

**Town of Montville Inland/Wetlands Application**

# 220 IWC 15

CK# 39466

APPLICANT INSTRUCTIONS: All applicants must complete this application form. The Commission will notify the applicant of any additional information that may be required and will schedule a Public Hearing if necessary. In addition to the information required, the applicant may submit other supporting facts or documents which may assist the Commission in its evaluation of this proposal. PLEASE SUBMIT THREE COPIES OF THE APPLICATION AND THREE COPIES OF ANY OTHER DOCUMENTS AT LEAST FIVE (5) BUSINESS DAYS PRIOR TO THE MEETING.

**I. Applicant Information**

Name Lindo Construction, LLC Address 542 Route 161, Oakdale, Connecticut 06370

Phone (860) 447-7708 Cell (860) 857-5286 FAX N/A

EMAIL: lbuild@sbcglobal.net

Interest in Property  Owner  Option Holder  Developer  Harvester  Other

**Attach a Written Consent to the proposed activity from the owner if applicant is not the owner**  Required  Not Required

**II. Owner Information**

Name Lindo Construction, LLC Address 542 Route 161, Oakdale, Connecticut 06370

Phone (860) 447-7708 Cell (860) 857-5286 FAX N/A

EMAIL: lbuild@sbcglobal.net

**III. Engineer Information**

Contact Wesley J. Wentworth

Firm Wentworth Civil Engineers LLC Address 177 West Town Street, Lebanon, Connecticut 06249

Phone (860) 642-7255 Fax (860) 642-4794 Email wes@lebanongreen.com

Cell (860) 576-5822

**IV. Attorney Information**

Contact Harry B. Heller

Firm Heller, Heller & McCoy Address 736 Norwich-New London Turnpike, Uncasville, Connecticut 06382

Phone (860) 848-1248 Fax (860) 848-4003 Email hheller@hellermccoy.com

Cell (860) 961-6073

**IV. Property Information**

Address of Proposed Activity 90 Maple Avenue

Assessor's Map and Lot Number 017-015-000

Land Records/Deed Volume: 635 Page: 1189 Acreage of Property 20.17 Zoning R-20

**Provide a List of the Names and Mailing Addresses of Adjacent Property Owners (Attach Sheet)**

**SEE ATTACHED SHEET.**



**VI. Wetlands and Watercourse Information**

Total Acreage of Wetlands on the site 1.83 acres

Wetland Disturbance Area 0 sq ft

Upland Review Disturbance Area 21,600 sq ft

Have the Wetlands Been Flagged  Yes  No Year 2020

Name of Soil Scientist Wesley J. Wentworth

Linear Feet of Watercourse Disturbance 0 ft

Creation of New Wetlands 0 sq ft

**VII. Project Description**

- Subdivision
- Review No Regulated Activity
- Permit Modification
- Regulated Activity
- Permitted Use as of Right
- Permit Renewal

**Activity will involve (Check all that apply)**

- Alteration
- Construction
- Pollution
- Stormwater Discharge
- Deposition of Material \_\_\_\_\_ cubic yards
- Removal of Material \_\_\_\_\_ cubic yards

**See attached checklist of items that are to be included on Plan and supplemental data.**

A) Attach a Detailed Plan of the Proposal and indicate Plan Title and Date.

“Site Development Plan Maple View Apartments 90 Maple Avenue Prepared For Lindo Construction, LLC Montville, Connecticut Job No.: 2015-028 Date: April 6, 2020 Sheets 1 to 12 Map Nos.: 2018-003-1C, 18-003-10A, 18-003-1L, 18-003-1G, 18-003-1PP, 18-003-1ES and 18-003-1N Rob Hellstrom Land Surveying LLC 32 Main Street Hebron, CT 06248 (860) 228-9853 (860) 228-1360 (Fax) hellstromsurveying@yahoo.com www.hellstromlandsurveying.com Mailing Address: P.O. Box 497 Columbia, CT 06237-0497 Wentworth Civil Engineers LLC 177 West Town St. Lebanon, CT 06249 Tel. (860) 642-7255 Fax (860) 642-4794 Web: wentworthcivil.com” submitted herewith.

B) Provide Brief Description of the Proposed Project on separate piece of paper. Instructions attached.

See detailed Narrative submitted herewith.

C) List Titles and dates of all documentation which will be included and submitted with this application and attach to application. Documents should include, but are not limited to; Project Proposal, Soil Scientist Reports, and Drainage Calculations.

Plans referenced in Section A above dated April 6, 2020, wetlands functions, values, and impacts analysis prepared by Wentworth Civil Engineers LLC dated June 26, 2020, Stormwater Management Report prepared for Lindo Construction, LLC 90 Maple Ave. Montville, Conn. By Wentworth Civil Engineers, LLC 177 West

Town Street Lebanon, Connecticut 06249 Date: 4-06-20; List of Abutting Property Owners and Owners of Property Located Directly Across the Street from the Project Site; Project Overview, Soil Characteristics, General Procedures; Construction Sequencing and Operational Maintenance Narrative dated October 1, 2020; DEEP Reporting Form.

**VIII. Other Information**

1. Does the application involve an activity in a regulated area that is within 500 ft of another municipality?

Yes  No

- If YES, then a copy of the application and all material is to be submitted to said Town and a copy of the transmittal form is to be provided to the Commission.

2. Is the property located within a Flood Hazard Area?

Yes  No

-If YES, then please provide additional material showing the location of the area.

3. Is the regulated activity within a Public Water Supply Aquifer or Watershed?

Yes  No

- If YES, then a copy of the application and all material is to be submitted to the State Department of Health as well as the appropriate Water Company. See attached instructions for the Notification Process for the State Health Department. A copy of the transmittal forms shall be provided to the Commission.

4. Does the application require approval from Uncas Health District?

Yes  No

- If YES, then a copy of the approval is to be provided to the Commission.

5. Does the application require approval from the Public Works Dept?

Yes  No

- If YES, then a copy of the approval is to be provided to the Commission.

6. Does the application require approval from the Town of Montville WPCA?

Yes  No

- If YES, then a copy of the approval is to be provided to the Commission.

7. Does the application require permits from the following agencies?

Submission Info

Army Corps of Engineers	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Date _____
Department of Environmental Protection	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Date _____
Department of Transportation	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Date _____

- If YES, then a copy of the application and all material is to be submitted to said Agency and a copy of the transmittal form is to be provided to the Commission.

8. Does this permit require a State Water Diversion Permit?  Yes  No

9. Does this permit require a State Dam Permit?  Yes  No

10. Is this property subject to a Conservation Restriction and/or a Preservation Restriction?

- If YES, attach a copy of certified notice.

Yes

No

11. If the application is a renewal or modification of an existing permit, is a copy of the original approval included in the documentation package?  Yes  No N/A

The undersigned applicant hereby consents to necessary and proper inspections of the above mentioned property by agents of the Montville Inland Wetlands Commission at reasonable times, both before and after the permit in question has been granted by the Commission.

**LINDO CONSTRUCTION, LLC**

Name Horace Lindo Date October 1, 2020  
Horace Lindo, its Member

Property Owner  
IF other than applicant Same as applicant above Date \_\_\_\_\_

## AUTHORIZATION

Lindo Construction, LLC, the owner of real property located at 90 Maple Avenue in the Town of Montville, County of New London and State of Connecticut hereby authorizes the law firm of Heller, Heller & McCoy, as its authorized agent, to file land use applications with the Town of Montville Inland Wetlands and Watercourses Commission and the Town of Montville Planning and Zoning Commission seeking those permits and licenses required in order to enable the development of said real property for an eighty-seven (87) unit multi-family residential development in accordance with a site development plan entitled "Site Development Plan Maple View Apartments 90 Maple Avenue Prepared For Lindo Construction, LLC Montville, Connecticut Job No.: 2015-028 Date: April 6, 2020 Sheets 1 to 12 Map Nos.: 2018-003-1C, 18-003-10A, 18-003-1L, 18-003-1G, 18-003-1PP, 18-003-1ES and 18-003-1N Rob Hellstrom Land Surveying LLC 32 Main Street Hebron, CT 06248 (860) 228-9853 (860) 228-1360 (Fax) hellstromsurveying@yahoo.com www.hellstromlandsurveying.com Mailing Address: P.O. Box 497 Columbia, CT 06237-0497 Wentworth Civil Engineers LLC 177 West Town St. Lebanon, CT 06249 Tel. (860) 642-7255 Fax (860) 642-4794 Web: wentworthcivil.com".

Lindo Construction, LLC hereby further authorizes the law firm of Heller, Heller & McCoy, the civil engineering firm of Wentworth Civil Engineers LLC and Wesley J Wentworth, professional engineer and certified soil scientist to represent its interests in all proceedings before the Town of Montville Inland Wetlands and Watercourses Commission and the Town of Montville Planning and Zoning Commission with respect to said permit applications.

Dated at Montville, Connecticut this 2<sup>nd</sup> day of October, 2020.

**LINDO CONSTRUCTION, LLC**

By:   
Horace Lindo, its Member



**APPLICATION OF LINDO CONSTRUCTION, LLC TO  
TOWN OF MONTVILLE INLAND WETLANDS AND WATERCOURSES  
COMMISSION  
90 MAPLE AVENUE, MONTVILLE, CONNECTICUT**

**LIST OF ABUTTING PROPERTY OWNERS**

<b>Parcel Number</b>	<b>Property Address</b>	<b>Name and Mailing Address</b>
017-012-000	71 Moxley Road	Mr. Ernest C. Wainwright Mr. Walter N. Wainwright, Jr. 149 Great Neck Road Waterford, CT 06385
017-012-00A	63 Moxley Road	Ms. Frances M. Sylvia 63 Moxley Road Uncasville, CT 06382
017-012-000	71 Moxley Road, Unit A	SBA Towers II, LLC Attn: Tax Dept CT10016-A 8051 Congress Avenue Boca Raton, FL 33487-1307
017-015-00A	82 Maple Avenue	Mr. Peter V. Moskal Ms. Mary Ellen Moskal 82 Maple Avenue Uncasville, CT 06382
017-015-00A	80 Maple Avenue	Town of Montville (Pump Station) 310 Norwich-New London Turnpike Uncasville, CT 06382
017-016-000	110 Maple Avenue	Mr. Michael Falcone 110 Maple Avenue Uncasville, CT 06382
017-017-001	43 Milefski Drive	Mr. Michael G. Milefski 43 Milefski Drive Uncasville, CT 06382
072-001-000	98 Maple Avenue	Ms. Michaela M. Bowman 98 Maple Avenue Uncasville, CT 06382
072-002-000	102 Maple Avenue	Mr. Clinton T. Baldwin 80 Eastern Avenue Arlington, MA 02476
072-004-000	108 Maple Avenue	Ms. Jacalyn P. Norton 108 Maple Avenue Uncasville, CT 06382
072-030-000	99 Maple Avenue	Mr. Eric R. Landry 99 Maple Avenue Uncasville, CT 06382



072-031-000	4 Pequot Road	Mr. Sheldon K. Hunt Ms. Robin P. Hunt 40 Topsail Lane Mystic, CT 06355
072-046-00A	93 Maple Avenue	Pars Properties LLC 4068 Green Forest Court Rocky Mount, NC 27804
072-047-000	89-91 Maple Avenue	Mr. William R. Balkcom, Jr. 91 Maple Avenue Uncasville, CT 06382
072-045-000	9 Pequot Road	Mr. Barrie H. Bearse, L/U 707 Norwich-New London Turnpike Uncasville, CT 06382

**APPLICATION OF LINDO CONSTRUCTION, LLC (“APPLICANT”)  
TO  
TOWN OF MONTVILLE INLAND WETLANDS AND WATERCOURSES  
COMMISSION**

**MAPLE VIEW APARTMENTS MULTI-FAMILY RESIDENTIAL DEVELOPMENT,  
90 MAPLE AVENUE, MONTVILLE, CONNECTICUT**

**APPLICATION NARRATIVE  
DATE: OCTOBER 2, 2020**

**PROJECT OVERVIEW**

The Applicant is the owner of a 20.17 acre, more or less, tract of unimproved land, located on the westerly side of Maple Avenue in the Town of Montville, Connecticut (the “Property”). The Property enjoys 302.74 feet of road frontage on Maple Avenue and is located in the R-20 Zoning District pursuant to the zoning map and Zoning Regulations promulgated by the Town of Montville Planning and Zoning Commission. Multi-family residential units are a use permitted by right in the R-40 Zoning District pursuant to the provisions of Section 9.2.9 of the Town of Montville Zoning Regulations. The Applicant proposes to develop the easterly portion of the Property for eighty-seven (87) multi-family residential units in two phases as delineated on Sheet 9 of the Site Development Plan (hereinafter identified).

As depicted on the Overall Layout Plan for the project entitled “Overall Layout Plan 90 Maple Ave Prepared For Lindo Construction, LLC Montville, Connecticut Date: 4-6-20 Scale: 1” = 60’ Sheet 2 Map No. 18-003-10A Wentworth Civil Engineers LLC 177 West Town St. Lebanon, CT 06249 Tel. (860) 642-7255 Fax (860) 642-4794 Web: wentworthcivil.com” (the “Overall Layout Plan”), the Property accommodates two wetland systems and an intermittent watercourse which are more particularly described in a letter dated June 26, 2020 from Wesley J. Wentworth, soil scientist, submitted with the instant application (the “Wetland Report”). As delineated in the Wetland Report, the western wetland is delineated by Wetland Flags 128-140, the central wetland is delineated by Wetland Flags 141-179 and the intermittent watercourse is delineated by Wetland Flags 101-127. The western wetland system and the central wetland system as delineated in the June 26, 2020 Wetland Report from the project soil scientist are located upgradient from the proposed multi-family residential development. As depicted on the Overall Layout Plan, the project site accommodates 1.83 acres of regulated wetland/watercourse area.

All proposed dwelling units to be constructed in the Maple View Apartments will interconnect with the municipal sewer system administered by the Town of Montville Water Pollution Control Authority and will obtain a potable water supply from the Montville municipal water system. The Town of Montville Water Pollution Control Authority has made a determination that there is sufficient treatment and transmission capacity in the Town of Montville wastewater collection and treatment system to provide municipal sewer service to the proposed eighty-seven (87) residential dwelling units in the Maple View Apartments project and that it is capable of providing a potable water supply to the proposed eighty-seven (87) residential apartment units.



The project will obtain vehicular and pedestrian access by virtue of a private access road which will intersect Maple Avenue across the street from the intersection of Maple Avenue with Pequot Road as depicted on the Overall Layout Plan. All roads interior to the multi-family development will be privately owned and maintained by the Applicant/developer. The roadways within the multi-family development will be curbed and will accommodate a closed drainage system which will collect stormwater runoff from impervious and semi-pervious areas within the project site and transmit the same to a stormwater quality/infiltration/detention basin located in the northwesterly corner of the project site. Stormwater from the closed drainage system will discharge to a sediment forebay in the detention basin area in the northwesterly corner of the project site. The sediment forebay in the detention/infiltration basin area shall be separated from the detention/infiltration basin by a filter berm constructed in the location delineated on the erosion and sedimentation control plan entitled "Erosion and Sedimentation Control Plan 90 Maple Ave Prepared For Lindo Construction, LLC Montville, Connecticut Date: 4-06-20 Scale: 1" = 40' Sheet 9 Map No. 18-003-1ES Wentworth Civil Engineers LLC 177 West Town St. Lebanon, CT 06249 Tel (860) 642-7255 Fax (860) 642-4794 Web: wentworthcivil.com" (the "Erosion Control Plan"). The design of the sediment forebay and detention/infiltration basin has been formulated in order to attain residency time in the sediment forebay for suspended solids in the stormwater stream to filter out and settle before the stormwater passes through the semi-pervious filter berm to the detention/infiltration basin itself. The detention/infiltration basin has been sited by the project engineer in an area comprised of Hinckley sands and gravels which will provide a significant amount of infiltration of stormwater into the groundwater. Stormwater discharged from the detention/infiltration basin is controlled by an outlet structure constructed within the detention/infiltration basin with a raised orifice. The invert of the orifice has been specified at an elevation which will not permit the first 1" of rainfall to outlet the detention/infiltration basin. The first flush or 1" of rainfall will be infiltrated through the detention/infiltration basin to the groundwater. During more intense storm events, stormwater elevations within the detention/infiltration basin will be rise and will be metered out of the basin through the outlet structure orifice. The detention/infiltration basin and outlet structure has been designed to attenuate peak storm events up to the 100-year storm. As depicted on the Erosion Control Plan, an emergency overflow spillway has been provided in the event that the detention/infiltration basin becomes inundated during storm events which exceed the 100-year storm event.

A description of the vegetation and soil composition, including a detailed analysis of the characteristics and functions of the wetland and watercourse systems on the Property is contained in the June 26, 2020 letter prepared on behalf of the Applicant by Wesley J. Wentworth, certified soil scientist. This report is submitted with and constitutes an integral component of the application for permits to conduct regulated activities which is being submitted contemporaneously herewith to the Town of Montville Inland Wetlands and Watercourses Commission.

The Applicant is seeking a permit from the Town of Montville Inland Wetlands and Watercourses Commission to conduct regulated activities in upland review areas adjacent to the intermittent watercourse delineated by Wetland Flags 102-127 as depicted on the Overall Layout Plan together with temporary grading activities within the upland review area adjacent to the central wetland in conjunction with the development of Buildings 1, 3, 5 and 7 in the Maple View Apartment complex. All proposed grading activities for the development of Buildings 1, 3, 5 and 7 as depicted on the Overall Layout Plan, will be upgradient from the central wetland system (as

defined in the Wetland Report). Activities proposed by the Applicant in the upland review areas include:

1. The construction of a portion of the sediment forebay and associated culverting within the upland review area adjacent northwesterly of Wetland Flags 102-103.
2. Construction of the project access road, associated grading and the installation of utilities within the upland review area adjacent southeasterly of Wetland Flags 102-104.
3. Grading associated with the construction of Buildings 1, 3, 5 and 7 as depicted on the Overall Layout Plan adjacent northerly, easterly and southeasterly to Wetland Flags 159-175.

The Applicant, in conjunction with the development of the proposed Maple View Apartments residential project, is not proposing any direct disturbance to any inland wetland or watercourse. In conjunction with the development of its proposed multi-family residential project, the Applicant is proposing disturbance of 21,600 square feet of upland review area. Through the incorporation of a robust erosion and sediment control program during construction, and well thought out stabilization techniques and a long term maintenance program, it is not anticipated that the activities proposed by the Applicant in the upland review areas will have any adverse impact on the adjacent wetland/watercourse systems. The statements contained in this Narrative are affirmed by the Evaluation Report of Wesley J. Wentworth contained in the Wetland Report submitted with this application.

The design of the stormwater collection, treatment and discharge system for the project was chosen by the Applicant's engineer and soil scientist in order to (i) avoid disturbance in conjunction with the development of the Property in wetlands and watercourses and limit disturbance to upland review areas, resulting in no direct impact to or disturbance of any regulated inland wetland or watercourse (ii) maintain the existing hydraulic regime on the Property post-development and (iii) discharge a highly renovated stormwater to the environment in a location which will not adversely impact wetlands or watercourses.

The development plan for the Property, as well as the development techniques specified by the design engineer and soil scientist, all of which have been incorporated into the site development plan, have been formulated to accomplish the following goals:

1. To avoid, to the maximum extent possible, wetland and environmental resources, and upland review areas adjacent to those resources located on the Property.
2. To provide housing units which will represent a good value to the public.
3. To replicate the pre-development hydrology of the Property.

The stormwater quality system which has been incorporated into the project vernacular has been designed by the Applicant's consulting engineer, Wentworth Civil Engineers LLC, in order to satisfy the goals enunciated in the 2004 Connecticut Department of Environmental Protection

Stormwater Quality Manual. The detention/infiltration basin has been designed to receive and retain the water quality volume which will consist of the first one (1") inch of rainfall. The collection, treatment and discharge system has been designed both to meet the stormwater quality goals as well as to provide flood control by the attenuation of peak rates of discharge before the stormwater is released to the environment.

The soil designation for all soils located on the Property and their characteristics are set forth in the next section of this Narrative. Stormwater runoff calculations for the project are contained in a report submitted herewith by Wentworth Civil Engineers LLC dated April 6, 2020.

### **SOIL CHARACTERISTICS (BASED ON THE UNITED STATES DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE SOIL SURVEY OF NEW LONDON COUNTY, CONNECTICUT)**

Upland areas of the Property are comprised of three (3) soil types; i.e. Hinckley gravelly sandy loam (HkC), Woodbridge and Rainbow extremely stony soils (WzC) and Paxton and Montauk fine sandy loams (PbC). The soil characteristics for each upland soil type are as follows:

#### **HINCKLEY SOILS (HkC)**

The Hinckley series consists of excessively drained soils that formed in glacial outwash. Hinckley soils are found on outwash plains, stream terraces, kames and eskers. Slopes range from 0-35%. The Hinckley soils are found on the landscape near excessively drained Windsor soils, somewhat excessively drained Merimack soils, well drained Agawam and Haven soils, moderately well drained Sudbury soils, poorly drained Walpole soils and very poorly drained Scarboro soils.

The typical stratification of the Hinckley soil is as follows:

- |           |   |
|-----------|---|
| 0" – 7"   | Dark brown gravelly sandy loam; weak fine granular structure; very friable; many fine roots; 20% coarse fragments; medium acid; abrupt wavy boundary. |
| 7" – 14"  | Yellowish brown gravelly loamy sand; single grain; loose; few fine roots; 25% coarse fragments; medium acid; gradual wavy boundary.                   |
| 14" – 22" | Yellowish brown gravelly loamy sand; single grain; loose; few fine roots; 40% coarse fragments; strongly acid; clear wavy boundary.                   |
| 22" – 60" | Brownish yellow very gravelly coarse sand; single grain; loose; 60% coarse fragments; medium acid.  |

#### **PAXTON AND MONTAUK FINE SANDY LOAMS (PbC)**

These sloping, well-drained soils are found on drumloidal, glacial till, upland landforms. Mapped areas are dominantly irregular in shape and mostly 2 to 30 acres. The mapped acreage of this undifferentiated group is about 45% Paxton soil, 40% Montauk soil and 15% other soils.

Mapped areas consist of Paxton soil or Montauk soil or both. These soils were mapped together because there are no major differences in use and management. Paxton soils are found in the drainage sequence on the landscape with moderately well drained Woodbridge soils, poorly drained Ridgebury soils, and very poorly drained Whitman soils. Montauk soils are found near well-drained Montauk, Charlton and Canton soils; moderately well-drained Woodbridge soils, and poorly drained Ridgebury soils. The soil stratification for the Paxton soils is as follows:

- 0" – 8" Very dark, grayish brown, fine sandy loam, weak medium granular structure; friable; fine and medium roots; 10% rock fragments; medium acid; clear wavy boundary.
- 8" – 16" Dark, yellowish brown, fine sandy loam, weak coarse sub-angular blocky structure; friable; few fine roots; 10% rock fragments; medium acid; gradual wavy boundary.
- 16" – 23" Yellowish brown fine sandy loam; weak medium sub-angular blocky structure; friable; few fine roots; 10% rock fragments; medium acid; gradual wavy boundary.
- 23" – 27" Light olive brown fine sandy loam; weak medium sub-angular blocky structure; friable; few fine roots; 10% rock fragments; medium acid; clear wavy boundary.
- 27" – 45" Olive brown fine sandy loam; weak thick platy structure; very firm; brittle; 15% rock fragments; strongly acid; gradual wavy boundary.
- 45" – 60" Olive brown fine sandy loam; weak thick platy structure; firm; brittle; 15% rock fragments; strongly acid.

The soil stratification of the Montauk soil is as follows:

- 0" – 7" Very dark grayish-brown fine sandy loam; weak medium granular structure; friable; common fine roots; 10% rock fragments; strongly acid; abrupt wavy boundary.
- 7" – 15" Dark yellowish-brown fine sandy loam; weak medium subangular blocky structure; friable; common fine roots; 10% rock fragments; strongly acid; gradual wavy boundary.
- 15" – 23" Yellowish-brown sandy loam; weak medium subangular blocky structure; friable, few fine roots; 10% rock fragments; strongly acid; clear wavy boundary.
- 23" – 32" Brown loamy sand; massive; friable; few fine roots; 10% rock fragments; strongly acid; gradual wavy boundary.

- 32" – 38" Grayish-brown loamy sand; weak thick platy structure; firm, brittle; few fine roots; 10% rock fragments; strongly acid; clear wavy boundary.
- 38" – 60" Grayish-brown loamy sand; weak thick platy structure; very firm, brittle; 10% rock fragments; strongly acid.

### WOODBIDGE AND RAINBOW SOILS (WzC)

These gently sloping, moderately well drained soil are found on drumloidal, glacial till upland landforms. Stones and boulders cover 8-25% of percent of the surface. Mapped areas are dominantly irregular in shape and mostly 2 to 40 acres. The mapped acreage of this undifferentiated group is about 55% Woodbridge soils, 25% Rainbow soils and 20% other soils. Mapped areas consist of Woodbridge or Rainbow soils or both. These soils were mapped together because there are no major differences in use and management.

Soil stratification for the Woodbridge soil is as follows:

- 0" – 6" Very dark brown fine sandy loam; weak fine granular structure; friable; common fine and medium roots; 5% rock fragments; strongly acid; abrupt wavy boundary.
- 6" – 14" Dark yellowish brown fine sandy loam; weak fine subangular blocky structure; friable; few fine and medium roots; 15% rock fragments; strongly acid; gradual wavy boundary.
- 14" – 18" Dark yellowish brown fine sandy loam; few fine distinct strong brown mottles; weak medium subangular blocky structure; friable; few fine roots; 15% rock fragments; strongly acid; gradual wavy boundary.
- 18" – 24" Light olive brown fine sandy loam; common fine distinct strong brown mottles and common fine faint light brownish gray mottles; weak medium subangular blocky structure; friable; few fine roots; 15% rock fragments; strongly acid; clear wavy boundary.
- 24" – 28" Grayish brown sandy loam; common medium distinct strong brown mottles; weak medium subangular blocky structure; friable; 5% rock fragments; strongly acid; clear wavy boundary.
- 28" – 60" Olive sandy loam; weak medium platy structure; very firm, brittle; 10% rock fragments; strongly acid.

The soil stratification for the Rainbow soil is as follows:

- 0" – 6" Dark brown silt loam; weak fine granular structure; very friable; many fine roots; strongly acid; abrupt smooth boundary.

- 6" – 18" Yellowish brown silt loam; weak medium subangular blocky structure; very friable; few fine roots; strongly acid; clear wavy boundary.
- 18" – 16" Light yellowish brown silt loam; weak medium subangular blocky structure; very friable; few fine roots; strongly acid; clear wavy boundary.
- 18" – 26" Light yellowish brown silt loam; common medium distinct light gray and strong brown mottles; weak fine and medium subangular blocky structure; very friable; few fine roots; strongly acid; clear wavy boundary.
- 26" – 60" Pale brown fine sandy loam; common distinct light olive brown and brownish yellow mottles; weak thick platy structure; very firm, brittle; 15% rock fragments; strongly acid.

## WETLAND SOILS

The wetland soils associated with the two wetland systems delineated in the Wetland Report are Ridgebury, Leicester, Whitman soils. These nearly level, poorly drained and very poorly drained soils are found in drainageways and depressions on glacial till, upland hills, ridges, plains and drumloidal landforms. Stones and boulders cover 8-25% of the surface. Slopes range from 0-3%. The mapped acreage of this undifferentiated group is about 35% Ridgebury soil, 30% Leicester soil, 20% Whitman soil and 15% other soils. Some mapped areas consist of one of these soils, and other areas consist of two or three. These soils were mapped together because there are no major differences in use and management.

The soil stratification for the Ridgebury soil is as follows:

- 0" – 1" Partly decomposed leaves.
- 0" – 4" Black, fine sandy loam; weak medium granular structure; friable; common fine roots; 5% rock fragments; strongly acid; clear wavy boundary.
- 4" – 13" Gray fine sandy loam; common medium distinct strong brown mottles and common, medium faint yellowish brown mottles; massive; friable; 5% rock fragments; strongly acid; gradual wavy boundary.
- 13" – 20" Brown fine sandy loam; many medium distinct yellowish brown mottles and few fine faint grayish brown mottles; massive; friable; firm in place; 10% rock fragments; slightly acid; clear wavy boundary.
- 20" – 60" Grayish brown sandy loam; few fine faint yellowish brown mottles; massive; very firm, brittle; 5% rock fragment; slightly acid.

The soil stratification of the Leicester soil is as follows:

- |           |   |
|-----------|---|
| 0" – 2"   | Decomposed leaves.  |
| 2" – 6"   | Very dark gray fine sandy loam; weak fine granular structure; very friable; few fine and medium roots; 5% rock fragments; very strongly acid; abrupt smooth boundary.   |
| 6" – 12"  | Dark grayish brown, fine sandy loam; few fine faint yellowish-brown mottles and many medium distinct light brownish gray mottles; weak medium subangular blocky structure; very friable; few medium roots; 5% rock fragments; strongly acid; clear wavy boundary. |
| 12" – 24" | Grayish brown, fine sandy loam; few medium distinct yellowish-brown and dark grayish brown mottles; weak medium subangular blocky structure; friable; 10% rock fragments; strongly acid; gradual wavy boundary.   |
| 24" – 32" | Pale olive fine sandy loam; many coarse distinct yellowish brown mottles; weak medium subangular blocky structure; friable; 15% rock fragments; strongly acid; gradual wavy boundary.   |
| 32" – 60" | Light olive gray gravelly fine sandy loam; many medium distinct yellowish-brown mottles; massive; friable; 25% rock fragment; strongly acid.  |

The soil stratification of the Whitman soil is as follows:

- |           |   |
|-----------|---|
| 0" – 1"   | Decomposed leaf litter.   |
| 1" – 9"   | Black fine sandy loam; weak medium granular structure; friable; common fine and medium roots; strongly acid; abrupt wavy boundary.  |
| 9" – 16"  | Dark grayish brown fine sandy loam; few fine faint yellowish brown mottles; weak medium subangular blocky structure; friable; few fine roots; 5% rock fragments; medium acid; clear wavy boundary.                                    |
| 16" – 22" | Grayish brown, fine sandy loam; common medium distinct strong brown mottles and few medium light brownish gray mottles; moderate medium platy structure; very firm, brittle; 5% rock fragments; slightly acid; gradual wavy boundary. |

22" – 60" Grayish brown fine sandy loam; common medium distinct strong brown mottles and few medium faint light brownish gray mottles; massive; firm, brittle; 5% rock fragments; slightly acid.

Included with these soils and mapping are small areas of moderately well drained Rainbow, Sutton and Woodbridge soils and very poorly drained Adrian and Palms soils. The Ridgebury soil has a seasonal high water table at a depth of about 6". Permeability is moderate or moderately rapid in the surface layer and subsoil and slow or very slow in the substratum. The Leicester soil has a seasonal high water table at a depth of about 6". Permeability is moderate or moderately rapid. The Whitman soil has a high water table at or near the surface for most of the year. Permeability is moderate or moderately rapid in the surface layer and subsoil and slow or very slow in the substratum.

### **PROPOSED REGULATED ACTIVITIES**

1. The construction of a portion of the stormwater forebay and associated piping within the upland review area adjacent northwesterly to Wetland Flag 102.
2. Clearing, grading and construction of the proposed access road to the project site and the installation of utilities adjacent southerly and southeasterly to Wetland Flags 102-104.
3. Grading and landscaping in the upland review area in conjunction with the development of proposed Buildings 1, 3, 5 and 7.

### **GENERAL PROCEDURES**

1. Prior to the conducting any construction activities on the Property, the Applicant, and its contractor, shall meet with the Montville Wetlands Enforcement Officer and the Montville Zoning Enforcement Officer to discuss and agree upon the method of installation and maintenance of erosion and sediment control measures during construction as well as a construction inspection schedule (the "Preconstruction Meeting").
2. Subsequent to the Preconstruction Meeting, the Applicant's surveyor shall delineate in the field the limits within which construction activities shall occur and shall further delineate the location for the installation of all erosion and sediment control measures as depicted on the Erosion Control Plan.
3. Upon agreement of the Montville Wetlands Enforcement Officer and the Montville Zoning Enforcement Officer, the Applicant shall clear (but not grub) the area required for the installation of erosion and sediment control measures as delineated on the Erosion Control Plan.
4. Once clearing of the areas for the installation of erosion and sediment control measures has been accomplished, the Applicant (or its contractor) shall install the erosion and sediment control measures as delineated on the Erosion Control Plan. In no event shall grubbing or soil disturbance (other than that required for the clearing associated with the installation of

erosion and sediment control measures) occur until such time as all erosion and sediment control measures have been installed and inspected, as hereinafter provided.

5. At such time as all erosion and sediment control measures have been installed in accordance with the Erosion Control Plan and in accordance with the directives of the Montville Wetlands Enforcement Officer and the Montville Zoning Enforcement Officer enunciated at the Preconstruction Meeting, the Applicant shall contact the Montville Wetlands Enforcement Officer and the Montville Zoning Enforcement Officer to perform an on-site inspection of the installation of said erosion and sediment control measures. In no event shall actual construction activities be commenced either with respect to the infrastructure for the project or any buildings, until such time as the Montville Wetlands Enforcement Officer and the Montville Zoning Enforcement Officer have reviewed and approved the installation of all applicable erosion and sediment control measures.
6. In conjunction with the development of the Maple View Apartments, marketable timber (if any) removed in conjunction with construction activities shall be removed from the site. Construction debris (i.e. stumps, branches, etc.) shall either be (i) ground in place or (ii) removed to an area approved, in advance, by the Montville Zoning Enforcement Officer. In no event shall stumps or construction debris be buried on site.
7. All erosion and sediment control measures shall be inspected at least twice weekly while construction is ongoing and after every storm event resulting in the deposition of in excess of one-tenth of one (0.10") inch of precipitation and repaired and maintained as necessary.
8. If any erosion and sediment control measure fails or is not installed or maintained in accordance with the Erosion Control Plan or the directives of the Montville Wetland Enforcement Officer or the Montville Zoning Enforcement Officer, the Applicant shall be required to cease all construction activities with respect to the development of the Maple View Apartments until such time as said erosion and sediment and control measures have been installed in accordance with the Erosion Control Plan and/or the directives of the Montville Wetlands Enforcement Officer or the Montville Zoning Enforcement Officer and approval of the same has been certified, in writing, by the Montville Wetlands Enforcement Officer and the Montville Zoning Enforcement Officer.
9. During the stabilization period (after construction of any area on the Property has been completed, but prior to certification of approval thereof by the Montville Wetlands Enforcement Officer and the Montville Zoning Enforcement Officer for removal of erosion and sediment control measures) all erosion and sediment control measures shall be maintained in proper working order and condition. Unless notice otherwise is provided to the Montville Wetlands Enforcement Officer and the Montville Zoning Enforcement Officer, Horace Lindo of 542 Route 161, Oakdale, Connecticut 06370, (860) 447-7708, [lbuid@sbcglobal.net](mailto:lbuid@sbcglobal.net), shall be the responsible party for compliance with all erosion and sediment control measures and requirements in conjunction with construction activities on the Property. All erosion and sediment control measures shall be inspected, maintained and/or repaired, as necessary, as set forth above.

10. Subject to permitting requirements, it is anticipated that the construction of infrastructure improvements for the Maple View Apartments shall commence in the spring of 2021. The project will be constructed in increments and it is anticipated that a 3 – 4 year period will be required for the complete construction and stabilization of the Maple View Apartments Multi-Family Development.
11. During the stabilization period, any erosion which occurs shall be immediately repaired by the Applicant, reseeded with the seeding mixes set forth in the Construction Sequencing section of this Narrative and re-stabilized.
12. Once complete site stabilization has been achieved, and certification thereof obtained, in writing, from the Montville Wetlands Enforcement Officer and the Montville Zoning Enforcement Officer, all erosion and sediment control measures shall be removed by the Applicant.

### **CONSTRUCTION SEQUENCING**

1. The Applicant shall clear the area for the phase 1 construction of the Maple View Apartments. No grubbing shall occur until subsequent to the installation and inspection of erosion and sediment control measures. Any marketable timber shall be removed from the Property.
2. The Applicant shall install silt fence down gradient of the area of all construction activities as depicted on the Erosion Control Plan. The Applicant may use wood chip berms in lieu of silt fence as an acceptable methodology for sediment and erosion control. Silt fence installation, if utilized, shall be effected in accordance with the “Placement and Construction of a Synthetic Filter Barrier” detail as depicted on Sheet 10 of the project site plan.
3. The Applicant shall install the anti-tracking apron at the construction interface of the access road to the Property with Maple Avenue in accordance with the “Construction Entrance Detail” as depicted on Sheet 10 of the project plans.
4. The Applicant shall excavate and form the phase 1 temporary sedimentation traps as depicted on the Erosion Control Plan.
5. Upon completion of installation of erosion and sediment control measures, the Applicant shall contact the Montville Wetlands Enforcement Officer and the Montville Zoning Enforcement Officer to perform an inspection of the installation of erosion and sediment control measures. In no event shall mass soil disturbance and/or grubbing occur in the first phase of the project until such time as the installation of erosion and sediment control measures has been approved by the Montville Wetlands Enforcement Officer and the Montville Zoning Enforcement Officer.
6. Surface soil shall be stripped in the phase one construction area and stockpiled in a surface soil stockpile area outside the limits of any upland review area adjacent to any inland

wetland or watercourse on the project site. Surface soil stockpiles shall have a slope not exceeding 4:1, and shall be stabilized by seeding with a perennial ryegrass mix and mulch. The perennial ryegrass mix shall be applied at a rate of 40 pounds per acre. Mulch shall be applied at the rate of 80 pounds per 1,000 square feet, and shall be spread by hand or with a mulch blower. Silt fence or staked hay bales shall be installed along the down gradient periphery of each surface soil stockpile location.

7. Excavation for the installation of the water quality forebay and stormwater detention basin shall be effected at the location delineated on the Erosion Control Plan. Excavated materials shall be retained for use as fill in fill areas on the project site as delineated on the project plans. The water quality/detention/infiltration basin shall be excavated and shaped to the contours and at the depths depicted on the project site development plan. Culvert trenches shall be excavated in order to effect the interconnection of the outlet structure within the detention basin to the catch basin system in Maple Avenue.
8. Upon completion of the excavation of the culvert trenches, bedding material, not less than 12" shall be installed and compacted in each trench bed.
9. The outlet structure shall be installed in the detention/infiltration basin and interconnected to the stormwater system in Maple Avenue as depicted on the Overall Layout Plan.
10. Upon placement of the outlet culvert, bedding, not less than 12" in thickness, shall be installed over the top of the culvert pipe installation and compacted in place. Thereafter, the culvert trenches shall be backfilled with stored surface soil.
11. The filter berm shall be installed separating the water quality forebay from the detention/infiltration basin in accordance with the "Detention Basin Forechamber Filter Berm Detail" depicted on Sheet 11 of the project plans.
12. The water quality-detention basin embankments shall be constructed of silty sand and/or clay material.
13. The detention basin emergency spillway shall be formed and installed in accordance with the "Detention Basin Emergency Spillway Section" detail depicted on Sheet 11 of the project plans.
14. The stormwater quality forebay shall be loamed with not less than 6" of surface soil containing not less than 8% organic content.
15. The stormwater detention basin shall be loamed with not less than 6" of surface soil containing not less than 8% organic content.
16. The water quality forebay and detention basin shall be planted by installing the New England Erosion Control/Restoration Mix or equal. The New England Erosion Control/Restoration Mix contains a selection of native grasses and wild flowers designed to colonize generally moist, recently disturbed sites where quick growth of vegetation is

desired to stabilize the soil surface. This mix is particularly appropriate for water quality/detention basins which do not normally hold standing water. The plants in this mix can tolerate infrequent inundation but not constant flooding. The New England Erosion Control/Restoration Mix contains the following species: Switchgrass, Virginia Wild Rye, Creeping Red Fescue, Fox Sedge, Creeping Bent Grass, Silky Wild Rye, Nodding Bur-marigold, Soft Rush, Grass-Leaved Goldenrod, Sensitive Fern, Jo-Pye Weed, Boneset, Flat-Top Aster, New York Aster and Blue Vervain. The seed mix shall be applied at a rate of 1 pound per 1,245 square feet of disturbed area.

Disturbed areas on the water quality/detention basin berm and exterior thereto which are not anticipated to contain the hydrology required to support the New England Erosion Control/Restoration Mix shall be prepared by spreading ground limestone equivalent to 50% calcium plus magnesium oxide applied at a rate of 50 pounds per 1,000 square feet. Fertilizer (10-10-10) is to be applied at a rate of 7.5 pounds per 1,000 square feet. Following the initial application of lime and fertilizer, there are to be no periodic applications of lime and fertilizer. Disturbed areas will be seeded with a seeding mixture of Kentucky Bluegrass applied at a rate of 20 pounds per acre, Creeping Red Fescue applied at a rate of 20 pounds per acre and Perennial Ryegrass applied at a rate of 5 pounds per acre for a total application of 45 pounds per acre. A hydroseed mix containing comparable cultivars shall be an acceptable substitute. In the event that a hydroseed mix is not utilized, after seeding, the areas seeded shall be stabilized with hay mulch immediately applied at a rate of 70 pounds per 1,000 square feet, and anchored by tracking. Seeding shall only occur between April 15 and June 15 and August 15 to October 1.

17. As future areas of the project site are cleared and grubbed, the Applicant shall install, in the downgradient locations as delineated on the Erosion Control Plan, temporary sediment traps in a size sufficient to accommodate 134 cubic yards of sediment for each acre of disturbed area draining to the temporary sediment trap.
18. Upon completion of the installation and stabilization of the water quality/stormwater detention basin, construction shall progress sequentially in the first phase of project development in accordance with the site development plan.
19. All utility installations, including stormwater, the potable water distribution system and sanitary sewer facilities shall be installed in accordance with the design plans utilizing the trenching, compaction and cover requirements as hereinbefore set forth.
20. As the stormwater drainage system is being sequentially completed, the Applicant shall install sediment control devices in each installed catch basin.
21. Areas for road and parking construction and building construction in the first phase of the project shall be "boxed-out" and/or excavated, as the case may be, in accordance with the specifications, and at the elevations, depicted on the project site development plan.
22. Excavated material derived from site development shall either be utilized as structural fill in fill areas in the first phase of the project or stored in soil stockpiles. Any stockpiled earth

product material shall be stabilized and protected by the installation of erosion control devices in accordance with the requirement hereinbefore set forth in this Construction Sequencing Narrative.

23. Each road location shall be boxed out and trenches excavated for the installation of all utilities, including stormwater drainage.
24. Upon the completion of culverting, not less than 12" of clean bedding material shall be installed in each utility trench.
25. Subsequent to the installation of bedding, utilities, including stormwater drainage pipes, shall be installed as delineated on the utilities plan incorporated into the site development plan.
26. Once utilities have been installed, each utility trench shall be backfilled with clean bedding material compacted to a depth of not less than 12" over each utility installation. Areas to be paved will be prepared by installing a compacted gravel subgrade base, overlaid with 8" of processed gravel (compacted) and thereafter by the installation of 3" of compacted Class 2 bituminous concrete placed in 1.5" lifts in accordance with the "Bituminous Concrete Pavement & Curbing" detail delineated on Sheet 11 of the project site development plan. Bituminous concrete curbing shall be installed in accordance with that detail.
27. Buildings in the first phase of the project shall be constructed in accordance with the architectural plans for the development of the same.
28. Upon completion of construction in the first phase of the project, disturbed areas shall be stabilized by spreading stockpiled surface soil over these areas at a thickness of not less than 4". Areas to be seeded will be prepared by spreading ground limestone equivalent to 50% calcium plus magnesium oxide applied at a rate of 50 pounds per 1,000 square feet. Fertilizer (10-10-10) is to be applied at a rate of 7.5 pounds per 1,000 square feet. Following the initial application of lime and fertilizer, there are to be no periodic applications of lime and fertilizer.
29. Disturbed areas will be seeded with a seeding mix of Kentucky Bluegrass applied at a rate of 20 pounds per acre, Creeping Red Fescue applied at a rate of 20 pounds per acre and perennial Ryegrass applied at a rate of 5 pounds per acre for a total application of 45 pounds per acre. A hydroseed mix utilizing comparable cultivars shall be a suitable substitute. In the event that a hydroseed mix is not utilized, after seeding, the areas seeded shall be stabilized with hay mulch immediately applied at a rate of 70 pounds per 1,000 square feet, and anchored by tracking. Seeding shall only occur between April 15 and June 15 and August 15 to October 1.
30. Once all disturbed areas have been thoroughly stabilized, erosion and sediment control measures shall be removed.

31. As the Applicant nears completion of construction of improvements in the first phase of the Maple View Apartments development, the Applicant shall commence construction of the second phase of the project.
32. As each sequential phase of the Maple View Apartments development is constructed, the Applicant shall install, maintain and utilize the erosion control measures and structures depicted on the Erosion Control Plan which shall be installed, administered and utilized in accordance with the procedures set forth in the General Procedures section of this Narrative and, as applicable, the construction sequencing requirements contained in the Construction Sequencing section of this Narrative.

#### **MAINTENANCE REQUIREMENTS**

1. As delineated in the General Procedures section of this Narrative, the Applicant shall, during construction of the project, be responsible for inspecting all erosion control measures installed in the active development phase of the project on a twice weekly basis and after each storm event resulting in the deposition of in excess of 0.10" of precipitation.
2. At any time that sediment reaches one-half the height of the silt fence, haybales or wood chip berm, as the case may be, the sediment shall be removed and utilized as site fill on the Property.
3. Temporary sedimentation traps shall be inspected in accordance with the inspection schedule required pursuant to the General Procedures section of this Narrative. At such time as temporary sediment traps are filled to 50% of their capacity, excavation equipment shall be introduced into the temporary sediment traps and all collected sediment shall be excavated and removed from the sediment traps to restore the temporary sediment traps to their designed capacity. Removed sediment shall be utilized as structural site fill on the project site.
4. Check dams and water bars shall be inspected in accordance with the inspection schedule required pursuant to the requirements of the General Procedures section of this Narrative and cleaned and repaired as necessary in order to insure their functional utility.
5. Inlet sediment control devices shall be inspected weekly and after every storm event resulting in more than 0.10" of precipitation and cleaned as necessary. If any inspection discloses any breach in an inlet sediment control device, the inlet sediment control device shall be replaced immediately.

#### **PERMANENT MAINTENANCE SCHEDULE**

1. All parking areas, roadways, sidewalks, driveways and other impervious areas (other than rooftops) shall be swept clean of sand, litter and other possible pollutants twice each year, once between November 14 and December 15 (after leaf fall has concluded) and once during the month of April (after the possibility of further sanding has ended). All material

accumulated as a result of the sweeping activities shall be disposed of in accordance with law.

2. The Applicant shall utilize a sand/salt mix of 80/20 for winter roadway, parking lot and sidewalk treatments.
3. All catch basin sumps shall be cleaned at least once per year between the period April 15 and May 30. All material cleaned from catch basin sumps shall be disposed of in accordance with law.
4. A monthly inspection of all stormwater structures installed within the project, including the water quality forebay and the stormwater detention basin, and outfalls, shall be conducted for floating or surface debris. Any floating or surface debris encountered shall be removed and properly disposed of.
5. Except during the grow-in period, the water quality forebay shall be inspected once per year. At such time as accumulated sediments attain a depth of 12", accumulated sediment shall be removed and disposed of in accordance with law. The water quality forebay and detention basin shall be mowed once each year at the conclusion of the growing season.
6. The Applicant shall be responsible for compliance with all of the terms and provisions of this Narrative, including adherence to the maintenance requirements contained in this section hereof.
7. During the first two (2) years subsequent to the completion of the project, the Applicant shall inspect all downgradient discharge areas within the project for channelization subsequent to any storm event resulting in the deposition of in excess of 1" of rainfall. If channelization is occurring, the Applicant shall immediately retain the services of a certified soil and erosion control specialist in order to design remedial measures in order to diffuse the flow causing the channelization and shall forthwith implement the remedial measures designed by the certified soil and erosion control specialist.



WENTWORTH CIVIL  
ENGINEERS LLC  
177 West Town Street  
Lebanon, Connecticut 06249  
Tel. (860) 642-7255  
Fax. (860) 642-4794  
Email: Wes@WentworthCivil.com

June 26, 2020

Attorney Harry Heller  
Heller, Heller & McCoy  
763 Norwich New London Tpke.  
Uncasville, CT 06382

Re. Wetland function and value / impact assessment report  
87 Unit Multifamily development prepared for Lindo Construction,  
LLC - 90 Maple Ave., Montville, CT

Dear Attorney Heller:

Per your request, I am writing to you in regards to the onsite wetland functions and values and provide an impact assessment based on the proposed 87 unit multifamily development proposed at the above referenced site. The purpose of this report is to assess the wetland functions and values and the potential impacts to the inland wetlands and watercourses relative to the proposed development.

Field work for this assessment was conducted by this office throughout April and May of 2020.

Existing Conditions

The site consists of approximately 20 acres of land located on the western side of Maple Avenue at the intersection of Pequot Road just northerly of Interstate 395. The site slopes westward, up from Maple Avenue. Site drains to the road frontage via an intermittent watercourse that dissipates at the toe of slope and infiltrates most storm events into Hinckley sand & gravel near Maple Avenue. Larger storm events discharge into an existing catch basin located in the west side of Maple Avenue.



The site is wooded with portions recently timbered and cleared. The majority of the uplands are vegetated with mixed hardwoods and softwoods. These species include tulip, red maple, red oak, black birch and shag bark hickory. The understory ranges from sparsely to moderately vegetated and consists of saplings, pole wood shrubs including iron wood, beech, high bush blueberry and mountain laurel. Herbaceous and vine species include raspberries, fox grape, greenbrier, princess pine and ferns.

### Wetlands

Onsite wetlands consist two isolated wetlands on the on the southwestern upper terrace and an intermittent watercourse (also not connected to either wetland) that flows down the steeper slopes and dissipates near the property frontage along Maple Ave.

Wetland #1 -The western most wetland is a hemlock swamp that has formed on a gently to moderately sloped wooded side slope that is derived from a seasonal high groundwater table. This isolated wetland sits up slope from the proposed development. Over story species include hemlock, red maple, red oak, white oak & tulip. Understory is moderately thick with shrubs, herbaceous and vine species that include pole wood and saplings, iron wood, mountain laurel, beech, high bush blueberry, princess pine, greenbrier, sedges, ferns and sphagnum moss. Wildlife consists of typical woodland mammals, birds, reptiles, insects and amphibians.

Wetland #2 -The central wetland is a red maple swamp that has formed on a wooded depression that is long and somewhat narrow and derived from a seasonal high groundwater table. This isolated wetland sits up slope from the proposed development. A small potential vernal pool (approximately 10' x 25' in size) was observed to have wood frog and salamander egg mass present in early April of 2020. However, by the first week of May 2020, the pool had dried out prior to the developing amphibians being able to migrate into the surrounding uplands. Over story species include red maple, black birch, shagbark hickory & tulip. Understory is sparsely to moderately vegetated with shrubs, herbaceous and vine species that include pole wood and saplings, iron wood, mountain laurel, beech, black cherry, high bush blueberry, princess pine, greenbrier, sassafras, honey suckle, sedges, ferns and sphagnum moss. Wildlife consists of typical woodland mammals, birds, reptiles, insects and amphibians.

Intermittent Watercourse – An isolated intermittent watercourse starts and ends onsite without being connected to any other wetlands or watercourses. It begins at the top of the slope as a ground water bleed-out during wetter times of the year. It is a very stony, meandering watercourse that runs down the steeper slopes onsite and then dissipates into the sand and gravel soils located at the toe of the slope. There are no

signs of concentrated flow, erosion or scour downslope of the delineated watercourse. The intermittent watercourse is located along side and down slope of the proposed development. Upland vegetation surrounds the system including white ash, red maple, tulip trees. Moderately dense understory includes saplings of sugar maple, black cherry, beach and hickory, Japanese barberry, raspberry, greenbrier, spicebush and multiflora rose. Other species present include fox grape, sedges and grasses, Canada mayflower and ferns.

### Wetland Functions and Values

The onsite wetlands and intermittent watercourse were inspected to determine wetland functions and values utilizing the Army Corps of Engineers methodology as outlined in 'The Highway Methodology Workbook Supplement'. This methodology utilizes eight wetland functions:

- Groundwater recharge and discharge
- Flood flow alteration and storage
- Fish and shellfish habitat
- Sediment, toxicant and pathogen retention
- Nutrient removal, retention and transformation
- Production export
- Sediment and shoreline stabilization
- Wildlife habitat

The methodology recognizes four wetland values:

- Recreational value
- Educational and scientific value
- Uniqueness and heritage value
- Threatened and endangered species habitat

### Wetland #1 – Hemlock swamp

This wetland exhibited the following wetland functions:

- Groundwater recharge and discharge – exhibits both depending on seasonal groundwater conditions. Discharge during wetter months and recharge of precipitation during drier times
- Flood flow alteration and storage – minimal function – wetland topography matches that of surrounding uplands
- Fish and shellfish habitat - none
- Sediment, toxicant and pathogen retention – minimal function - there is no upslope source to treat. Overland runoff is primarily sheet flow and shallow concentrated flow through upslope woodlands
- Nutrient removal, retention and transformation– minimal function - there is no upslope source to treat. Overland runoff is primarily

sheet flow and shallow concentrated flow through upslope woodlands

- Production export –numerous tree, shrub and herbaceous species present as food source for wildlife. Berries, seeds and small animals provide for larger birds and mammals
- Sediment and shoreline stabilization - minimal – no shoreline present
- Wildlife habitat – good for many reptile, birds, mammals and amphibian species

Wetlands values include:

- Potential recreational value – aesthetics and easy access due to moderate level of understory
- Potential scientific and educational value – moderate as the area is undisturbed. However there will be no public access on this property
- Uniqueness and heritage value – somewhat low – though this wetland is an important part of the ecosystem, it does not possess highly unique features or known heritage
- Threatened and endangered species habitat – potential habitat for threatened and endangered species, but area is not shaded on the CT DEEP Natural Diversity Database mapping.

Wetland #2 – Red maple swamp

This wetland exhibited the following wetland functions:

- Groundwater recharge and discharge – exhibits both depending on seasonal groundwater conditions. Discharge during wetter months and recharge of precipitation during drier times. Depression topography serves as excellent recharge area
- Flood flow alteration and storage – wetland sits in a narrow depression and is linear in shape. Serves to slow down and detain flows. However, minimal concentrated flows enter the wetlands as the area upslope is primarily undeveloped woodlands
- Fish and shellfish habitat - none
- Sediment, toxicant and pathogen retention – minimal function - there is no upslope source to treat. Overland runoff is primarily sheet flow and shallow concentrated flow through upslope woodlands
- Nutrient removal, retention and transformation– minimal function - there is no upslope source to treat. Overland runoff is primarily sheet flow and shallow concentrated flow through upslope woodlands
- Production export –numerous tree, shrub and herbaceous species present as food source for wildlife. Berries, seeds and small animals provide for larger birds and mammals. Amphibian egg

mass and tadpoles present in early spring serve as food source, although these do not appear to mature in a typical year.

- Sediment and shoreline stabilization - minimal – no shoreline present
- Wildlife habitat – good for many reptile, birds, mammals and amphibian species

Wetlands values include:

- Potential recreational value – aesthetics and easy access due to sparse level of understory – excellent for abutting hiking and trail potential
- Potential scientific and educational value – excellent as the area is undisturbed and easily accessible. However there will be no public access on this property
- Uniqueness and heritage value – average– though this wetland is an important part of the ecosystem, it does not possess highly unique features or known heritage
- Threatened and endangered species habitat – potential habitat for threatened and endangered species, but area is not shaded on the CT DEEP Natural Diversity Database mapping.

Intermittent watercourse:

This watercourse exhibited the following wetland functions:

- Groundwater recharge and discharge – exhibits discharge at the upper reaches and recharge at and below the lower reaches.
- Flood flow alteration and storage – minimal function – watercourse is narrow and moderate to steep in slope. Therefore there is minimal storage area for floodflows
- Fish and shellfish habitat - none
- Sediment, toxicant and pathogen retention – minimal function - there is no existing or proposed upslope source to treat.
- Nutrient removal, retention and transformation–minimal function - there is no existing or proposed upslope source to treat.
- Production export –tree, shrub and herbaceous species present as food source for wildlife. Berries, seeds and small animals provide for larger birds and mammals
- Sediment and shoreline stabilization - minimal – no shoreline present
- Wildlife habitat – good for many reptile, birds, mammals and amphibian species

Wetlands values include:

- Potential recreational value – moderate to thick understory with steep and stony slopes make this area not very accessible.

- Potential scientific and educational value – moderate as the area is undisturbed. However there will be no public access on this property
- Uniqueness and heritage value – somewhat low – though this wetland is an important part of the ecosystem, it does not possess highly unique features or known heritage
- Threatened and endangered species habitat – potential habitat for threatened and endangered species, but area is not shaded on the CT DEEP Natural Diversity Database mapping.

### Potential Impacts to Wetlands and Watercourse

The majority of required site clearing has occurred as part of a timber harvest for the site. Erosion and sediment controls are in place and being maintained.

Wetlands and intermittent watercourse direct impacts -No direct impacts are proposed as part of the proposed development.

Impacts to uplands review areas -

Intermittent Watercourse-Minimal incursions into the 50 foot upland review area for site access, underground utilities, grading and drainage facilities. Other than the site entrance drive, which is within the 50' upland review area of the intermittent watercourse due to intersection geometry and sightline requirements, no other roadways, parking, sidewalks or buildings are located within the upland review areas.

The gravel recharge area below the intermittent watercourse is being retained as part of the development. The infiltration basin serving the site is also located downslope from the intermittent watercourse. All site drainage from roof drains, sidewalks, parking areas and roadways is being collected into a subsurface storm drainage system that bypasses the onsite intermittent watercourse.

Wetland # 1 – Hemlock swamp – all activities are proposed downslope and outside of 50' buffer to this wetland area.

Wetland #2 – Red maple swamp – all activities proposed onsite are downslope from this wetland. Minimal grading within 50' upland review area that is downslope from this wetland.

### Erosion and Sedimentation Control Measures:

Site specific erosion and sedimentation control plans have been prepared for this project. The project is proposed to be constructed in two phases to minimize the amount of area and time of exposure during construction. All onsite controls have been designed in accordance with the 2002 CT Guidelines for Soil Erosion and Sediment Control handbook and CT DEEP guidelines.

### Potential Short Term Impacts:

All plans and best management practices should be adhered to during construction to minimize short term impacts to wetlands and watercourses. This will ensure protection of the wetlands and watercourses throughout the construction project. All plans have been designed to minimize short term impacts to wetlands and watercourses.

Both Wetland #1 and Wetland # 2 are located up gradient from the proposed development, which minimizes the potential for erosion and sediment issues to those resources during construction.

The intermittent watercourse is located beside and below the site and has a higher potential for concern. The main focus during construction for this resource should be to direct flows away from this area during construction, minimize exposure time of exposed soils, inspect and maintain all control measures daily and establish vegetative cover or heavy mulch as quickly as possible. However, it should be noted that the intermittent watercourse does not directly connect to any downstream wetland or watercourse. It is also important that the existing gravel recharge area below the intermittent watercourse be preserved during construction.

### Potential Long Term Impacts:

The proposed residential use is low impact by nature relative to other more intense land uses. The proposed plans have been designed to minimize long term impacts to wetlands and watercourses. All development is located down gradient of the two onsite wetland bodies. All drainage runoff from onsite impervious surfaces will be collected and directed around the intermittent watercourse to ensure that no deposits of sediments or scouring of the resource will occur.

It is my opinion that the plans as presented are adequate to protect the onsite wetlands and watercourses.

Please do not hesitate to contact me if you have any comments or questions.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Wesley J. Wentworth', with a long horizontal flourish extending to the right.

Wesley J. Wentworth  
P.E., Soil Scientist