

Datum Engineering and Surveying LLC.

Richard Zulick
Soil Scientist
400 Nott Highway
Ashford, CT
06278

September 30, 2020

Town of Somers
Inland Wetlands and Watercourses Commission
Somers, CT.

Re: Wetland function and value assessment report, 142 Turnpike Road, Somers, CT.

Dear Commissioners:

I have reviewed the overview plan for 142 Turnpike Road, Somers, CT, prepared for the Estate of Jane Palmer- Frank Palmer executor, 7189 Cedarwood Circle, Boulder, CO. This plan has been prepared by Michael Mocko Environmental Consultant, 36 Hampden Road, Stafford, CT dated December 2019 and revised February 29, 2020. At the request of Michael Mocko Environmental Consulting, I have conducted a wetland assessment on this subject property.

The wetlands on this plan have been investigated in accordance with the standards of the National Cooperative Soil Survey and the definition of wetlands as found in the Connecticut General Statutes, Chapter 440, Section 22A-38.

This investigation is not intended to be used for soil mapping but to identify the wetland soils relative to the development and management of this parcel. The wetlands boundaries have been marked with pink and blue flagging by Highland Soils as shown on this plan.

I have fully evaluated the soil testing results observed by Stephen Jacobs of the Somers Health Department as well as the Ground water monitoring data. I have conducted soil observations with both a hand auger and shovel.

Existing Conditions

The proposed development area consists of gently sloping soils formed in loamy over firm sandy till. These soils on this site have experienced dramatic changes in hydrology in the past recent history. These changes are a result of recent development. The biggest factors contributing to this change are the construction of both Turnpike Road and, more importantly, Franklin Woods Drive.

Franklin Woods Drive is located up gradient of this subject property and was constructed with deep underdrains. The combination of Franklin Woods Drive's contouring and its

underdrains have effectively reduced up gradient ground water movement and all but eliminated overland flow to this property.

Proposed Development

This proposed development area consists of a new single family three bedroom home and an on-site septic system to be constructed in soils at the northern portion of this property. This septic system was the result of extensive soil testing and ground water monitoring. The septic system design has been approved by The Town of Somers Department of Health

Wetlands

The wetland area flagged is a wooded wetland consisting of Raypol soils. It is located to the east of the proposed development, and is shown on the plan and in the field as an area delineated by flags W7 to W14. The area was field delineated by Highland Soils, LLC. And represented by a letter to Rachel Dearborn L.S. and dated February 10, 2020. (enclosed).

I concur with Mr. Ianni's delineation as shown on the Site Plan and Septic System Design plan.

The Raypol series consists of very deep, poorly drained soils formed in loamy over sandy and gravelly outwash. They are nearly level to gently sloping soils in shallow drainageways and low-lying positions on terraces and plains. The soils have a water table at or near the surface much of the year. Permeability of the Raypol soils is moderate in the surface layer and subsoil and in the substratum

TAXONOMIC CLASS: Coarse-loamy over sandy or sandy-skeletal, mixed, active, acid, mesic Aeric Endoaquepts.

Wetland Functions and Values

The wetland complex was inspected to determine wetland functions and values utilizing the Army Corps. of Engineers methodology as outlined in "The Highway Methodology Workbook Supplement". This wetland exhibited the following wetland functions and values with the corresponding rationale:

Ground water recharge and discharge: potential for and public or private wells occur downstream of the wetland, wetland is underlain by sandy soils present in or adjacent to the wetland.

Flood flow alteration: the area of this wetland is small relative to its watershed. Effective flood storage is small or non-existent upslope of or above the wetland. Wetland contains hydric soils which are able to absorb and detain water, wetland exists in a relatively flat area that has flood storage potential, wetland has ponded water, and signs are present of variable water level, wetland receives and retains overland or sheet flow runoff from surrounding uplands. In the event of a large storm, this wetland has the potential to detain excessive flood water

Sediment/toxicant retention: potential sources of sediment are in the watershed above the wetland, opportunity for sediment trapping by slow moving water and shallow water habitat are present in this wetland, fine grained mineral or organic soils are present, long duration water retention time is present in this wetland, public or private water sources occur downstream, effective floodwater storage in wetland is occurring, areas of

impounded open water are present, channelized flows have visible velocity decreases in the wetland, diffuse water flows are present in the wetland, wetland has a high degree of water and vegetation interspersion, and dense vegetation provides opportunity for sediment trapping and/or signs of sediment accumulation by dense vegetation is present.

Nutrient removal: Shallow water and limited open water habitat exists within the complex beyond the watercourse. Overall potential for sediment trapping exists in the same areas. Saturated soils exist for most of the season, ponded water may be present in the wetland, organic/sediment deposits are present, dense vegetation is present with emergent vegetation and/or dense woody stems dominant, water retention/detention time in this wetland is increased by thick vegetation and other dense herbaceous and shrub vegetation in wetlands utilize and immobilize excess nutrients transported/deposited by developed areas upstream.

Production export: Wildlife food sources grow within the wetland beyond the watercourse, evidence of limited wildlife use found within this wetland, higher trophic level consumers may be utilizing this wetland, a few high vegetation density species are present, wetland exhibits moderate degree of plant community structure/species diversity, wetland contains flowering plants that are used by nectar-gathering insects.

Wildlife habitat: Wetland is fragmented by significant development both upstream and downstream, however, upland immediately surrounding this wetland is undeveloped and will remain so after completion of this project. No significant animal signs observed (tracks, scats, nesting areas, etc.), wetland contains a population of insects and amphibian populations.

The wetlands were also examined for wetland values (recreational, educational/scientific, visual/aesthetic, or uniqueness/heritage values) and the following values were noted with their rationale:

Recreational value: The wetlands have a limited area accessible for hiking, and photography.

Visual/aesthetic value: There are acres of wetlands east of this property. The combination of these wetlands provide a diversity of vegetative species in view from primary viewing locations, wetland is also easily accessed and considered to be valuable wildlife habitat.

Non wetland area:

The non wetland area encompasses the remainder of the subject property. This area does exhibit much of the taxonomy and morphology that define wetland soils, however, the area is varied by subtle changes in elevation which result in borderline wetland conditions.

While some of these soils may appear to be hydric (as exhibited by a depleted matrix color), the hydrology to support hydric soil absolutely does not exist (as demonstrated by stand pipe data). Septic systems **are not constructed in wetlands for any new construction**, however, this lot can (and will) support a subsurface sewage disposal system because of the tremendous separation distance between the bottom of the proposed leaching system and the high spring water table.

Conclusions:

The existing delineated wetland area has been degraded by the alterations resulting from

surrounding road construction/ development and the reduction in the water table elevation. The wetland exhibits functions and values described above that will continue into the future if protected. It is my advice that the new proposed curtain drain maintain a twenty five foot separation distance, where possible, to prevent further degradation by additional water table reductions.

The non wetland area provides ground water recharge which is the only value associated with wetlands. Ground water recharge exists at different levels in all soils. Even if one were to consider this area a wetland, no other wetland values or functions exist within it. This area cannot function as a wetland without a wetland type high water table regime.

In summary, it is my opinion that the subject property can be developed, with minor modifications, to the proposed curtain drain without any resulting significant negative impact to the wetland and non wetland areas.

If you have any questions concerning the wetland function assessment or this report, please feel free to contact me.

Sincerely,



Richard Zulick
Certified Forester and Soil
Scientist
Member SSSSNE

HIGHLAND SOILS, LLC

February 10, 2020

Rachel Dearborn L.S.
61 Lower Butcher Road
Ellington, CT 06029

**RE: 142 TURNPIKE ROAD
SOMERS, CT**

Dear Rachel:

The inland wetland boundaries on the above-referenced property were field delineated in 2014. The wetlands were field delineated in accordance with the standards of the National Cooperative Soil Survey and the definition of wetlands as found in the Connecticut General Statutes, Chapter 440, Section 22A-38. A spade and auger were used to examine multiple soil profiles on the property. I have reviewed the plans prepared by your office and have found the representation of the field delineated wetlands to be substantially correct.

If you have any questions, or require additional information, please call me at (860) 742-5868.

Very truly yours,

John P. Ianni
John P. Ianni, M.S.
Professional Soil Scientist

TOWN OF SOMERS

Department of Health
600 Main St.
Somers, CT 06071
(860) 763-8216

FEE: \$150.00
DUE

REVIEW OF SITE PLAN FOR A SUBSURFACE SEWAGE DISPOSAL SYSTEM ON:
142 Turnpike Rd., SOMERS, CT

TO: Frank Palmer
7189 Cedarwood Cir.
Boulder, CO 80301

DESIGNER: J. Ward, P.E.
DATE OF PLAN: 12/19
REVISED TO: 2/29/20

REASON FOR SUBMISSION

- HIGH GROUNDWATER LEVEL
- SHALLOW BEDROCK
- EXCESSIVE SLOPE
- RESTRICTIVE SOIL HORIZON
- NEW CONSTRUCTION REPAIR
- OTHER _____

DESIGN SPECIFICATIONS

ESTIMATED FLOW: 3 bdrm DESIGN PERC. RATE: 11-20 MIN./IN.
SEPTIC TANK: 1500 GALS. LEACHING SYSTEM: 1113 SQ. FT.
FILL SYSTEM: ± 2.0 FT. 96 L.F. Mantis Double-wide 58
CURTAIN/FOOTING DRAIN: BOTH OTHER: _____

ACTION:

- APPROVAL
- APPROVAL WITH MODIFICATIONS OR PROVISIONS NOTED
- APPROVAL DENIED - SITE UNSUITABLE FOR AS IT PRESENTLY EXISTS
- APPROVAL DENIED - INSUFFICIENT INFORMATION ON PLAN
- APPROVAL DENIED - REVISE AS NOTED

COMMENTS: 1. Approval of the Somers Conservation
Comm. required prior to issue of any permits
2. Perimeter Curtain Drain and Primary Leaching
Area Fill must be installed under supervision
of Design Engineer prior to issue of a Building
Permit.
3. \$150.00 Plan Review Fee must be paid prior to issue
of Building Permit.

COPIES TO:

- BUILDING OFFICIAL
- TOWN ENGINEER
- ZONING OFFICER
- WETLANDS OFFICER
- APPLICANT
- ENGINEER
- OTHER (M. Mucke)

SINCERELY,


STEVEN JACOBS
REGISTERED SANITARIAN

DATE 3/10/20