**

Extremely thorough vegetation surveys were performed as part of the planning process for the approved Open Space Subdivision. They have been available to REMA for over 5 years.

For the West PRD, prior fieldwork identified *Opuntia humifusa* (prickly pear) in several sunny, rocky areas (previously not to be developed, now Condo Units #8 and #9).

The plans have been modified to relocate Units 8 and 9 and preserve the existing *Opuntia* plants and a substantial area around them as open space with physical restrictions on access; and necessary maintenance. The final plans will include the appropriate details.

In the Ingham Hill and Bocum [sic] Road Pods multiple areas with proposed activities (lawns and driveways) also fall within the 100 foot upland review area (URA).

No activities are proposed as part of the Preliminary Open Space proposal. If approved, specific plans will be developed and will be presented to the Inland Wetlands Commission for approval. However, I would note the following:

1. Upland review areas (URAs) are regulated, only to the extent that proposed activities can be shown to have an adverse impact on the wetland itself.

2. Driveways are shown only to demonstrate feasibility. Detailed plans for activity in upland review areas will be presented to and will require approval from, the IWWC.

3. The presence of a lawn or a driveway in an upland review area cannot be taken as a priori evidence of an impact on wetlands. REMA has provided no specific evidence of any harm to wetlands.

4. The disturbance in URAs proposed in the Ingham Hill Road pod is substantially the same as that shown in the approved subdivision. The applicant is also willing to have the Plan modified to provide a "T" intersection at its roadway entrance to avoid blasting and land disturbance on the east side of Ingham Hill Road.

5. The proposed road in the Bokum Road pod is located in the same place as the approved through road, except that it is, obviously shorter(unless extended) and requires less disturbance.

6. At the Bokum Hill Road pod, the road and all of the potential house, driveway and septic system locations are outside of the wetlands, and their URAs, with the exception of the road southwest of vernal pool 37. In this area, the road is in the same location as the approved road. Vernal pool 37 has the lowest productivity of any pool on the entire 1000 acre site (2 Wood frog egg masses in 2004; none in 2010). There will be no direct impact on this wetland. While the final road location and design is the province of the IWWC, the impact on amphibian productivity and other wetland functions will be negligible. I base this conclusion on the following; as shown on RS-6 Preliminary Open Space Plan (Modification) revised through 1/13/11)

- *Lot 1 is the existing house. Retaining it will have no impact on wetlands.*
- *Lot 2 can be developed without any impacts in wetlands or URAs. The conceptual home and driveway location do not drain to any vernal pools.*
- *Lot 3 does not contain any wetlands, vernal pools, or URAs. It can be developed so that no drainage is discharged to vernal pools.*
- *Lot 4 does not contain any wetlands, vernal pools, or URAs. It can be developed so that no drainage is discharged to vernal pools.*
- *Lot 5 does not contain any wetlands, vernal pools, or URAs. It can be developed so that no drainage is discharged to wetlands or vernal pools.*
- *Lot 6 does not contain any wetlands, vernal pools, or URAs. It can be developed so that no drainage is discharged to wetlands or vernal pools.*
- *Lots 7 and 8 do not contain any wetlands, vernal pools, or URAs. It is possible that some drainage will discharge to vernal pools located a substantial distance from the lots (350-500'). The low volume of drainage from a single family home is unlikely to have an adverse effect on the pools, but will be reviewed as appropriate by the IWWC when a permit application is filed for specific regulated activities.*
- *Lot 9 does not contain any wetlands or vernal pools, but a small area of URA. No activity is required in the URA. The small amount of drainage from a single family home is unlikely to have an adverse effect on the pools, but will be reviewed as appropriate by the IWWC.*

Although the proposed home locations in the West PRD parcel are not very close to wetlands, it is unclear whether there could be adverse impacts without such a conceptual plan.

As noted above, no impacts will occur if the proposed modifications are approved. If they are approved, specific plans will be developed and presented to the IWWC for Inland Wetlands approval. However, it is

also clear from even a brief examination of the plans, that the activities shown conceptually in the West PRD will not have an adverse effect on wetlands or watercourses. The access road is located in the same place as on the approved plans. The PRD involve fewer units and less potential land disturbance than the approved plans. Furthermore, all of the grading, units, and driveways are shown north of the access road, while all of the wetlands and vernal pools are located south of the road. The closest potential activity shown is a driveway, almost 200' from a wetland. This is coincident with the location of the through road on the approved Plan.

Many of the test pits for septic systems are on very steep slopes...

As REMA is aware, septic systems are regularly installed on steep slopes in Connecticut. Final plans will detail cuts and fills and proper erosion controls. These plans were developed to the level of detail necessary to demonstrate feasibility. They are not final plans for approval. Robert Doane will provide additional testimony as to septic system locations.

[T]he proposed changes are reasonably likely to cause adverse impacts to multiple wetlands and ecological communities.

Neither REMA's letter nor their testimony to date provides any basis for this assertion. REMA has not requested permission to conduct on-site investigation, nor were they present at the public site walks that have been held. They have disregarded the detailed vegetation and wildlife surveys that are in the public record from the original Open Space Subdivision and wetland public hearings, at which REMA testified extensively. REMA has had access to that information for over 5 years. The reports were supplied to REMA's client as a party to those approval processes and were referenced numerous times by REMA during that process. Their letter identifies ***potential*** *concerns based on their failure to adequately review the detailed information supplied as part of the approved Open Space Subdivision Plan, and supplied with this application. Finally, the proposed changes to the Preliminary Open Space Plan are conceptual only. No construction can occur without a wetland permit from the IWWC and final subdivision approval by the Planning Commission.*

In summary, REMA's January 5, 2011 letter fails to recognize the limited nature of the proposed modification and the extensive natural resource database assembled, distributed, and reviewed as part of the original special exception approval and subsequent wetland permit application. This data was updated to reflect 2010 conditions. They have identified numerous "concerns" but have failed to state with specificity any adverse environmental impact that are reasonably likely to occur as a result of approval of the proposed modification. Finally, a careful look at the plans clearly shows that the proposed activities are consistent with, and the potential impacts on air, land, water, and natural resources are substantially the same as, the approved Open Space Subdivision.

I would be happy to clarify or expand on any of these comments, if necessary.

Yours truly,

Michael S. Klein, Principal
Registered Soil Scientist
Certified Professional Wetland Scientist