

WELLING GEOSERVICES INC.

REVIEW OF INLAND WETLAND & WATERCOURSE DELINEATION REPORTS

INTRODUCTION:

At the request of the Nod Road Preservation Inc., I have reviewed the following reports and submitted some important questions:

- Wetland Boundary Map Amendment, Blue Fox Run Golf Course Property Nod Road, Avon CT, prepared by Davison Environmental and dated August 7, 2020
- Report in support of the boundary amendment prepared by CLA Engineers, Inc. and dated August 7, 2020
- Wetland Boundary Review, Blue Fox Run Golf Course Application #768 prepared by North Central Conservation District Inc. and dated September 22, 2020

Glaciation followed by deglaciation are the geologic processes that created the parent material for soil formation in the New England area. Since the glaciers receded, approximately 12,000 years ago, soils have been forming in this parent material. Predominately, the soils in the subject area formed from glaciofluvial deposits some of which were left from a glacial lake that occupied the Farmington River Valley. In more modern times, the natural processes of stream formation, including meandering, flooding and deposition along the Farmington River have further developed these soils in Avon, CT. These soils were originally mapped by state soils scientists and published in the county survey subsequently and they have been incorporated into the USDA NRCS Web Soil Survey.

To begin with, these soil series boundaries were mapped prior to the development of the Blue Fox Run Golf Course. Thus, it would be difficult to disagree with the Town's current mapping since the on-site soils have been disturbed by the installation of the golf course and infrastructure. This is apparent based on the North Central Conservation District Inc. (NCCD) report findings which stated: "Given the complexity in pattern of natural and disturbed soils and the similarity of high terrace alluvial soils and glacial outwash soils, an exceptional number of test holes as well as laboratory confirmation of specific soil properties would be required to more precisely define a boundary, far exceeding standard soil mapping procedures and professional practice." My major concern is that the information submitted by the applicant has not given any clear evidence that the Town of Avon Wetland Map based on original soils is inaccurate and needs to be changed.

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In my experience, I have not seen the 100-year FEMA flood elevation replace wetland boundary lines. In addition, I believe that this methodology weakens our profession as soil scientists. Please note that the 100-year FEMA flood elevation is subject to more frequent changes based on watershed development and climate change than are soil criteria.

QUESTIONS:

In reviewing the NCCD report dated September 22, 2020 concerning the wetland boundary review of Blue Fox Run Golf Course I have developed the following questions:

- The report stated that "some flags delineating the wetland boundaries had been re-established just prior to our visit." Which flags? How many? How do we know that these flags are the ones shown on the submitted map? Without this information we do not know what wetland boundary was reviewed by the applicant's soil scientists with NCCD soils scientists.
- In the NCCD Observations section of their report, they stated that alluvial soils (which are wetland soils) were noted outside the wetland boundary that had been delineated on the preliminary map. This is a significant concern to me. Exactly, where and how much alluvial soils were noted by NCCD soil scientists. This leads to questions about the accuracy of the submitted wetlands boundary map.
- In the Comments section of the NCCD report a statement was made that "Occum Soils and similar alluvial soils on the site typically have lenses of gravel and sand with depth. The presence of sand and gravel does not automatically signify the presence of outwash soils". This reflects an issue that the NCCD soils scientists had with the applicant's soil scientists over the basic classification of alluvial (wetland) soils. This needs to be completely explained and agreed to by these soil scientists, since it calls into question the validity of this submission map.
- The NCCD and the applicant's soils scientists came to an agreement that they could not agree on a wetland soils boundary for the alluvial and floodplain soils, thus, they agreed to use a non-soil criteria -- the 100 year flood plain elevation. I would like an explanation of why soils criteria were abandoned and why the 100-year FEMA flood elevation was agreed to. And which soils criteria agreed with the 100-year flood elevation and not the 500-year FEMA flood elevation.

In reviewing the Wetland Boundary Map Amendment, Blue Fox Run Golf Course Property Nod Road, Avon CT, prepared by Davison Environmental and dated August 7, 2020 I have the following questions:

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- The report states “That work confirmed that there were no alluvial or floodplain soils outside of the area defined by the 100-years flood elevation” however, the NCCD report appears to contradict this by stating that alluvial soils (which are wetland soils) were noted outside the wetland boundary that had been delineated on the preliminary map. Please clarify this.
- The report they recommended the 100 year return frequency flood as a conservative representation of the limit of the floodplain and alluvial soils at the site. I would like an explanation of why soils criteria were abandoned and why the 100-year FEMA flood elevation was agreed to. Along with which soils criteria agreed with the 100-year flood elevation and not the 500-year FEMA flood elevation.

In reviewing the Report in support of the boundary amendment prepared by CLA Engineers, Inc. and dated August 7, 2020. I have the following questions:

- The “Clarification for Human-Altered and Human-Transported Soils in CT Guidance to Delineation of Wetlands Driven by Hydric Conditions, Including Watertable Saturation” as stated in the report relates to only a portion of the site. Which portion of the site? How large? And how does this impact the wetland delineation?
- Please describe the criteria used to identify between alluvial (wetland) soils and outwash (non-wetland) soils based on the NCCD comments that “the presence of sand and gravel does not automatically signify the presence of outwash soils.”

These questions are all significant and need to be completely addressed by the applicant.

If you have any questions or require any additional information I would be please to provide it.

Very truly yours,

~Timothy Welling~

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