



# DRAFT MINUTES

## MANSFIELD INLAND WETLANDS AGENCY

AUDREY P. BECK MUNICIPAL BUILDING ■ 4 SOUTH EAGLEVILLE ROAD ■ COUNCIL CHAMBER

TUESDAY, SEPTEMBER 6, 2016 ■ SPECIAL MEETING

**MEMBERS PRESENT:** J. Goodwin, C. Ausburger, B. Chandy, G. Lewis, K. Rawn, B. Ryan, V. Ward, S. Westa  
**MEMBERS ABSENT:** R. Hall  
**ALTERNATES PRESENT:** P. Aho, T. Berthelot, K. Fratoni (left at 8:45 p.m.)  
**STAFF PRESENT:** Jennifer Kaufman, Inland Wetlands Agent

Chairman Goodwin called the meeting to order at 8:00 p.m. and appointed Aho to act.

### APPROVAL OF MINUTES:

A. AUGUST 1, 2016 – REGULAR MEETING

Ryan MOVED, Rawn seconded, to approve the 08-01-2016 minutes as presented. MOTION PASSED with all in favor except Westa who disqualified herself. Chandy noted for the record that she listened to the recording.

B. AUGUST 11, 2016- FIELD TRIP NOTES

Noted.

### COMMUNICATIONS:

The Conservation Commission draft minutes and the Wetlands Agent Report were both noted.

### NEW BUSINESS:

A. W1575- WILLARD J. STEARNS & SONS, INC., BROWNS & COVENTRY ROAD, 9 LOT SUBDIVISION

Westa MOVED, Ryan seconded, to receive the application submitted by Willard J. Stearns and Sons, Inc. (IWA File 1575) under the Wetlands and Watercourses Regulations of the Town of Mansfield for a 9-lot subdivision on property located at 522 Browns Road as shown on a map dated 12/15/2015 and as described in application submissions, to refer said application to staff and the Conservation Commission for review and comments, and to schedule a public hearing on November 2, 2016. MOTION PASSED UNANIMOUSLY. Ward noted for the record that she will recuse herself when this application is heard.

B. W1576- C. & J. RUSSEY-MILNE., 494 WORMWOOD HILL ROAD, 24' X 24' ADDITION

Chandy MOVED, Ryan seconded, to receive the application submitted by C and J Russey-Milne (IWA File 1576) under the Inland Wetlands and Watercourses Regulations of the Town of Mansfield for construction of a garage/work shop and associated site work on property located at 494 Wormwood Hill Rd. as shown on a map dated 8/30/2016 and as described in application submissions, and to refer said application to staff and the Conservation Commission for review and comments. MOTION PASSED with all in favor except Rawn who recused himself.

C. W1577-M. BENZIE, 1029 STORRS ROAD, SEPTIC SYSTEM AND LEECH FIELD

Chandy MOVED, Ausburger seconded, to receive the application submitted by M. Benzie (IWA File W1577) under the Wetlands and Watercourses Regulations of the Town of Mansfield for the installation of new onsite sewage treatment system on property located at 1029 Storrs Road as shown on a map dated 7/19/2016,

revised through 8/31/2016, and as described in application submissions, and to refer said application to staff and the Conservation Commission for review and comments. MOTION PASSED UNANIMOUSLY. Goodwin noted for the record that she will recuse herself when this application is heard.

D. J7- T. WOLLEN, 205 PLEASANT VALLEY ROAD, CONSTRUCTION OF A 20' X 30' BARN

Lewis MOVED, Ward seconded, to approve a Jurisdictional Ruling finding that the construction of a 20 foot by 30 foot barn used exclusively for farming (IWA File # J-7) on property owned by T. Wollen, located at 205 Pleasant Valley Road as shown on a map dated 8/24/2016 and as described in the associated attachments is permitted as of right pursuant to Section 4.1 of the Mansfield Inland Wetlands and Watercourses Regulations of the Town of Mansfield. MOTION PASSED UNANIMOUSLY.

**REPORTS FROM OFFICERS AND COMMITTEES:**

A 3pm Field Trip was set for 9/14/16.

**COMMUNICATIONS AND BILLS:**

Noted.

**PUBLIC HEARINGS:**

A. W1564-2 – STORRS LODGES, 218 UNITS, HUNTING LODGE ROAD (PARCEL ID 15.21.3)

Chairman Goodwin opened the Public Hearing at 8:09 p.m. Members present were Goodwin, Ausburger, Chandy, Lewis, Rawn, Ryan, Ward, Westa and alternates Aho, Berthelot and Fratoni (until 8:45 p.m.). Aho was appointed to act. Jennifer Kaufman, Inland Wetlands Agent read the Legal Notice as it appeared in The Chronicle on 8/23/16 and 8/31/16 and noted her 8/31/16 memo that listed all of the communications received and distributed to members of the Agency thus far. In addition to those listed in the memo, distributed this evening were a 7/14/16 letter from K. Green; an 8/16/16 letter from W. Hirsch; and a 9/6/16 letter from State Representative Gregory Haddad.

Chairman Goodwin stated that the hearing will commence with an approximate 2- hour presentation from the applicant's team. Given the length of the presentation and the hour the hearing is commencing, upon conclusion of the presentation, if there is time this evening, public comment will be heard from anyone who will be unable to attend the 10/6/16 continued Public Hearing. Goodwin added that the meeting will be adjourned no later than 11 p.m. and continued to the Thursday, October 6<sup>th</sup> meeting. On October 6, it is expected that the Agency will question the applicant and/or request input from the Agency's expert, then the intervenors will make their presentation, as well any other members of the public who may wish to offer comment.

Attorney David Sherwood, representing the applicant, distributed a 9/6/16 letter from himself, and a copy of 2/4/16 approval from the IWA for a map amendment and a map. He reviewed the project proposal and then introduced Guy Hesketh of F.A. Hesketh & Associates. Mr. Hesketh presented his resume to the Agency and made a presentation describing the overall project. Attorney Sherwood then introduced George Logan of REMA Ecological Services. Mr. Logan submitted his resume, the resume of his associate, Sigrun Gadwa, who worked with him on the project, a list of dates and times they visited the site and made a presentation concerning the wetlands.

Upon conclusion of the presentations, Chairman Goodwin opened the floor to Public Comment.

Charles Vidich, resident of Ashford, spoke at length about the detrimental effects that a proposal of this scale will have on the wetlands, water quality, and the surrounding neighborhood. He suggested that a prudent and feasible alternative would be a smaller scaled development. He also suggested that parking for at least each resident should be part of the plan. He would like to see a more extensive operational maintenance plan to ensure the stormwater controls are adequate. He requested that along with the physical disturbance to the wetlands, the chemical disturbance be evaluated, and that staff look more closely at the functions and values assessment and the wetland mitigation/restoration plan.

Brian Usher, 44 Meadowood Road, (spoke on behalf of himself, Kathy, Elizabeth and Ann Usher) stated that his property abuts the proposed project, that area residents already have a substantial problem because of the high water table. He noted his concerns about the effect this development will have on their property since they are downhill from it and questioned who will be responsible for fixing the problems the neighborhood will have as a direct result of the development, noting the high likelihood of failing septic systems and flooding leech fields. In his opinion, the development is too large, too close to the neighborhoods, and it will have a dangerous effect on the neighborhood and environment.

Alison Hilding, 17 Southwood Road, submitted folders (to each Agency member) of letters from the public.

At 10:57 p.m., Aho MOVED, Westa seconded, to adjourn the public hearing to Thursday, October 6, 2016. MOTION PASSED UNANIMOUSLY.

#### **OLD BUSINESS:**

- A. W1574- 122-124 THORNBUSH ROAD LLC, 122-124 THORNBUSH ROAD, SITE WORK  
Item Tabled
  
- B. W1564-2 – STORRS LODGES, 218 UNITS, HUNTING LODGE ROAD (PARCEL ID 15.21.3)  
Item Tabled pending 10/6/16 continued public hearing

#### **ADJOURNMENT:**

The Chair declared the meeting adjourned at 10:57 p.m.

Respectfully submitted,

Vera S. Ward, Secretary





# MEETING NOTICE AND AGENDA

## MANSFIELD INLAND WETLANDS AGENCY CONSERVATION COMMISSION

SPECIAL JOINT MEETING ■ FIELD TRIP

### FIELD TRIP NOTES

WEDNESDAY, SEPTEMBER 14, 2016

IWA Members present: B. Ryan, C. Ausburger (items 1 & 2)

Conservation Commission: M. Harper & Q. Kessel-both were present for item 3 only.

Staff present: Jennifer Kaufman, Environmental Planner/Inland Wetlands Agent  
Linda Painter, Director of Planning and Development  
Janell Mullen, Assistant Planner/Zoning Enforcement Office

The field trip began at approximately 3:00 p.m.

#### W1577-M. BENZIE, 1029 STORRS ROAD, SEPTIC SYSTEM AND LEECH FIELD

Members were met on site by E. Randazzo and M. Benzie. Members observed current conditions, and site characteristics. No decisions were made.

#### W1576- C. & J. RUSSEY-MILNE., 494 WORMWOOD HILL ROAD, 24' X 24' ADDITION

Members were met on site by C. Milne. Members observed current conditions, and site characteristics. No decisions were made.

#### W1575 & P1343- WILLARD J. STEARNS & SONS, INC., BROWNS & COVENTRY ROAD, 9-LOT SUBDIVISION

Members were met on site by M. Peterson. Members observed current conditions, and site characteristics. No decisions were made.

The field trip ended at approximately 4:30 p.m.



Town of Mansfield  
**CONSERVATION COMMISSION**  
Meeting of 21 September 2016  
Community Room, Mansfield Community Center  
**(draft) MINUTES**

*Members present:* Aline Booth (Alt.), Neil Facchinetti, Mary Harper (Alt.), Quentin Kessel, Scott Lehmann, Grant Meitzler, Michael Soares. *Members absent:* Robert Dahn, John Silander. *Others present:* Beverly Sims, William Okeson, Allison Hilding, David Sherwood, Elle Randazza, Tom Fahey, George Logan, Dave Ziaks, Tony Giorgio (Storrs Lodges); Jennifer Kaufman (Wetlands Agent).

**1.** The meeting was **called to order** at 7:34p by Chair Quentin Kessel. In the absence of two members, Alternates Aline Booth & Mary Harper were entitled to participate fully in the business of the meeting.

**2.** The **draft minutes** of the 17 August 2016 meeting were approved as written. {However, while it accurately reflects the Commission's understanding at the August meeting, the parenthetical phrase "(in particular, the Storrs Lodges application)" in item 4 is incorrect and will not appear in the approved minutes: the PZC had not accepted the Storrs Lodges application before the moratorium went into effect.}

**3. IWA referrals.** {The order in which the referrals were taken up was altered to accommodate visitors.}

a. **W1577 (Benzie, 1029 Storrs Rd).** The applicant proposes to install a new septic system for a new restaurant in the old Goodale Garage building. The system would be at the bottom of the steep slope behind the building, about 30 ft from wetlands at its closest point. Kaufman has asked for a soil analysis to verify that the proposed system would not endanger the wetland. After brief discussion, the Commission decided to defer to the result of this analysis (**motion:** Kessel, Lehmann): Provided the soil scientist hired by the Town finds no reason to question the application, the Commission foresees no significant wetlands impact from this project.

b. **W1564-2 (Storrs Lodges, Hunting Lodge Rd).** {Faccinetti, Harper, Kessel, Lehmann, Meitzler, & Soares participated in a Field Trip to the site on 12 September.}

Dave Ziaks presented an overview of the proposed development, with particular emphasis on wetlands issues.

The property amounts to 45.93 acres, of which 24.5 acres would be disturbed (at least temporarily: some of the disturbed area will be re-vegetated with buffer plantings). There are 6.7 acres of wetlands, divided by an old woods road that runs north from Northwood Rd. Wetland to the west of this old road drains to Cedar Swamp Brook; it includes a vernal pool, created by fill for the old road. Wetland to the east of the old road joins a north-south band of wetland across the property that drains to Eagleville Brook.

47 two-story units housing 692 students are proposed, half of them near Northwood Rd, half adjacent to Carriage House Apartments. All would be accessed by a road going west from Hunting Lodge Rd across the north-south band of wetland to the old woods road, which would be followed north to uplands beyond the vernal pool. Emergency access would be via a short extension of Northwood Rd.

To minimize wetland disturbance, the access road would be routed across the north-south wetland over an existing causeway for another old woods road. A 32 ft precast concrete arch

bridge {to be lifted into place by a crane} would span the middle of the wetland, preserving the existing causeway underneath it while reducing the amount of fill required for the 24 ft roadway. 4,400 ft<sup>2</sup> (approximately 0.1 acre) of wetland here would be filled to provide bridge footings and bedding for the wider road on either side of the bridge.

To compensate for this disturbance, the applicant proposes (a) to create wetland in a flat area adjacent to the wetland over which the access road passes (on the east side, north of the road), and (b) to restore wetland by removing old fill across the access road from the vernal pool. These projects would enlarge wetlands by 7,800 ft<sup>2</sup>, a net gain of 3,400 ft<sup>2</sup>. The applicant also proposes hand-removal of invasive barberry from wetlands on the property.

The decentralized storm-water management system is designed to preserve existing flows to wetlands by collecting runoff from impervious surfaces (roofs, pavement) in dispersed underground reservoirs for infiltration and discharge to bio-retention basins. There would be enough capacity in the reservoirs to handle runoff from a 100-year storm event.

The applicant maintains that the proposed access is superior to alternatives. A wetland crossing cannot be avoided, and the one proposed minimizes wetland disturbance. Access from Northwood Rd or Carriage House Rd is not feasible, as these roads are essentially parking lots that cannot handle a lot more traffic. Moreover, gaining access from Carriage House Rd would require negotiating a right of way with the owners of Carriage House Apartments. Access from Hunting Lodge Rd could be routed across the north-south wetland near the northern property line, but this area is at present undisturbed, whereas the proposed access utilizes a developed corridor.

Questions and answers {the latter provided mostly by George Logan}:

- Q (Harper, 8/12/16 memo to GEI Consultants): What reason is there to think the ground-water infiltration system would work properly, given the often high water table and low permeability of soils? A: Numerous test holes have provided enough information on soils to warrant confidence that the system will work as advertised. Groundwater levels confronted by the system will typically be lower than those that now occur, since the system will be dispersing runoff that now soaks into the soil.
- Q (Harper): How would the storm-water system keep oil and other pollutants from parking lots from entering the groundwater. A: Pollutants attach to solids (sand, sediment), which would be captured in catch-basin sumps (which must be cleaned annually). Each catch basin would receive runoff from a relatively small area. The system is designed to meet the standard of removing 80% of total suspended solids. Runoff would then be released via the underground reservoirs to bio-retention basins, where remaining pollutants would be filtered out before the water enters wetland.
- Q (Soares): What assurance can be given that Storrs Lodges won't add to groundwater problems on Meadowood La? A: An under-drain system along the common property line would direct groundwater to wetland.
- Q (Faccinetti): Are the bio-retention basins going to function properly as filtration devices when groundwater is high? A. Most bio-retention basins would be located in moderately well-drained soils and will have under-drains to keep them from overtopping. Basins in well-drained soils don't need under-drains; basins in poorly drained soils will basically function as extensions of wetlands.
- Q (Kessel): What is known about the longevity of such basins? A: Basins of this design have been in use for 15-20 years with no problems.
- Q (Booth): How will the storm-water system be monitored and maintained? A: The Town will require a performance bond and inspections by an independent agent. It will be easier for the Town to deal with one owner than with a number of owners, as would be the case if the property were subdivided.

- Q (Facchinetti): What responses does the applicant have to concerns raised at the 9/06 public hearing about the potential wetland impacts of road salt, pet feces, and large piles of snow? A: Only approved de-icing chemicals would be used on roads and parking areas, pets will not be permitted, and the size of snow piles will be limited by the relatively small size of parking areas.
- Q (Beverly Sims): Would diesel-powered bus service adversely affect the vernal pool? A: Any bus service would go only as far as the proposed Community Center.
- Q (Lehmann): In what sense is it true (as has been claimed) that this project will have no impact on wetlands? A: While there will be short-term impacts during construction (and managed by appropriate controls), the project has been designed so that over the long term wetlands receive water of the same quantity and quality as they do now, and function in the same way in the watershed. (For example, the arch bridge on the access road will preserve the old causeway, which now functions as a dam that slows runoff to Eagleville Brook.)
- Q (Soares): How will construction be managed to minimize wetland impacts? A: In addition to the usual sediment controls, construction will be scheduled to avoid work near the vernal pool when amphibians are using it for breeding.

With exhaustion of issues and participants, discussion ended at 9:22p, and most of the applicant's representatives left the meeting. {But see 3.e below for questions addressed to the IWA.}

c. **W1575 (Willard J. Stearns & Sons, Inc., Browns & Coventry Rds).** {The Commission has previously commented on a pre-application submission for this project; see item 3 in the minutes for the meeting of 15 April 2015.} A 9-lot subdivision ("Mountain View Acres") is proposed for a 36-acre parcel on the corner of Coventry and Browns Rds. Lots 1-7 would be accessed by two common driveways from Coventry Rd. The northerly one serving Lots 1-3 crosses a wetland to access the house site on Lot 1; approximately 4,800 ft<sup>2</sup> of wetland would be disturbed. House sites on Lots 4-7 are clustered around a circle at the end of the southerly common driveway. Lots 8 & 9 are on Browns Rd; Lot 8 contains the existing house at No. 522. About 2.5 acres at the corner of Browns & Coventry Rds would be dedicated to the Town as open space.

Kessel distributed a draft comment, which was amended slightly in discussion. Harper noted that soils are described as draining "very slowly" and wondered whether the "relatively flat land" permits adequate slope for foundation drains. The Commission then agreed to comment as follows (**motion:** Kessel, Harper; all in favor save Lehmann, who lives at 532 Browns Rd and recused himself):

The applicant is to be complimented for the new design of the southern shared driveway, the proposed effort to preserve the high ledge on the southeasterly corner, and the easements proposed for the border on Coventry Road and elsewhere. This is consistent with the guidelines of the Conservation Subdivision, whose purpose is preserve natural areas. On the other hand, the northern shared driveway poses a problem for the Mansfield Conservation Commission (CC). It is a blatant misuse of the shared driveway regulation. A portion of the driveway to Lot 1 crosses approximately 150 feet of wetland. This is not consistent with either the Conservation Subdivision Regulations or those for the shared driveways.

As stated in Section 7.10, the use of a common driveway is not a right, but may be authorized where it would promote the design objectives of Section 5.1. That is a

question the PZC must address. The CC feels that the northern shared driveway does not respect or promote these objectives, which include (according to Section 7.10.3) protection of scenic views and vistas, interior forests and/or potential conservation areas identified in the Plan of Conservation and Development. Section 7.10.4 states that the common driveway will promote cluster development. To earn the right of having three houses on a shared driveway, the developers should demonstrate a commitment to the design objectives of Section 5.1 before being granted a common driveway for lots 1-3.

Section 5.1 includes the following as benefits of shared driveways:

*b. The protection and enhancement of existing and potential public water supply wells and ground water and surface water quality through appropriate design and installation of sanitary systems, roadways, drainage facilities, house sites and other site improvements;*

*c. The protection and enhancement of natural and manmade features, including wetlands, watercourses, aquifer areas, agricultural lands, hilltops or ridges, historic sites and features, expanses of valley floors, interior forests, significant trees and scenic views and vistas on and adjacent to the subdivision site. Wherever appropriate, site features shall be protected through a clustering of streets and house sites and the identification and preservation of significant open space areas including agricultural lands, interior forests and other land without physical limitations.*

The long driveway to Lot 1 involves approximately 4,800 ft<sup>2</sup> of disturbance to wetlands, a significant impact. Ideally the CC would like to see Lot 1 set aside as open space, or offered for sale to the neighbors, especially those two whose houses will be directly impacted by the proposed placement on Lot 1. In no way does the proposed layout “cluster” the three houses on this shared driveway. The cost of developing Lot 1, with its long driveway through the wetland, and providing wetland mitigation suggests that its sale will not be optimal for the developers.

The CC would also like assurance that the proposed foundation drains have enough slope to function properly, especially in wet periods, given the characteristics of the soil.

d. **W1576 (Russer-Milne, 494 Wormwood Hill Rd)** The applicants propose a 24x24 ft 2-story addition to their house, 43 ft from a stream at its closest point. The Commission agreed (**motion:** Soares, Faccinetti) unanimously that no significant impact on wetlands is to be expected from this project, as long as proper erosion and sedimentation controls are implemented.

e. **Questions for the IWA concerning W1564-2.** At Kaufman’s suggestion, the Commission formulated the following questions for the IWA regarding the Storrs Lodges application:

- How is the proper maintenance and functioning of the storm-water system to be assured over the long term?
- How will adequate protection of wetlands be assured during the construction phase? Will there be third-party monitoring?
- What is GEI Consultants’ view of the issues raised by Harper (12 August) and Kip Kolesinskas (17 July)?
- Has the alternative of a lower density development been considered?

**4. Adjourned** at 9:56p. Next meeting: 7:30p, Wednesday, 19 October 2016.

Scott Lehmann, Secretary, 26 September 2016.





# MEETING NOTICE AND AGENDA

## CONSERVATION COMMISSION

### SPECIAL MEETING ▪ FIELD TRIP

MONDAY, SEPTEMBER 12, 2016

Members present: Facchinetti, Harper, Kessel, Lehmann, Meitzler, Soares  
Staff present: Jennifer Kaufman, Environmental Planner/Inland Wetlands Agent

The field trip began at approximately 2:00 p.m.

**W1564-2- Storrs Lodges, 218 Units, Hunting Lodge Road (Parcel I.D. 15.21.3)**

Members were met on site by the applicant's team: Attorney David Sherwood, Attorney Tom Fahey, George Logan, and Dave Ziaks. Members observed current conditions, and site characteristics. No decisions were made.

The field trip ended at approximately 3:45 p.m.





# TOWN OF MANSFIELD

DEPARTMENT OF PLANNING AND DEVELOPMENT

Date: September 29, 2016

To: Mansfield Inland Wetlands Agency

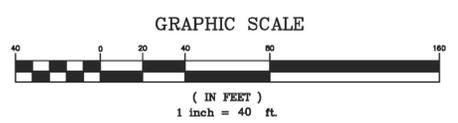
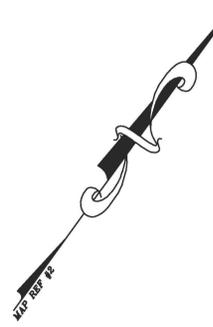
From: Jennifer Kaufman, Inland Wetlands Agent

Subject: 122-124 Thornbush Road (File W1574)  
122-124 Thornbush Road, LLC  
Description of Work: Site Work  
Map Date: 9/26/2016

## PROJECT OVERVIEW

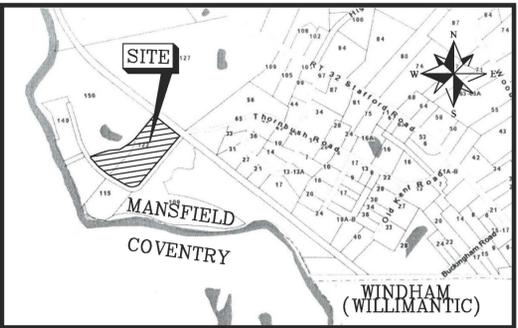
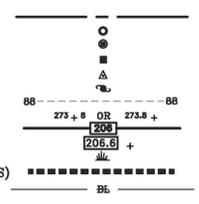
At your August 1<sup>st</sup> meeting you received an application from Thornbush Road, LLC to raise the elevation of an existing mobile home within a flood hazard zone and approximately 90 feet from the edge of wetlands by importing 90 cubic yards of fill. The initial proposal did not comply with Mansfield's Flood Hazard Regulations. To comply with these regulations, the applicant is required to prepare an engineered plan. The revised plan includes moving approximately 90 cubic yard of sandy subsoil from the eastern portion of the site to raise the elevation of the area where the mobile home will be placed. A six inch thick, 12 by 42 foot concrete pad will then be installed to allow for a stable base for a mobile home. The area will be landscaped and all disturbed areas will be stabilized. This site will be included in your October 12, field trip and the Conservation Commission will review this application at their October meeting. The applicant has consented to an extension through November 2, 2016 for the review of this application.





**LEGEND**

- PROPERTY LINE
- ANGLE POINT IN PROPERTY LINE (COMPUTED)
- IRON PIN OR DRILL HOLE (SET OR FOUND)
- CONCRETE MONUMENT (FOUND OR SET)
- SURVEY CONTROL POINT
- UTILITY POLE
- EXISTING CONTOUR LINE
- EXISTING SPOT ELEVATION
- PROPOSED CONTOUR LINE
- PROPOSED SPOT ELEVATION
- WETLANDS SYMBOL
- SILTATION BARRIER (SILT FENCE OR HAY BALES)
- BUILDING SETBACK LINE
- PVC: POLYVINYLCHLORIDE PIPE
- RCP: REINFORCED CONCRETE PIPE
- CMP: CORRUGATED METAL PIPE
- CPP: CORRUGATED PLASTIC PIPE
- N/F: NOW OR FORMERLY



**LOCATION MAP**  
SCALE 1" = 1000'

**MAP REFERENCES**

1. PERIMETER SURVEY PREPARED FOR VALLEY VIEW, LLC. THORNBUSH ROAD MANSFIELD, CONNECTICUT; DATE: 07/29/99; SCALE: 1"=40'; DRAWN BY: CAD; CHECKED BY: TSH; JOB NO: 99164; SHEET NO: 1 OF 1; F. A. HESKETH & ASSOCIATES, INC. 6 CREAMERY BROOK, EAST GRANBY, CT 06026.
2. FLOOD PLANE BENCHMARK SKETCH PREPARED FOR STEVE BAKER; 109 THORNBUSH ROAD; MANSFIELD, CONNECTICUT 5/28/2010; BOOK NO. 289, SHEET 1 OF 1; JOB NO. 10-72, AS PREPARED BY TOWNE ENGINEERING, INC.
3. PERMIT PLAN PREPARED FOR FRANCIS RILEY THORNBUSH ROAD MANSFIELD, CONNECTICUT; DATE 7/25/94; SCALE 1"=10'; DRAWN JHB; DESIGNED JHB; CHECKED DRA; JOB NO. 94-76; BOOK NO. 289; DISC NO. 135; SHEET NO. 1 OF 1; AS PREPARED BY TOWNE ENGINEERING, INC.
4. MAP SHOWING LAND OF FREDERICK A. & DOROTHY W. HORSEY WHICH IS TO BE CONVEYED TO ANN FERRIS. SITUATED ON THORNBUSH ROAD EXTENSION, TOWN OF MANSFIELD, CONN. SURVEY NOV. 1957. SCALE: 1 IN.=100' FT. AS PREPARED BY THOMAS B. DANIELSON, CONN. REG. LAND SURVEYOR 666.
5. NATIONAL FLOOD INSURANCE RATE MAP, FIRM, FLOOD INSURANCE RATE MAP TOWN OF MANSFIELD, CONNECTICUT TOLLAND COUNTY PANEL 15 OF 20 COMMUNITY-PANEL NUMBER 090128 0015 C, EFFECTIVE DATE: JANUARY 2, 1981.

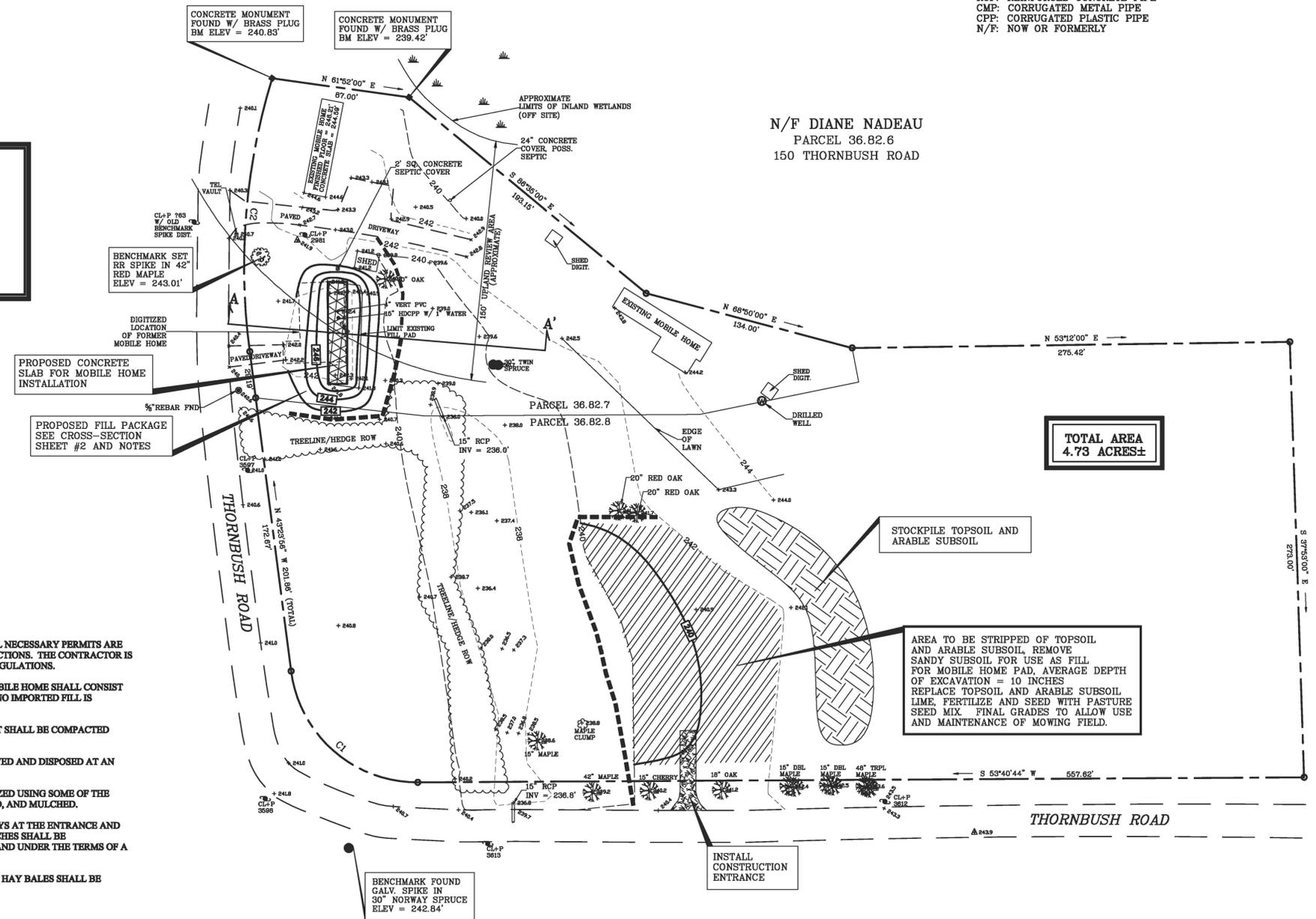
**KEY ELEVATIONS**

- 250.25' 100 YEAR FLOOD
- 251.25' MINIMUM FINISHED FLOOR
- 248.25' PROPOSED TOP OF SLAB

N/F DIANE NADEAU  
PARCEL 36.82.6  
150 THORNBUSH ROAD

**TOTAL AREA**  
4.73 ACRES±

N/F CENTRAL VERMONT RAILWAY CO.



**CONSTRUCTION NOTES:**

1. THE CONTRACTOR IS RESPONSIBLE TO ENSURING THAT ALL NECESSARY PERMITS ARE IN PLACE AND FOR COORDINATION OF ANY REQUIRED INSPECTIONS. THE CONTRACTOR IS RESPONSIBLE FOR MEETING ALL APPLICABLE CODES AND REGULATIONS.
2. THE FILL PACKAGE FOR THE PROPOSED REPLACEMENT MOBILE HOME SHALL CONSIST OF SANDY/GRAVELLY FILL OBTAINED FROM THE PROPERTY. NO IMPORTED FILL IS PERMITTED TO BE USED.
3. THE FILL SHALL BE PLACED IN 6 INCH LIFTS AND EACH LIFT SHALL BE COMPACTED WITH A MECHANICAL COMPACTOR.
4. THE EXISTING JUNK AND DEBRIS ON SITE SHALL BE REMOVED AND DISPOSED AT AN APPROVED LOCATION OFF SITE.
5. ONCE THE FILL PACKAGE IS PLACED, IT SHALL BE STABILIZED USING SOME OF THE STOCKPILED TOPSOIL FROM THE EXCAVATION AREA, SEEDED, AND MULCHED.
6. THE CONTRACTOR SHALL CONSTRUCT WOODEN STAIRWAYS AT THE ENTRANCE AND EMERGENCY EXIT OF THE HOME. THE STAIRS AND ANY PORCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE BUILDING CODE AND UNDER THE TERMS OF A BUILDING PERMIT FOR THE SAME.
7. WHEN THE SITE IS FULLY STABILIZED ALL SILT FENCE AND HAY BALES SHALL BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF.

**NOTES:**

1. THIS MAP AND SURVEY WERE PREPARED IN ACCORDANCE WITH SECTIONS 20-300b-1 THRU 20-300b-20 OF THE REGULATIONS OF THE STATE OF CONNECTICUT AS WERE FILED WITH THE SECRETARY OF STATE ON JUNE 23, 1996. THIS MAP AND SURVEY COMPRISE A TOPOGRAPHIC SURVEY MEETING THE STANDARDS FOR CLASS T-2 TOPOGRAPHIC ACCURACY AND CLASS V-2 VERTICAL ACCURACY.
2. THE TOPOGRAPHY SHOWN HEREON WAS PREPARED BASED ON THE EXISTING CONDITIONS FOUND DURING A FIELD SURVEY CONDUCTED ON SEPTEMBER 24, 2016.
3. THE BOUNDARY INFORMATION SHOWN HEREON WAS TAKEN FROM MAP REFERENCE #1
4. REFERENCE SHOULD BE MADE TO VOLUME 754 AT PAGE 92 FOR THE CURRENT DEED FOR THE PROPERTY SHOWN HEREON.
5. THE ELEVATIONS SHOWN HEREON ARE REFERENCED TO THE NGVD29 VERTICAL DATUM. LEVELS WERE RUN INTO THIS PROJECT FROM COS STATION 1714 HAVING A REPORTED ELEVATION OF 292.392' AS PART OF THE WORK FOR MAP REFERENCE #3 PREPARED BY THIS OFFICE.
6. THE BASE FLOOD ELEVATION (100 YEAR FLOOD) IN ZONE A14 IS ELEVATION 250.25' BASED ON INTERPOLATION FROM MAP REFERENCE #5.
7. JOHN P. IANNI, PROFESSIONAL SOIL SCIENTIST OF HIGHLAND SOILS CONDUCTED A SITE INSPECTION IN SEPTEMBER OF 2016 AND FOUND NO SOILS REGULATED AS AN INLAND WETLAND OR WATER COURSE ON THIS PROPERTY. MR. IANNI DID NOTE WETLANDS SOILS JUST OFF SITE TO THE NORTH. THE 150 FOOT REGULATED AREA SHOWN HERE ON IS AN APPROXIMATION BASED ON VISUAL OBSERVATION MADE OF THE LOCATION OF THE OFFSITE APPARENT WETLANDS.

**CURVE TABLE**

CURVE	RADIUS	DELTA ANGLE	ARC LENGTH	CHORD BEARING	CHORD LENGTH
C1	80.00'	82°55'19"	115.78'	N 84°51'37" W	105.94'
C2	400.00'	24°47'08"	173.04'	N 31°17'34" W	171.69'

ALL CONTRACTORS MUST CONTACT "CALL BEFORE YOU DIG"  
AT 1-800-922-4455 PRIOR TO ANY EXCAVATION.

**SURVEY DATA**

Survey Type	TOPOGRAPHIC SURVEY
Horizontal Accuracy	A-2
Vertical Accuracy	V-2
Topographic Accuracy	T-2
Boundary Determination	N/A

This map has been prepared in accordance with Regulations of the State of Connecticut Sections 20-300b-1 to 20-300b-20 as filed June 21, 1996.

To my knowledge and belief, this map is substantially correct as noted hereon.

Land Surveyor License # Date  
UNLESS IT BEARS THE IMPRESSION TYPE SEAL OF THE LAND SURVEYOR WHOSE NAME AND REGISTRATION NUMBER APPEAR ABOVE.

**TOWNE ENGINEERING, INC.**  
CIVIL ENGINEERS AND LAND SURVEYORS  
ROUTE 32 AND RICHMOND LANE, SOUTH WINDHAM CT  
TEL (860) 423-6371/889-2100 FAX 423-5470

**TOPOGRAPHIC SURVEY**  
PREPARED FOR  
**122-124 THORNBUSH ROAD LLC**  
122-124 THORNBUSH ROAD MANSFIELD, CONNECTICUT

DATE	REVISIONS	BOOK NO.	DRAWN	SHEET NO.
09/26/2016		475	JHB	1 OF 2
SCALE		DISC NO.	DESIGNED	JOB NO.
1"=40'		16-110	JHB	
		CAD DWG	CHECKED	
		16-110	MDM	16-110

**EROSION AND SEDIMENTATION CONTROL NOTES**

**PROJECT DESCRIPTION:**

THE PROJECT CONSISTS OF REPLACING A MOBILE HOME IN THE SAME GENERAL LOCATION AS ONE WHICH WAS RECENTLY REMOVED. THE REPLACEMENT HOME SHALL BE ELEVATED SUCH THAT THE FINISHED FLOOR WILL BE AT LEAST ONE FOOT ABOVE THE BASE FLOOD ELEVATION (100 YEAR FLOOD). FILL MATERIALS NECESSARY TO RAISE THE HOME PAD WILL BE OBTAINED FROM ANOTHER AREA ON THE PROPERTY. NO IMPORTED FILL MATERIAL IS ALLOWED.

**CONSTRUCTION SCHEDULE:**

- [A] INSTALL HAY BALES OR SILT FENCE AS SHOWN ON THE PLAN.
- [B] INSTALL CONSTRUCTION ENTRANCE
- [C] STRIP AND STOCKPILE TOPSOIL IN AREA OF BORROW AREA.
- [D] CONSTRUCT HOME PAD AND STABILIZE.
- [E] FINISH GRADE BORROW AREA, FERTILIZE, SEED, MULCH DISTURBED AREAS, REMOVE CONSTRUCTION ENTRANCE.
- [F] INSTALL REPLACEMENT MOBILE HOME.

ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO OR THE START OF CONSTRUCTION AND SHALL REMAIN IN EFFECT UNTIL ALL DISTURBED AREAS ARE STABILIZED.

**OPERATION AND MAINTENANCE:**

IN GENERAL, EROSION AND SEDIMENTATION CONTROL AND RESTORATION MEASURES SHALL CONFORM TO THE "2002 CONNECTICUT E & S GUIDELINES" AS PUBLISHED BY THE DEEP AND TO LOCAL TOWN REQUIREMENTS.

THE CONTRACTOR SHALL MAKE DAILY INSPECTIONS OF THE SITE TO ENSURE EFFECTIVENESS OF EROSION AND SEDIMENT CONTROL MEASURES AND IMMEDIATELY MAKE NECESSARY REPAIRS.

ALL CONSTRUCTION TRAFFIC SHALL ENTER AND LEAVE BY THE CONSTRUCTION ENTRANCE AS SHOWN ON THE PLAN.

WHEN IT IS NOT POSSIBLE TO PERMANENTLY STABILIZE A DISTURBED AREA OR WHEN GRADING ACTIVITY HAS TEMPORARILY CEASED FOR A PERIOD OF TIME EXPECTED TO EXCEED ONE MONTH, TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED AND MAINTAINED UNTIL PERMANENT CONTROL MEASURES ARE IMPLEMENTED.

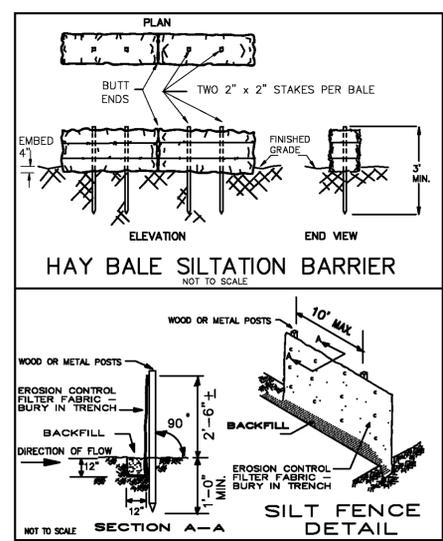
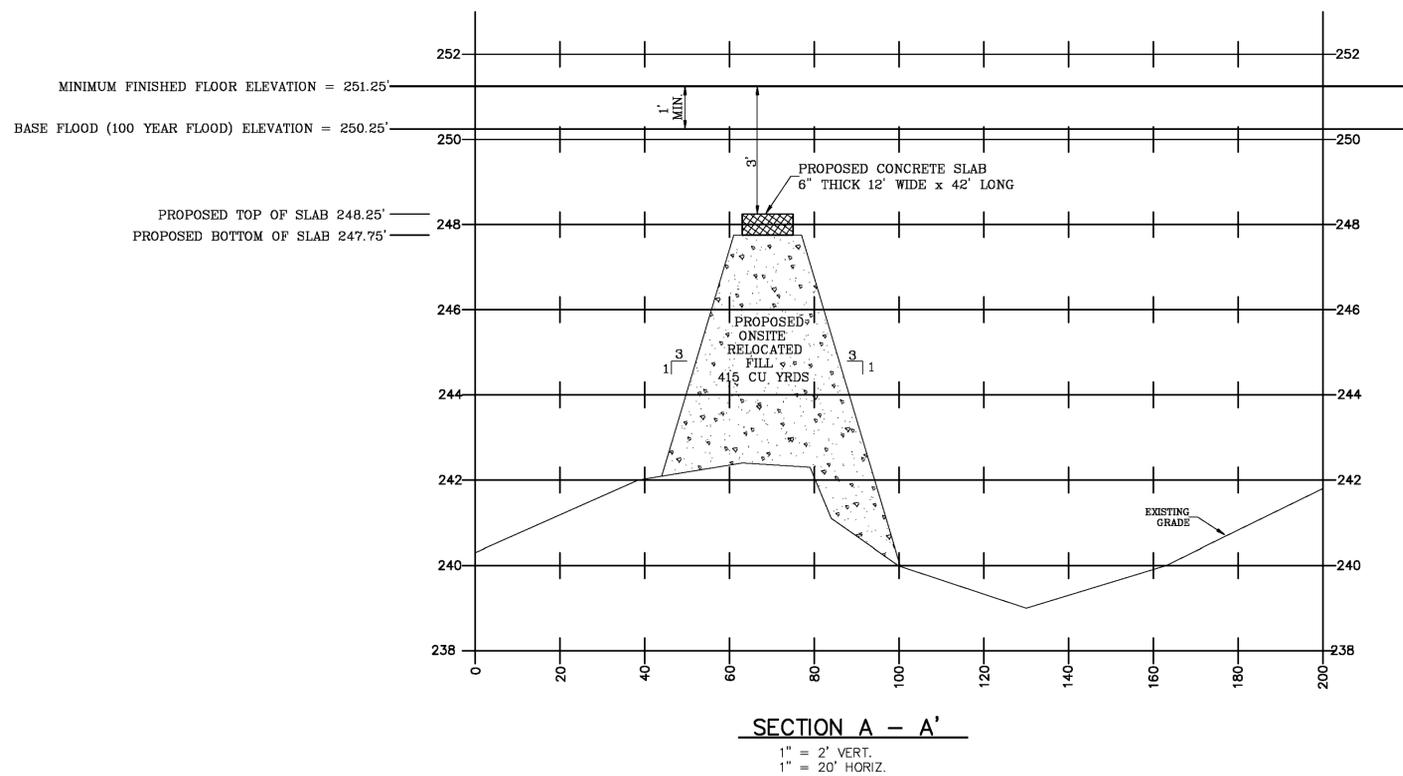
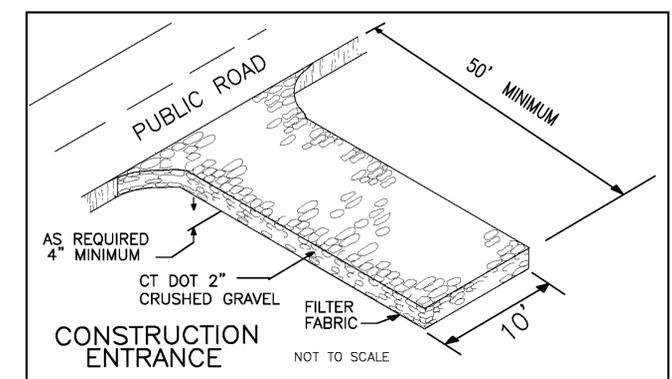
ADDITIONAL SEDIMENTATION AND/OR EROSION CONTROL MEASURES IF REQUESTED BY THE TOWN SHALL BE INSTALLED IMMEDIATELY UPON REQUEST.

ALL DISTURBED AREAS SHALL BE PROTECTED WITH A MINIMUM VEGETATION COVER AS SHOWN IN ACCOMPANYING CHART.

THE CONTRACTOR SHALL PLAN ALL LAND DISTURBING ACTIVITIES IN A MANNER AS TO MINIMIZE THE EXTENT OF THE DISTURBED AREAS.

THE CONTRACTOR HEREBY ACKNOWLEDGES HIS RESPONSIBILITY TO INSTALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES ON THIS SITE AND THAT HIS FAILURE TO INSTALL AND MAINTAIN THESE DEVICES COULD RESULT IN FINES OR SUSPENSION OF WORK.

VEGETATIVE COVER FOR DISTURBED AREAS			
SEEDING SCHEDULE			
	SEED MIX	SEEDING SEASON	
TEMPORARY	100% ANNUAL RYEGRASS	MARCH 1 TO JUNE 15 AUGUST 15 TO OCT. 1	
PERMANENT	45% KENTUCKY BLUEGRASS 45% CREEPING RED FESCUE 10% PERENNIAL RYE GRASS (OR EQUAL)	APRIL 15 TO JUNE 15 AUGUST 15 TO SEPT. 15	
APPLICATION RATES PER 1000 S.F.			
	SEED MIX	FERTILIZER (10x10x10)	LIME HAY MULCH
TEMPORARY	1 LB.	7.5 LBS.	45 LBS. 70-90 LBS.
PERMANENT	1 LB.	7.5 LBS.	90 LBS. 70-90 LBS.
TEMPORARY MULCH			
TO BE USED IN AREAS WHICH CANNOT BE SEEDED WITHIN THE SPECIFIED SEEDING SEASONS.			
APPLICATION RATE	70-90 LBS./1000 S.F.		
ASPHALT OR SYNTHETIC LIQUID MULCH BINDER SHALL BE APPLIED OVER ALL HAY MULCH AT THE RATES SPECIFIED BY THE MANUFACTURER.			

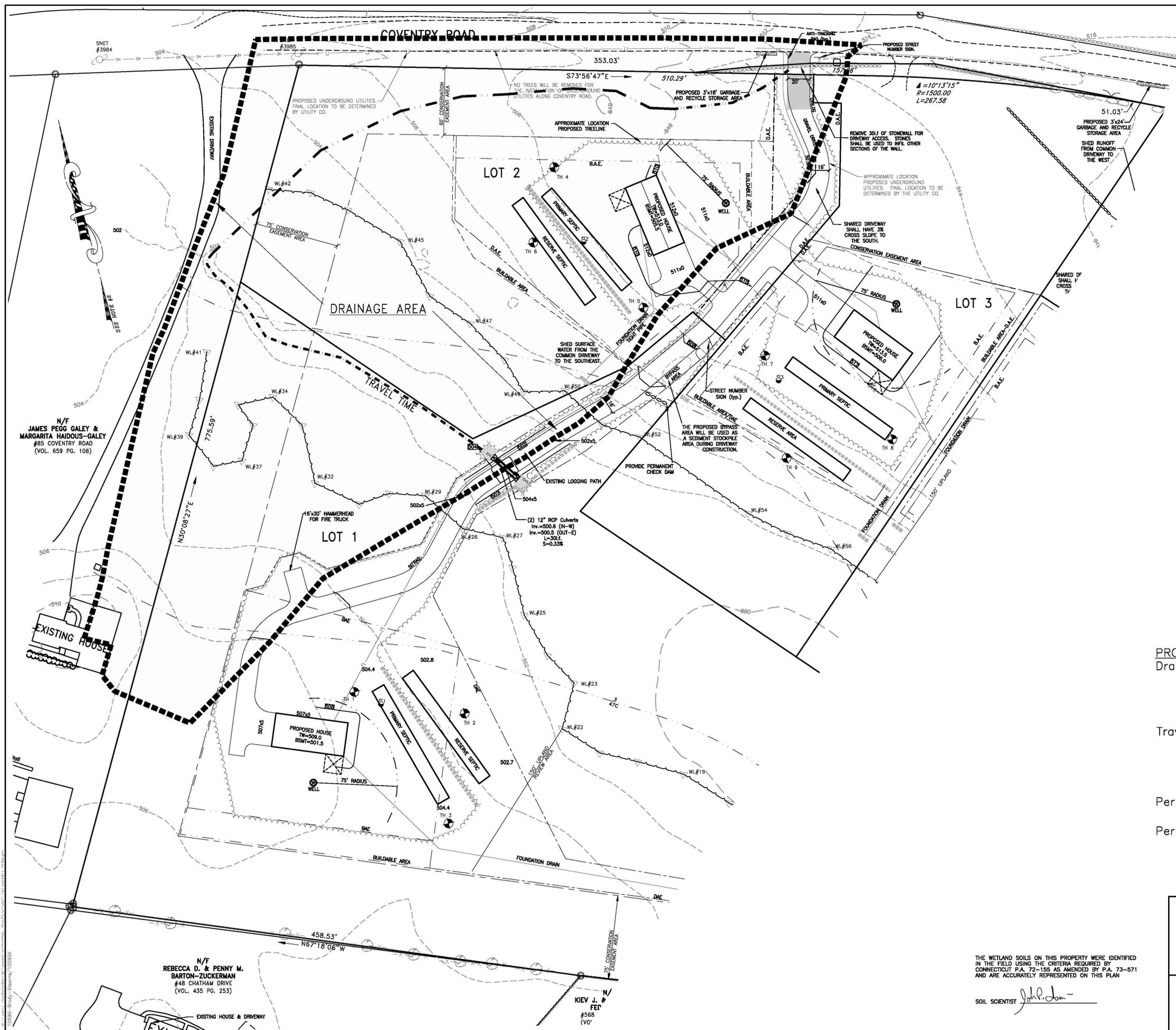


ALL CONTRACTORS MUST CONTACT "CALL BEFORE YOU DIG"  
 AT 1-800-922-4455 PRIOR TO ANY EXCAVATION.

<p><b>TOWNE ENGINEERING, INC.</b>                  CIVIL ENGINEERS AND LAND SURVEYORS                  ROUTE 32 AND RICHMOND LANE, SOUTH WINDHAM CT                  TEL (860) 423-6371/889-2100 FAX 423-5470</p>				
				<p>TOPOGRAPHIC SURVEY                  PREPARED FOR  <b>122-124 THORNBUSH ROAD LLC</b>                  122-124 THORNBUSH ROAD MANSFIELD, CONNECTICUT</p>
DATE	REVISIONS	BOOK NO.	DRAWN	SHEET NO.
09/28/2016		475	JHB	2 OF 2
SCALE		DISC NO.	DESIGNED	JOB NO.
N.T.S.		16-110	JHB	
		CAD DWG	CHECKED	
		16-110	MDM	16-110

**SOIL TYPE LEGEND**

NUMBER	SOIL TYPE
3	Ridgebury, Leicester and Whitman soils
46B	Woodbridge fine sandy loam
47C	Woodbridge fine sandy loam
73C	Charlton-Chatfield



N/F  
 JAMES PEGG GALEY &  
 MARGARITA HAIDOUS-GALEY  
 #85 COVENTRY ROAD  
 (VOL. 659 PG. 106)

N/F  
 REBECCA D. & PENNY M.  
 BARTON-ZUCKERMAN  
 #48 CHATHAM DRIVE  
 (VOL. 435 PG. 253)

N/  
 KIEV J. #8  
 #568  
 (VO)

**PROPOSED CULVERT CROSSING – LOT 1**

Drainage Area:	5.12 acres
gravel	0.30 acres
impervious	0.06 acres
woods	3.76 acres
grass	1.00 acres
Travel Time:	
overland	100' @ 3%
shallow concentrated	460' @ 1.7%
shallow concentrated	360' @ 0.4%

Per Hydraflow Hydragraph Extension – Q<sub>10</sub> = 5.97cfs  
 (see output)  
 Per Hydraflow Express Extension: Provide (2) 12" culverts  
 (see output)

**CULVERT DRAINAGE AREA MAP**

PREPARED FOR  
**MOUNTAIN VIEW ESTATES**  
 #522 BROWNS ROAD  
 & COVENTRY ROAD  
 MANSFIELD, CONNECTICUT

**GARDNER & PETERSON ASSOCIATES, LLC**  
 178 HARTFORD TURNPIKE  
 TOLLAND, CONNECTICUT

PROFESSIONAL ENGINEERS LAND SURVEYORS

REVISIONS				
BY	SCALE	DATE	SHEET NO.	MAP NO.
M.A.P.	1"=40'	6-30-2016	1 OF 1	10590D

THE WETLAND SOILS ON THIS PROPERTY WERE IDENTIFIED IN THE FIELD USING THE CRITERIA REQUIRED BY CONNECTICUT P.A. 72-155 AS AMENDED BY P.A. 73-571 AND ARE ACCURATELY REPRESENTED ON THIS PLAN

SOIL SCIENTIST *John P. Dan*



# TOWN OF MANSFIELD

DEPARTMENT OF PLANNING AND DEVELOPMENT

Date: September 29, 2016

To: Mansfield Inland Wetlands Agency

From: Jennifer Kaufman, Inland Wetlands Agent

Subject: 494 Wormwood Hill Road (File W1576)  
C. and J. Russer-Milne  
Description of Work: Addition  
Map Date: 8/30/2016, revised through 9/29/2016

## PROJECT OVERVIEW AND ANALYSIS

The applicants propose to complete the following activities:

- Construct a 24 by 24 foot garage/workshop addition approximately 43 feet from the edge of a stream located on the north side of the property
- Widen and resurface the existing driveway to access the new garage
- Construct an addition to the rear of the house, approximately 100 feet from the edge of wetlands

Approximately 900 square feet will be disturbed in the upland review area. No more than 200 cubic yards of material will be excavated for the garage foundation and a maximum of 20 cubic yards of material will be excavated to construct the frost walls for the rear addition. Excavated material will be temporarily stockpiled at least 50 feet from the edge of wetlands during construction and secured with silt fence. Excavated material will be distributed on the southern side of the house during the construction period. After construction, any remaining soil will be distributed at least 50 feet from the edge of wetlands or backfilled around the garage foundation and along the frost walls of the rear addition or removed from the site. The site will be reseeded and mulched to stabilize the site after construction.

---

## NOTIFICATIONS

- The applicant has submitted certified mail receipts for notices mailed to abutters.

## RECOMMENDATION/SUGGESTED MOTION

\_\_\_\_\_ MOVE to grant an Inland Wetlands License pursuant to the Inland Wetlands and Watercourses Regulations of the Town of Mansfield to C. and J. Russer-Milne (File W1576) for a garage and rear addition on property owned by the applicants and located at 494 Wormwood Hill Road as shown on plans dated 8/30/2016, revised through 9/29/2016 and as described in application submissions.

This action is based on a finding of no anticipated significant impact on the wetlands, and is conditioned on the following provisions being met:

1. Appropriate erosion and sedimentation controls as shown of the plans shall be in place prior to construction, maintained during construction and removed when disturbed areas are completely stabilized; and
2. The site will be seeded and mulched after construction and monitored until the site is completely stabilized.

This approval is valid for five years (until October 6, 2021) unless additional time is requested by the applicant and granted by the Inland Wetlands Agency. The applicant shall notify the Wetlands Agent before any work begins and all work shall be completed within one year. Any extension of the activity period shall come before this Agency for further review and comment.



# TOWN OF MANSFIELD

DEPARTMENT OF PLANNING AND DEVELOPMENT

Date: August 31, 2016  
To: Mansfield Inland Wetlands Agency  
From: Jennifer Kaufman, Inland Wetlands Agent  
Subject: 494 Wormwood Hill Road (File W1576)  
C. and J. Russer-Milne  
Description of Work: Addition  
Map Date: 8/30/2016

## PROJECT OVERVIEW

- The project includes work in wetlands.
- The project includes work in the 150 foot upland review area.
- The project is located in a Public Water Supply watershed.

The applicants propose to construct a 24 by 24 foot garage/workshop addition approximately 43 feet from the edge of a stream located on the north side of the property. The existing driveway will be widened and graded to access the garage. Approximately 900 square feet will be disturbed in the upland review area and no more than 200 cubic yards of material will be excavated for the garage foundation.

---

## APPLICATION FEES AND NOTIFICATIONS

- The applicant has paid the required application fee.
- The applicant has submitted copies of the notice mailed to neighbors and a list of abutters to be notified. Certified mail receipts must be submitted prior to action on the application.
- The applicant has submitted copies of notices provided to the Connecticut DPH and Windham Water Works. Certified mail receipts must be submitted prior to action on the application.

## RECEIPT MOTION

\_\_\_\_\_ MOVE to receive the application submitted by C and J Russer-Milne (IWA File 1576) under the Inland Wetlands and Watercourses Regulations of the Town of Mansfield for construction of a garage/work shop and associated site work on property located at 494 Wormwood Hill Rd.as shown on

a map dated 8/30/2016 and as described in application submissions, and to refer said application to staff and the Conservation Commission for review and comments.

APPLICATION FOR PERMIT  
MANSFIELD INLAND WETLANDS AGENCY  
4 SOUTH EAGLEVILLE ROAD, STORRS, CT 06268  
860-429-3015x6204 (DIRECT) TEL: 860-429-3330 OR  
FAX: 860-429-6863

FOR OFFICE USE ONLY

File # W1576  
W \_\_\_\_\_  
Fee Paid \$185-  
Official Date of Receipt 8-30-16

*Applicants are referred to the Mansfield Inland Wetlands and Watercourses Regulations for complete requirements, and are obligated to follow them. For assistance, please contact the Inland Wetlands Agent at the telephone numbers above.*

Please print or type or use similar format for computer; attach additional pages as necessary.

**Part A - Applicant**

Name CRISTY & JESSICA RUSSER-MILNE

Mailing Address 494 Wormwood Hill Rd.

MANSFIELD

Zip 06250

Phone 802 552 8112

Email CRISSERMILNE@GMAIL.COM

**Title and Brief Description of Project**

Attached 24'x24' Addition - Two FLOORS plus WALKOUT BSMT LEVEL. GARAGE

1ST FLOOR, WORK AREA SECOND FLOOR, TRACTOR STORAGE & SUPPLIES IN BSMT.

Location of Project 494 Wormwood Hill Rd. MANSFIELD CT.

Intended Start Date OCTOBER 2016

**Part B - Property Owner (if applicant is the owner, just write "same")**

Name SAME

Mailing Address \_\_\_\_\_

Zip \_\_\_\_\_

Phone \_\_\_\_\_

Email \_\_\_\_\_

Owner's written consent to the filing of this application, if owner is not the applicant:

Signature \_\_\_\_\_

date \_\_\_\_\_

Applicant's interest in the land: (if other than owner) \_\_\_\_\_

**Part C - Project Description (attach extra pages, if necessary)**

1) Describe in detail the proposed activity here or on an attached page. (See guidelines at end of application)

Please include a description of all activity or construction or disturbance:

- a) in the wetland/watercourse NONE
- b) in the area adjacent to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is off your property

b) EXCAVATION OF AREA ADJACENT TO NORTH END OF EXIST. HOUSE FOR 24'x24' ADDITION w/ EITHER OR NEAR FULL BSMT (DEPENDS ON WHAT IS FOUND DURING EXCAVATION). EXISTING DRIVEWAY WILL BE WIDENED. IT WILL REMAIN UNPAVED. AREA AROUND FOUNDATION AND DRIVEWAY TO BE REGRADED AS NEEDED. TWO LARGE HARDWOODS NEAR ROAD WILL BE TAKEN DOWN. ONLY HEAVY EQUIPMENT WILL BE MACHINERY USED TO EXCAVATE FOUNDATION HOLE.  
DRAINAGE WILL BE TO EAST AWAY FROM STREAM.

2) Describe the amount or area of disturbance (in square feet or cubic yards or acres):

- a) in the wetland/watercourse NONE
- b) in the area adjacent to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is off your property

b) NO MORE THAN 200 yds<sup>3</sup>

3) Describe the type of materials you are using for the project: CONCRETE, ENGINEERED LUMBER, FIBERGLASS ROOFING SHINGLES, LIQUID MEMBRANE FOUND. WATERPROOFING

- a) include **type** of material used as fill or to be excavated SAND AROUND FOUND. w CRUSH STONE
- b) include **volume** of material to be filled or excavated NO MORE THAN 200 yds<sup>3</sup> } ON TOP.

4) Describe measures to be taken to minimize or avoid any adverse impacts on the wetlands and regulated areas (silt fence, staked hay bales or other Erosion and Sedimentation control measures).

SEDIMENTATION FENCE BETWEEN PROJECT AND STREAM FROM ROAD TO DOWNGRADE (DOWNSLOPE) OF PROJECT

**Part D - Site Description**

Describe the general character of the land. (Hilly? Flat? Wooded? Well drained? etc.)

PITCHES FROM ROAD TO POND 170' EAST OF ROAD. AREA ADJACENT TO HOUSE LESS THAN 10° SLOPE, FOLLOWING BY QUICK DROP IN ELEVATION, FOLLOWED BY FLAT AREA AROUND POND.

### Part E - Alternatives

Have you considered any alternatives to your proposal that would meet your needs and might have less impact on the wetland/watercourse? Please list these alternatives.

YES. Addition on south side of house - REJECTED - too close to well  
& DESTROYS PRIME GARDENING AREA.  
UN ATTACHED bldg 25' FROM HOUSE - MORE IMPACT.

### Part F - Map/Site Plan (all applications)

1) Attach to the application a map or site plan showing **existing conditions** and the **proposed project** in relation to wetland/ watercourses. Scale of map or site plan should be 1" = 40'; if this is not possible, please indicate the scale that you are using. A sketch map may be sufficient for small, minor projects. **(See guidelines at end of application)**

- 2) Applicant's map date and date of last revision Aug 30 2016  
3) Zone Classification RAR 90  
4) Is your property in a flood zone?  Yes  No  Don't Know

### Part G - Major Applications Requiring Full Review and a Public Hearing

See Section 6 of the Mansfield Regulations for additional requirements.

### Part H - Notice to Abutting Property Owners

- 1) Attach list of abutters, name, and address
- 2) **Proof of Written Notice to Abutters.** You must notify abutting (neighboring) property owners (any property immediately contiguous with the subject property, including those across the street) by certified mail, return receipt requested, stating that a wetland application is in progress, and that abutters may contact the Mansfield Inland Wetlands Agent for more information. Include a brief description of your project. **Postal receipts of your notice to abutters must accompany your application.** To generate an abutters list go to <http://www.mainstreetmaps.com/CT/Mansfield/>

### Part I - Additional Notices, if necessary

Notice to Windham Water Works and CT Department of Public Health is attached. If this application is in the public watershed for the Windham Water Works (WWW), you must notify the WWW and the Department of Public Health of your project within 7 days of sending the application to Mansfield--sending it by certified mail, return receipt requested. Contact the Mansfield Inland Wetlands Agent to find out if you are in this watershed.

Notice to Adjoining Town. If your property is within 500 feet of an adjoining town, you must also send a copy of the application, on the same day you sent one to Mansfield, to the Inland Wetlands Agency of the adjoining town, by certified mail, return receipt requested.

The Statewide Reporting Form shall be part of the application and specified parts must be completed and returned with this application.

**Part J - Other Impacts To Adjoining Towns, if applicable**

- 1) Will a significant portion of the traffic to the completed project on the site use streets within the adjoining municipality to enter or exit the site? \_\_\_ Yes  No \_\_\_ Don't Know
- 2) Will sewer or water drainage from the project site flow through and impact the sewage or drainage system within the adjoining municipality? \_\_\_ Yes  No \_\_\_ Don't Know
- 3) Will water run-off from the improved site impact streets or other municipal or private property within the adjoining municipality? \_\_\_ Yes  No \_\_\_ Don't Know

**Part K - Additional Information from the Applicant**

Set forth (or attach) any other information which would assist the Agency in evaluating your application. *(Please provide extra copies of any lengthy documents or reports, and extra copies of maps larger than 8.5" x 11", which are not easily copied.)*

**Part L - Filing Fee**

Application fees shall be in accordance with the current Mansfield Code of Ordinance fee Schedule, pursuant to Section 8-1c of the Connecticut General Statutes. The fee schedule includes provisions for applicant-funded consultant studies and reports. The current fee schedule is available in the Planning and Zoning office.

*Note: The Agency may require additional information about the upland review area or about wetlands or watercourses affected by the regulated activity. If the Agency, upon review of your application, finds the activity proposed may involve a "significant activity" as defined in the Regulations, additional information and/or a public hearing may be required.*

**Certification**

I hereby certify that:

- I am familiar with the information contained in this form and that such information is true and correct to the best of my knowledge.
- I understand the penalties for obtaining a permit through deception or through inaccurate or misleading information.

  
\_\_\_\_\_  
Signature

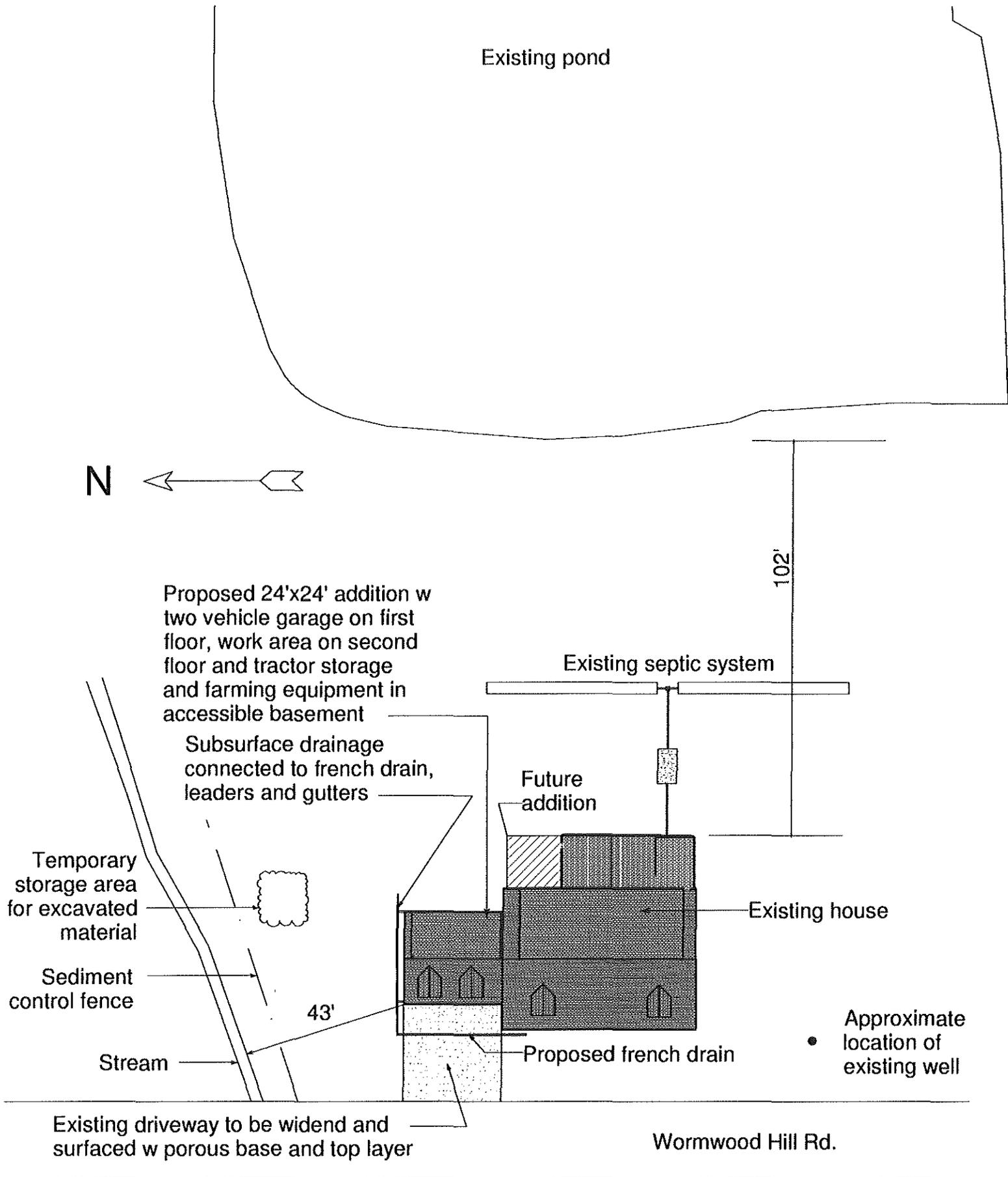
30 Aug 16  
\_\_\_\_\_  
Date

**Authorization to Enter Property**

The undersigned hereby consent to necessary and proper inspections of the above-mentioned property by members and agents of the Inland Wetlands Agency at reasonable times, both before and after the permit in question has been issued by the Agency.

  
\_\_\_\_\_  
Signature

30 Aug 16  
\_\_\_\_\_  
Date



SITE PLAN  
 PROPOSED ADDITION TO RUSSEY-MILNE RESIDENCE  
 494 WORMWOOD HILL RD.

Scale: 1"=32"

Aug. 30.2016





# TOWN OF MANSFIELD

DEPARTMENT OF PLANNING AND DEVELOPMENT

Date: September 29, 2016

To: Mansfield Inland Wetlands Agency

From: Jennifer Kaufman, Inland Wetlands Agent

Subject: 1029 Storrs Rd (File W1577)  
M. Benzie  
Description of Work: Installation of a Septic System  
Map Date: 7/19/2016, revised through 8/31/2016

## PROJECT OVERVIEW AND ANALYSIS

The applicant proposes to install a new onsite sewage treatment system to accommodate a restaurant use at 1029 Storrs Rd. The applicants have completed test pits and the only suitable location for the new system is on the western edge of the property, approximately 20 feet from the edge wetlands. Approximately 2800 square feet in the upland review area will be disturbed for the installation of the system and approximately 50 cubic yard of material will be removed and replaced with septic sand and clean fill. The site will be stabilized upon installation of the system. Silt fence will be installed down gradient of the activity.

A portion of the proposed septic system is located on an abutting property. The abutting property owners have agreed to sell a portion of their property for the installation of this system. The owner of 1029 Storrs Road is waiting for approvals from the Inland Wetland Agency for the new septic system and approval from the Planning and Zoning Commission for the change of use to the property prior to acquiring the abutting property. Acquisition of the 0.19 acres of land to install the septic system should be a condition of the Inland Wetlands License approval.

Because the proposed location of the system is 20 feet from the edge of wetlands, I asked the applicant provide review of the soils and percolation tests in the proposed location of the septic system and an opinion as to whether or not the nutrients would be attenuated prior to reaching wetland resources (attached). The applicant's soil scientist, Robert Russo of CLA Engineers, Inc., "identified nitrogen as the potential nutrient of concern as nitrogen is the limiting nutrient in most of Connecticut's ecosystems and levels other typically discharged nutrients such as phosphorus have been reduced recently due to legal limitations in its use in detergents and cleaners."

CLA "...considered two forms of nitrogen attenuation that will occur in the zone between the septic system and the wetland: dilution and natural microbial processing. Dilution will occur due to natural rainfall that infiltrates into the ground in the area up-gradient and down-gradient of the septic system."

CLA's report states:

The dilution analysis assumes that the nitrogen load going in to the septic tank will be at 50 mg/l. *This* is a concentration the CTDEEP has instructed CLA to use for other similar analysis (Personal communication CTDEEP). It is assumed that the biological processes in the tank and the septic trench will lower this level by 40% (CTDEEP Manual Section X pg.47) resulting in a concentration of 30mg/l entering the groundwater beneath the system. This concentration is rather diluted by the local groundwater (CTDEEP Manual Section X pg.47) to a concentration of approximately 22.6 mg/l at the nearest edge of the wetland, 20 feet from the system.

However in addition to dilution, the USEPA has documented that shallow subsurface flow of water through forested upland or forested wetland with soil texture similar to those on site can provide extensive additional nitrogen renovation (USEPA 2005) on the order of 87-97% for strips 5-6 meters wide ( USEPA 2005 Table 1, pages 7 and 8). If a reduction of *only* 75% is assumed, the anticipated concentration of nitrogen at the nearest edge of wetland would be approximately 6 mg/l. If a 90% reduction is assumed, the anticipated concentration at the wetland would be approximately 2 mg/l. Note that both of these values fall well below the State of Connecticut Drinking Water Standard of 10 mg/l.

CLA concludes that:

1. The septic system designed is unlikely to have a negative effect on any nearby drinking water supply.
2. The nutrient removal that will be provided before the effluent reaches the nearest portion of wetland will create water quality of the same order as that found in several Connecticut streams.
3. It is wllikely that there will be any negative effect on the inland wetland down gradient of the proposed septic system

Based on this analysis, in my opinion the installation of the system will not have significant negative impact on the wetlands.

---

## NOTIFICATIONS

- The applicant has submitted certified mail receipts for notices mailed to abutters.

## RECOMMENDATION/SUGGESTED MOTION

\_\_\_\_\_ MOVE to grant an Inland Wetlands License pursuant to the Inland Wetlands and Watercourses Regulations of the Town of Mansfield to M. Benzie (File W1577) for installation of an onsite sewage treatment system on property owned by the M. MacDonald and located at 1029 Storrs

Road as shown on plans dated 7/19/2016, revised through 8/31/2016 and as described in application submissions.

This action is based on a finding of no anticipated significant impact on the wetlands, and is conditioned on the following provisions being met:

1. Prior to commencing installation the applicant shall demonstrate that the area of activity currently located on the abutting property has been deeded to the owners of 1029 Storrs Road;
2. Appropriate erosion and sedimentation controls shall be in place prior to construction, maintained during construction and removed when disturbed areas are completely stabilized;
3. All soil shall be stockpiled at least 50 feet from the edge of wetlands and surrounded with silt fence; and
4. Upon completion of activity, all soil shall be removed from the site or distributed at least 50 feet from the edge of wetlands.

This approval is valid for five years (until October 6, 2021) unless additional time is requested by the applicant and granted by the Inland Wetlands Agency. The applicant shall notify the Wetlands Agent before any work begins and all work shall be completed within one year. Any extension of the activity period shall come before this Agency for further review and comment.



# TOWN OF MANSFIELD

DEPARTMENT OF PLANNING AND DEVELOPMENT

Date: August 31, 2016

To: Mansfield Inland Wetlands Agency

From: Jennifer Kaufman, Inland Wetlands Agent

Subject: 1029 Storrs Rd (File W1577)  
M. Benzie  
Description of Work: Installation of a Septic System  
Map Date: 7/19/2016, revised through 8/31/2016

## PROJECT OVERVIEW

- The project includes work in wetlands.
- The project includes work in the 150 foot upland review area.
- The project is located in a Public Water Supply watershed.

The applicants propose to install a new onsite sewage treatment system to accommodate the addition of a restaurant at 1029 Storrs Rd. The applicants have completed test pits and the only suitable location for the new system is on the western edge of the property, approximately 30 feet from the edge wetlands. Approximately 2800 square feet in the upland review area will be disturbed for the installation of the system and approximately 50 cubic yard of material will be removed and replaced with septic sand and clean fill. The site will be stabilized upon installation of the system. Silt fence will be installed down gradient of the activity.

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## APPLICATION FEES AND NOTIFICATIONS

- The applicant has paid the required application fee.
- The applicant has submitted copies of the notice mailed to neighbors and a list of abutters to be notified. Certified mail receipts must be submitted prior to action on the application.
- The applicant has submitted copies of notices provided to the Connecticut DPH and Windham Water Works. Certified mail receipts must be submitted prior to action on the application.

## RECEIPT MOTION

\_\_\_\_\_ MOVE to receive the application submitted by M. Benzie (IWA File W1577) under the Wetlands and Watercourses Regulations of the Town of Mansfield for the installation of new onsite sewage treatment system on property located at 1029 Storrs Road as shown on a map dated 7/19/2016, revised through 8/31/2016, and as described in application submissions, and to refer said application to staff and the Conservation Commission for review and comments.

**APPLICATION FOR PERMIT  
MANSFIELD INLAND WETLANDS AGENCY  
4 SOUTH EAGLEVILLE ROAD, STORRS, CT 06268  
860-429-3015x6204 (DIRECT) TEL: 860-429-3330 OR  
FAX: 860-429-6863**

FOR OFFICE USE ONLY

File # \_\_\_\_\_  
W \_\_\_\_\_  
Fee Paid \_\_\_\_\_  
Official Date of Receipt \_\_\_\_\_

*Applicants are referred to the Mansfield Inland Wetlands and Watercourses Regulations for complete requirements, and are obligated to follow them. For assistance, please contact the Inland Wetlands Agent at the telephone numbers above.*

Please print or type or use similar format for computer; attach additional pages as necessary.

**Part A - Applicant**

Name Matthew Benzie  
Mailing Address 147 Bassetts Bridge Road  
Mansfield Center, CT Zip 06250  
Phone 860-377-0194 Email benziem@rocketmail.com

**Title and Brief Description of Project**

SPRING HILL CAFE: CHANGE OF USE, IN AN EXISTING  
BUILDING, FOR THE CONSTRUCTION OF A RESTAURANT WITH A NEW  
SEPTIC LEECHING FIELD.  
Location of Project 1029 STORRS ROAD

Intended Start Date October, 2016

**Part B - Property Owner** (if applicant is the owner, just write "same")

Name Michael McDonald  
Mailing Address P.O. Box 371  
Mansfield Center, CT Zip 06250  
Phone 860-559-1227 Email stixnstonesct@yahoo.com

Owner's written consent to the filing of this application, if owner is not the applicant:

Signature \_\_\_\_\_ date \_\_\_\_\_

Applicant's interest in the land: (if other than owner) Rental for cafe

**Part C - Project Description (attach extra pages, if necessary)**

1) Describe in detail the proposed activity here or on an attached page. (See guidelines at end of application)

Please include a description of all activity or construction or disturbance:

- a) in the wetland/watercourse
- b) in the area **adjacent** to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is **off** your property

The project will include the installation of a new leeching system located a minimum of 30 feet from the wetlands in the upland area.

2) Describe the amount or area of disturbance (in square feet or cubic yards or acres):

- a) in the wetland/watercourse
- b) in the area **adjacent** to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is **off** your property

There will be no disturbance in the wetlands.  
The upland disturbance will be approximately 2800 SF with 50 CY of material removed.

3) Describe the type of materials you are using for the project:

The Mantis leeching system including septic sand, clean fill and topsoil will be installed.

- a) include **type** of material used as fill or to be excavated sand & topsoil
- b) include **volume** of material to be filled or excavated Approximately 50 CY of existing material will be removed.

4) Describe measures to be taken to minimize or avoid any adverse impacts on the wetlands and regulated areas (silt fence, staked hay bales or other Erosion and Sedimentation control measures).

SILT FENCE WILL BE INSTALLED, AS SHOWN ON THE PLAN PRIOR TO DISTURBANCE.

**Part D - Site Description**

Describe the general character of the land. (Hilly? Flat? Wooded? Well drained? etc.)

The existing building and parking area area fairly flat  
draining to the west, away from the road to a steeper hill  
and then to a flatter wetland area below.

### Part E - Alternatives

Have you considered any alternatives to your proposal that would meet your needs and might have less impact on the wetland/watercourse? Please list these alternatives.

Test pits closer to the building were not suitable for  
a leeching system.

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### Part F - Map/Site Plan (all applications)

1) Attach to the application a map or site plan showing **existing conditions** and the **proposed project** in relation to wetland/ watercourses. Scale of map or site plan should be 1" = 40'; if this is not possible, please indicate the scale that you are using. A sketch map may be sufficient for small, minor projects. **(See guidelines at end of application)**

2) Applicant's map date and date of last revision 7/19/2016 Rev 8/31/2016

3) Zone Classification RAR-90

4) Is your property in a flood zone?  Yes  No  Don't Know

### Part G - Major Applications Requiring Full Review and a Public Hearing

See Section 6 of the Mansfield Regulations for additional requirements.

### Part H - Notice to Abutting Property Owners

1) Attach list of abutters, name, and address

2) **Proof of Written Notice to Abutters.** You must notify abutting (neighboring) property owners (any property immediately contiguous with the subject property, including those across the street) by certified mail, return receipt requested, stating that a wetland application is in progress, and that abutters may contact the Mansfield Inland Wetlands Agent for more information. Include a brief description of your project. **Postal receipts of your notice to abutters must accompany your application.** To generate an abutters list go to <http://www.mainstreetmaps.com/CT/Mansfield/>

### Part I - Additional Notices, if necessary

Notice to Windham Water Works and CT Department of Public Health is attached. If this application is in the public watershed for the Windham Water Works (WWW), you must notify the WWW and the Department of Public Health of your project within 7 days of sending the application to Mansfield--sending it by certified mail, return receipt requested. Contact the Mansfield Inland Wetlands Agent to find out if you are in this watershed.

Notice to Adjoining Town. If your property is within 500 feet of an adjoining town, you must also send a copy of the application, on the same day you sent one to Mansfield, to the Inland Wetlands Agency of the adjoining town, by certified mail, return receipt requested.

The Statewide Reporting Form shall be part of the application and specified parts must be completed and returned with this application.

**Part J - Other Impacts To Adjoining Towns, if applicable**

- 1) Will a significant portion of the traffic to the completed project on the site use streets within the adjoining municipality to enter or exit the site? \_\_\_ Yes  No \_\_\_ Don't Know
- 2) Will sewer or water drainage from the project site flow through and impact the sewage or drainage system within the adjoining municipality? \_\_\_ Yes  No \_\_\_ Don't Know
- 3) Will water run-off from the improved site impact streets or other municipal or private property within the adjoining municipality? \_\_\_ Yes  No \_\_\_ Don't Know

**Part K - Additional Information from the Applicant**

Set forth (or attach) any other information which would assist the Agency in evaluating your application. *(Please provide extra copies of any lengthy documents or reports, and extra copies of maps larger than 8.5" x 11", which are not easily copied.)*

**Part L - Filing Fee**

Application fees shall be in accordance with the current Mansfield Code of Ordinance fee Schedule, pursuant to Section 8-1c of the Connecticut General Statutes. The fee schedule includes provisions for applicant-funded consultant studies and reports. The current fee schedule is available in the Planning and Zoning office.

*Note: The Agency may require additional information about the upland review area or about wetlands or watercourses affected by the regulated activity. If the Agency, upon review of your application, finds the activity proposed may involve a "significant activity" as defined in the Regulations, additional information and/or a public hearing may be required.*

**Certification**

I hereby certify that:

- I am familiar with the information contained in this form and that such information is true and correct to the best of my knowledge.
- I understand the penalties for obtaining a permit through deception or through inaccurate or misleading information.

\_\_\_\_\_  
Signature

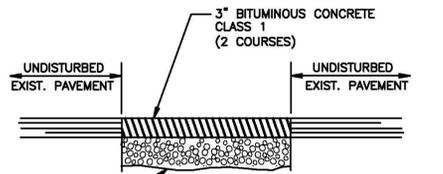
\_\_\_\_\_  
Date

**Authorization to Enter Property**

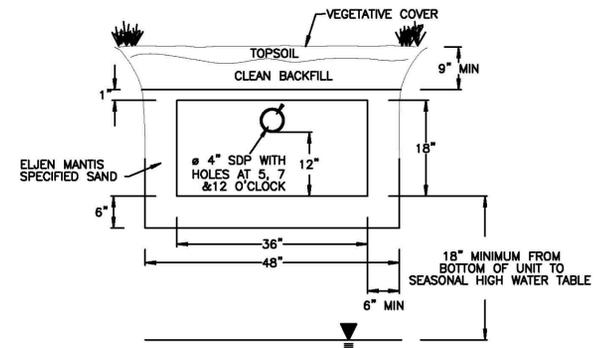
The undersigned hereby consent to necessary and proper inspections of the above-mentioned property by members and agents of the Inland Wetlands Agency at reasonable times, both before and after the permit in question has been issued by the Agency.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date



**PERMANENT PAVEMENT**  
NOT TO SCALE



**TYPICAL ELJEN MANTIS 536-8 SECTION**  
NOT TO SCALE

**PARKING CALCULATIONS:**

CAFE:	30 SEATS AT 1 SPACE / 3 SEATS + 5 SPACES =	15 SPACES
LANDSCAPE BUSINESS:	800 S.F. AT 1 SPACE / 200 S.F. =	4 SPACES
REAL ESTATE OFFICE:	800 S.F. AT 1 SPACE / 200 S.F. =	4 SPACES
APARTMENT:		2 SPACES
<b>TOTAL REQUIRED =</b>	<b>25 SPACES</b>	
<b>TOTAL PROVIDED =</b>	<b>25 SPACES</b>	

**TEST PIT LOGS**  
OBSERVED BY: SHERRY MCGANN, SANITARIAN  
3/8/2016

**TP-1**  
TOTAL DEPTH - 86"  
LEDGE - NONE  
MOTTLES - 31"  
WATER - NONE  
0-18" TOPSOIL  
18-31" OB FINE SANDY LOAM W/GRAVEL  
31-83" MOTTLED GREY SANDY LOAM TILL  
83-86" GROUNDWATER

**TP-2**  
TOTAL DEPTH - 64"  
LEDGE - NONE  
MOTTLES - 25"  
WATER - 41"  
0-14" TOPSOIL  
14-25" OB FINE SANDY LOAM W/GRAVEL  
25-54" MOTTLED GREY SANDY LOAM TILL  
54-64" GROUNDWATER

**TP-3**  
TOTAL DEPTH - 72"  
LEDGE - NONE  
MOTTLES - 28"  
WATER - 47"  
0-18" TOPSOIL  
18-28" OB FINE SANDY LOAM W/GRAVEL  
28-63" MOTTLED GREY SANDY LOAM TILL  
63-72" GROUNDWATER

OBSERVED BY: SHERRY MCGANN, SANITARIAN & JEFF POLHEMUS, CHIEF SANITARIAN  
3/8/2016

**TP-4**  
TOTAL DEPTH - 80"  
LEDGE - NONE  
MOTTLES - NONE  
WATER - NONE  
0-57" DISTURBED MIXED GRAVEL FILL / ASPHALT  
57-80" GREY/BR. LOAMY FILL  
\*UNSATURABLE

**TP-5**  
TOTAL DEPTH - 74"  
LEDGE - NONE  
MOTTLES - NONE  
WATER - NONE  
0-23" DISTURBED MIXED GRAVEL FILL  
23-74" GREY/TN LOAMY FILL  
\*UNSATURABLE

**TP-6**  
TOTAL DEPTH - 87"  
LEDGE - NONE  
MOTTLES - 57"  
WATER - NONE  
0-44" FILL  
44-50" ORIGINAL TOPSOIL  
50-57" FINE SANDY LOAM  
57-87" MOTTLED GREY LOAMY TILL  
\*UNSATURABLE

**TP-7**  
TOTAL DEPTH - 75"  
LEDGE - NONE  
MOTTLES - 56"  
WATER - NONE  
0-36" FILL  
36-44" BURIED TOPSOIL  
44-56" OB SANDY LOAM  
56-75" MOTTLED GREY/BR LOAMY TILL

**TP-8**  
TOTAL DEPTH - 80"  
LEDGE - NONE  
MOTTLES - 61"  
WATER - NONE  
0-23" FILL  
23-38" ORIGINAL TOPSOIL  
38-61" OB FINE SANDY LOAM  
61-80" MOTTLED GREY SANDY LOAM TILL

**SEPTIC SYSTEM REPAIR**

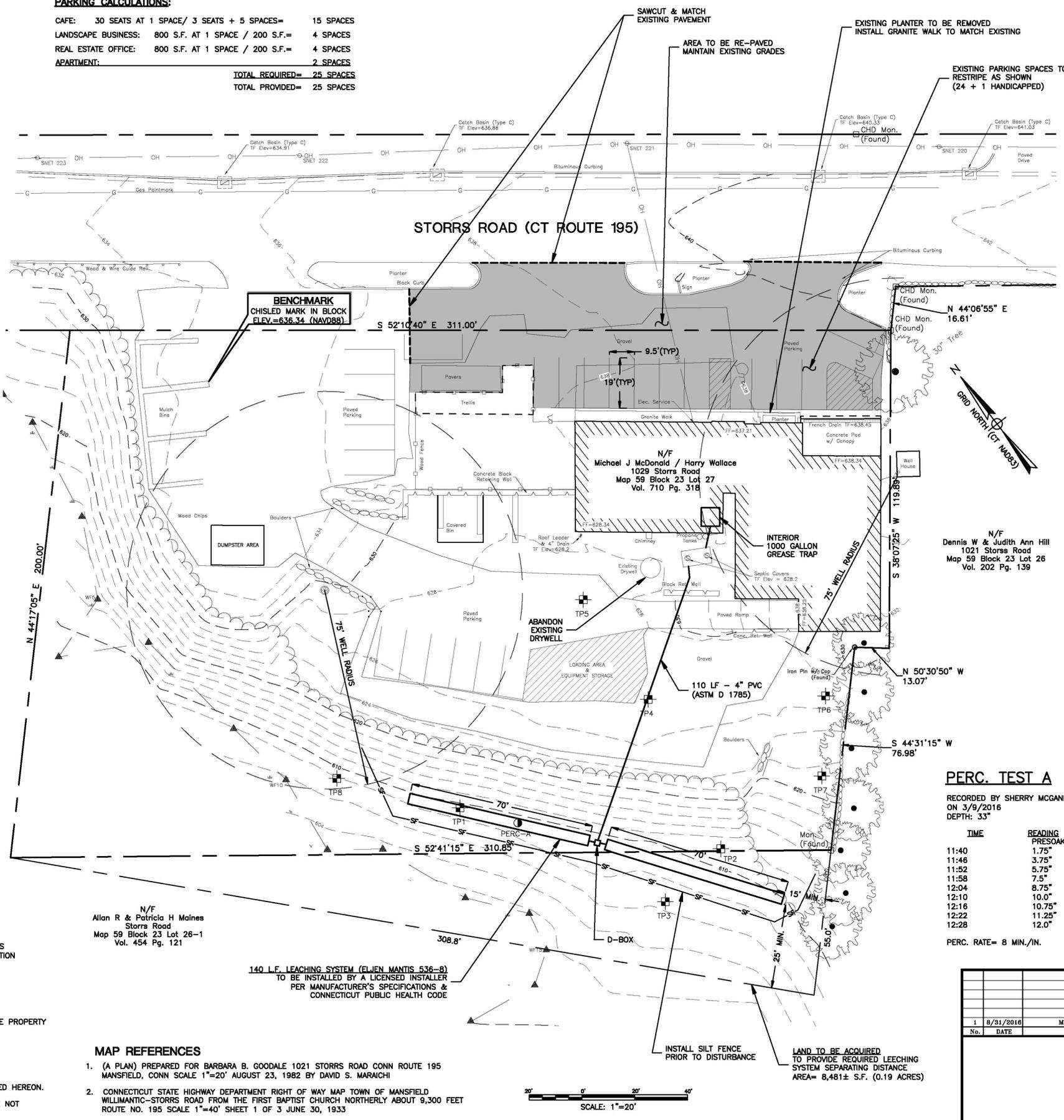
REPAIR SYSTEM:  
COMMERCIAL MIXED USE BUILDING W FOOD SERVICE  
DESIGN FLOW 1600 GPD  
PERCOLATION RATE: 8.0 MIN./INCH  
MAX DEPTH INTO EX. GRADE: 7 INCHES  
EFFECTIVE LEACHING AREA REQUIRED= 1500 SF  
SLOPE= 4.6%  
MLSS= HFxFPF= 20x5.53x1.2= 133 FT  
USING: ELJEN MANTIS 536-8  
EFFECTIVE LEACHING AREA OF TRENCH= 11.0 SF/LF  
LENGTH OF TRENCH REQUIRED=(1500 SF)/(11.0 SF/LF)= 137 LF  
USE ONE ROW OF 140'  
LEACHING AREA PROVIDED= 1540 SF  
\*1,000 GALLON GREASE TRAP REQUIRED FOR CAFE

**PERC. TEST A**

RECORDED BY SHERRY MCGANN, SANITARIAN  
ON 3/9/2016  
DEPTH: 33"

TIME	READING
	PRESOAK
11:40	1.75"
11:46	3.75"
11:52	5.75"
11:58	7.5"
12:04	8.75"
12:10	10.0"
12:16	10.75"
12:22	11.25"
12:28	12.0"

PERC. RATE= 8 MIN./IN.



**LEGEND:**

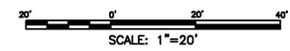
- PROPERTY LINE
- - - DRAINAGE
- G GAS
- OH OVERHEAD WIRE
- 21- CONTOUR
- - - GUIDERAIL
- - - RETAINING WALL
- - - WOODED AREA
- - - STONE WALL
- CATCH BASIN
- IRON PIN, IRON PIPE
- MERESTONE, CONNECTICUT HIGHWAY DEPARTMENT MONUMENT, MONUMENT
- TREE
- SWAMP OR WET AREA
- SEPTIC COVER
- NOW OR FORMALLY
- DEED VOLUME & PAGE
- WETLAND FLAG
- UTILITY POLE

**SURVEY NOTES**

- THIS SURVEY AND MAP HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 20-300b-1 THRU 20-300b-20 OF THE REGULATIONS FOR STATE AGENCIES "STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ENDORSED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC.
- LATEST DATE OF FIELD WORK: 07-05-16
- SUBJECT PROPERTY IS DEPICTED AS LOT 27 OF ASSESSOR'S MAP 59, BLOCK 23.
- VERTICAL DATUM IS NAVD88 BASED ON GPS OBSERVATIONS.
- NO UNDERGROUND UTILITIES, OTHER THAN DRAINAGE PIPES AND STRUCTURES, ARE DEPICTED HEREON.
- SUBSURFACE AND ENVIRONMENTAL CONDITIONS, OTHER THAN WETLANDS DELINEATION, WERE NOT EXAMINED OR CONSIDERED AS A PART OF THIS SURVEY.

**MAP REFERENCES**

- (A PLAN) PREPARED FOR BARBARA B. GOODALE 1021 STORRS ROAD CONN ROUTE 195 MANSFIELD, CONN SCALE 1"=20' AUGUST 23, 1982 BY DAVID S. MARACHI
- CONNECTICUT STATE HIGHWAY DEPARTMENT RIGHT OF WAY MAP TOWN OF MANSFIELD WILLIMANTIC-STORRS ROAD FROM THE FIRST BAPTIST CHURCH NORTHERLY ABOUT 9,300 FEET ROUTE NO. 195 SCALE 1"=40' SHEET 1 OF 3 JUNE 30, 1933



**CLA Engineers, Inc.**  
CIVIL • STRUCTURAL • SURVEYING

317 Main Street Norwich, CT 06360  
(860) 886-1966 Fax (860) 886-9165

No.	DATE	REVISION
1	8/31/2016	MISC. REVISIONS

Project No. CLA-5708  
Proj. Engineer B.R.L.  
Date: 7/19/2016  
Sheet No. 1

**MATTHEW BENZIE**

**SPRING HILL CAFE**  
1029 STORRS ROAD, MANSFIELD, CT

**SITE PLAN**

# **NEW BUSINESS**



# TOWN OF MANSFIELD

DEPARTMENT OF PLANNING AND DEVELOPMENT

Date: September 28, 2016

To: Mansfield Inland Wetlands Agency

From: Jennifer Kaufman, Inland Wetlands Agent

Subject: Woodland Road (Parcel ID 18.67.3) (File W1569)  
T. Ainsworth  
Description of Work: Construction of a Single Family Home-Modification  
Map Date: 4/28/2016, revised through 9/12/2016

## ANALYSIS

### NOTIFICATIONS

- The applicant has submitted certified mail receipts for notices mailed to abutters. **(NA request for Modification)**

At your meeting of July 20, 2016, you approved an Inland Wetlands License to construct a single family home on a one-acre lot on the west side of Woodland Road (Parcel ID 18.67.3). To comply with setback requirements in Mansfield's Zoning Regulations, the applicant must move the house 35 feet closer to the edge of wetlands and is thus requesting a modification to the existing license. In the previous application, the house was to be located 67 feet from the edge of wetlands. To comply with Mansfield's Zoning Regulations, the applicant must locate the house 32 feet from the edge of wetlands.

Under the revised plan, additional disturbance will occur within the upland review area and 10 feet closer to the edge of wetlands. A foundation drain will be installed 27 feet from the edge of wetlands. Below indicates the separating distance of each project activity from the edge wetlands:

Project Activity	Distance to the edge of wetlands (feet) Approved Plan	Distance to the edge of wetlands (feet) Revised Plan
House	67	32
Site Grading	40	30
Primary Septic Leach Field	70	70
Reserve Septic Leach Field	55	55
Well	92	92
Foundation Drain	61	27
Driveway	65	65

The modified proposal still contains no activities in wetlands. There have been no changes to the location of the well and the primary and reserve septic leach fields. While the location of the driveway has changed, it is no closer to the edge of wetlands than in the approved plan. In my opinion, the construction activities can be managed. I do have concern that the new property owners will landscape up to the edge of wetlands, which may have a significant impact over time due to the use of lawn chemicals and increased runoff. Therefore, I recommend that a condition of approval include that the area down gradient of the wetlands be kept in its natural state, except for the management of invasive species. This should be noted on the site plan and filed in the land records so that all property owners comply with this condition. Provided that this condition of approval is included, in my opinion, a modification should be granted. If the Agency views this as a significant change to the original activity, then receipt of this application is warranted.

## SUGGESTED MOTIONS

### *Motion to Grant a Modification:*

If the Agency agrees that a modification to the existing application is warranted, then the following motion is in order:

\_\_\_\_\_ MOVE to grant a modification of the Inland Wetlands License (File W1569) granted on July 20, 2016 pursuant to the Inland Wetlands and Watercourses Regulations of the Town of Mansfield to T. Ainsworth for construction of a single family home on property owned by Alan Ainsworth and located on Woodland Rd (Parcel ID 18.67.3) as shown on plans dated 4/28/2016, revised through 9/12/2016 and as described in application submissions.

This action is based on a finding of no anticipated significant impact on the wetlands, and is conditioned on the following provisions being met:

1. Appropriate erosion and sedimentation controls, as noted on the plans, shall be in place prior to construction, maintained during construction and removed when disturbed areas are completely stabilized;
2. To filter runoff and prevent erosion, ground cover shall be planted as indicated on the plan in areas with a 3 to 1 and 2 to 1 slope and establishment of such plantings shall be a condition of the certificate of zoning permit compliance.
3. The site plan shall be revised to include a notation stating that the area down gradient of the silt fence shall be kept in a natural state, except for the management of invasive species. A notice of this condition shall be filed on the land records.

This approval is valid for five years (until October 6, 2021) unless additional time is requested by the applicant and granted by the Inland Wetlands Agency. The applicant shall notify the Wetlands Agent before any work begins and all work shall be completed within one year. Any extension of the activity period shall come before this Agency for further review and comment.

*Receipt Motion*

If the Agency is of the opinion that the revised plan is a significant change to the previously approved license then the following motion is in order:

\_\_\_\_\_ MOVE to receive the application submitted by T. Ainsworth (IWA File 1569-2) under the Inland Wetlands and Watercourses Regulations of the Town of Mansfield for construction of a single family home on property located on the west side of Woodland Road (parcel ID 18.67.3) as shown on a map dated 4/28/2016, revised through 9/12/2016, and as described in application submissions, and to refer said application to staff and the Conservation Commission for review and comments.

# Modification Request

**APPLICATION FOR PERMIT**  
**MANSFIELD INLAND WETLANDS AGENCY**  
4 SOUTH EAGLEVILLE ROAD, STORRS, CT 06268  
860-429-3015x6204 (DIRECT) TEL: 860-429-3330 OR  
FAX: 860-429-6863

FOR OFFICE USE ONLY

File # W W1569  
Fee Paid 450  
Official Date of Receipt 9-28-16

Applicants are referred to the Mansfield Inland Wetlands and Watercourses Regulations for complete requirements, and are obligated to follow them. For assistance, please contact the Inland Wetlands Agent at the telephone numbers above.

Please print or type or use similar format for computer; attach additional pages as necessary.

## Part A - Applicant

Name THOMAS AINSWORTH

Mailing Address 51 BUNDY LANE, STORRS, CT.

Zip 06268

Phone 860-305-0626 Email TNMAINSWORTH54@GMAIL.COM

## Title and Brief Description of Project

TITLE - AINS WORTH HOUSE WOODLAND ROAD, BUILDING A SINGLE FAMILY HOME WITH 3 BDRMS, WELL, SEPTIC & GARAGE

Location of Project WOODLAND ROAD, STORRS

Intended Start Date OCT. 2016

## Part B - Property Owner (if applicant is the owner, just write "same")

Name ALAN AINSWORTH

Mailing Address 150 MAJESTIC COURT APT. 1013

MOOR PARK, CA. Zip 93021

Phone 1-805-529-1723 Email AAINSWORTH@VCCCD.EDU

Owner's written consent to the filing of this application, if owner is not the applicant:

Signature Alan Ainsworth date \_\_\_\_\_

Applicant's interest in the land: (if other than owner) PROJECT / PROPERTY MANAGER

## Part C - Project Description (attach extra pages, if necessary)

Part C - Project Description (attach extra pages, if necessary)

1) Describe in detail the proposed activity here or on an attached page. (See guidelines at end of application)

Please include a description of all activity or construction or disturbance:

- a) in the wetland/watercourse
- b) in the area adjacent to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is off your property

(A) NO WORK OR DISTURBANCE WILL OCCUR IN THE WETLANDS.

(B) AS PER ZONING WE ARE MOVING THE HOUSE LOCATION 35 FT CLOSER TO THE WETLANDS. THE NEW LOCATION ALLOWS US TO MODIFY THE DESIGN TO SLIGHTLY REDUCE THE AMOUNT OF FILL REQUIRED WITHOUT CHANGING THE ORIGINAL FOOTPRINT. GRADING WILL BASICALLY BE THE SAME.

2) Describe the amount or area of disturbance (in square feet or cubic yards or acres):

- a) in the wetland/watercourse
- b) in the area adjacent to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is off your property

(A) NO DISTURBANCE IN THE WETLANDS.

(B) BETWEEN 10,000 TO 15,000 SQ FT.

3) Describe the type of materials you are using for the project: WOOD FRAME CONSTRUCTION WITH CONCRETE FOUNDATION AND GRAVEL FOR DRIVE WAY AND SEPTIC.

- a) include type of material used as fill or to be excavated SELECT FILL / GRAVEL
- b) include volume of material to be filled or excavated

APPROXIMATELY 325 CU YDS

4) Describe measures to be taken to minimize or avoid any adverse impacts on the wetlands and regulated areas (silt fence, staked hay bales or other Erosion and Sedimentation control measures).

SEE PLAN FOR TYPE AND LOCATION OF EROSION AND SEDIMENTATION CONTROL MEASURES

Part D - Site Description

Describe the general character of the land. (Hilly? Flat? Wooded? Well drained? etc.)

SITE IS WOODED WITH GENTLE SLOPE

**Part E - Alternatives**

Have you considered any alternatives to your proposal that would meet your needs and might have less impact on the wetland/watercourse? Please list these alternatives.

THE SITE CHOSEN IS THE ONLY AREA ON THE LOT  
TO MEET ZONING SETBACKS AND OTHER REQUIREMENTS.

**Part F - Map/Site Plan (all applications)**

1) Attach to the application a map or site plan showing **existing conditions** and the **proposed project** in relation to wetland/ watercourses. Scale of map or site plan should be 1" = 40'; if this is not possible, please indicate the scale that you are using. A sketch map may be sufficient for small, minor projects. **(See guidelines at end of application)**

- 2) Applicant's map date and date of last revision 5/15/2016 9/12/16
- 3) Zone Classification BAR 90 NON-CONFORMING LOT OF RECORD
- 4) Is your property in a flood zone?      Yes   X   No      Don't Know

**Part G - Major Applications Requiring Full Review and a Public Hearing**

See Section 6 of the Mansfield Regulations for additional requirements.

**Part H - Notice to Abutting Property Owners**

- 1) Attach list of abutters, name, and address
- 12) **Proof of Written Notice to Abutters.** You must notify abutting (neighboring) property owners (any property immediately contiguous with the subject property, including those across the street) by certified mail, return receipt requested, stating that a wetland application is in progress, and that abutters may contact the Mansfield Inland Wetlands Agent for more information. Include a brief description of your project. **Postal receipts of your notice to abutters must accompany your application.** To generate an abutters list go to <http://www.mainstreetmaps.com/CT/Mansfield/>

**Part I - Additional Notices, if necessary**

Notice to Windham Water Works and CT Department of Public Health is attached. If this application is in the public watershed for the Windham Water Works (WWW), you must notify the WWW and the Department of Public Health of your project within 7 days of sending the application to Mansfield--sending it by certified mail, return receipt requested. Contact the Mansfield Inland Wetlands Agent to find out if you are in this watershed.

Notice to Adjoining Town. If your property is within 500 feet of an adjoining town, you must also send a copy of the application, on the same day you sent one to Mansfield, to the Inland Wetlands Agency of the adjoining town, by certified mail, return receipt requested.

The Statewide Reporting Form shall be part of the application and specified parts must be completed and returned with this application.

**Part J - Other Impacts To Adjoining Towns, if applicable**

- 1) Will a significant portion of the traffic to the completed project on the site use streets within the adjoining municipality to enter or exit the site? \_\_\_ Yes X No \_\_\_ Don't Know
- 2) Will sewer or water drainage from the project site flow through and impact the sewage or drainage system within the adjoining municipality? \_\_\_ Yes X No \_\_\_ Don't Know
- 3) Will water run-off from the improved site impact streets or other municipal or private property within the adjoining municipality? \_\_\_ Yes X No \_\_\_ Don't Know

**Part K - Additional Information from the Applicant**

Set forth (or attach) any other information which would assist the Agency in evaluating your application. *(Please provide extra copies of any lengthy documents or reports, and extra copies of maps larger than 8.5" x 11", which are not easily copied.)*

**Part L - Filing Fee**

Application fees shall be in accordance with the current Mansfield Code of Ordinance fee Schedule, pursuant to Section 8-1c of the Connecticut General Statutes. The fee schedule includes provisions for applicant-funded consultant studies and reports. The current fee schedule is available in the Planning and Zoning office.

*Note: The Agency may require additional information about the upland review area or about wetlands or watercourses affected by the regulated activity. If the Agency, upon review of your application, finds the activity proposed may involve a "significant activity" as defined in the Regulations, additional information and/or a public hearing may be required.*

**Certification**

I hereby certify that:

- I am familiar with the information contained in this form and that such information is true and correct to the best of my knowledge.
- I understand the penalties for obtaining a permit through deception or through inaccurate or misleading information.

Thomas Ainsworth  
Signature

9/26/16  
Date

**Authorization to Enter Property**

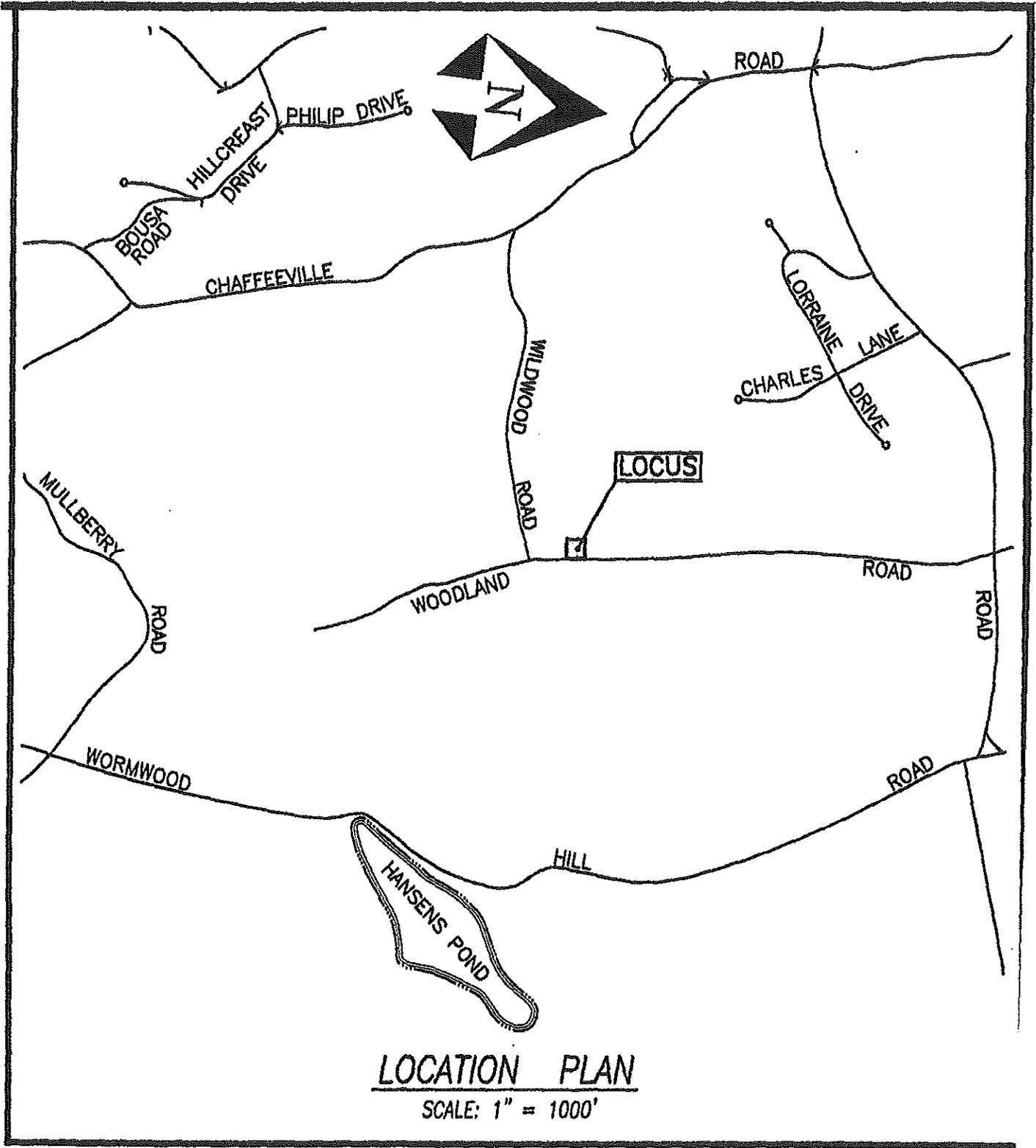
The undersigned hereby consent to necessary and proper inspections of the above-mentioned property by members and agents of the Inland Wetlands Agency at reasonable times, both before and after the permit in question has been issued by the Agency.

Thomas Ainsworth  
Signature

9/26/16  
Date

## Ainsworth House Woodland Road, Mansfield - 9/27/16

<b>Project Activity</b>	<b>Distance to the edge of wetlands (feet) on original application</b>	<b>Distance to the edge of wetlands (feet) On revised application</b>
Site Grading	40	25
Primary Septic Leach Field	70	70
Reserve Septic Leach Field	55	55
Well	92	92
Foundation Drain	61	27
Driveway	73	73



LOCATION PLAN

SCALE: 1" = 1000'

AINSWORTH HOUSE  
WOODLAND RD

EDGE OF WETLANDS  
(SEE NOTE #6)

STEEP SLOPES TO BE STABILIZED  
WITH GROUND COVER PLANTING

**LOT #3**  
AREA = 1.01 Acres  
(44,100 SF)

PROPOSED SILT  
FENCE WINGS (TYP)

PROPOSED  
3 BEDROOM  
HOUSE  
FF = 448.5  
BSMNT = 439.5

GARAGE  
= 447.2

RESERVE SEPTIC SYSTEM

45" - 4" SCH-40  
PVC SAN SEWER

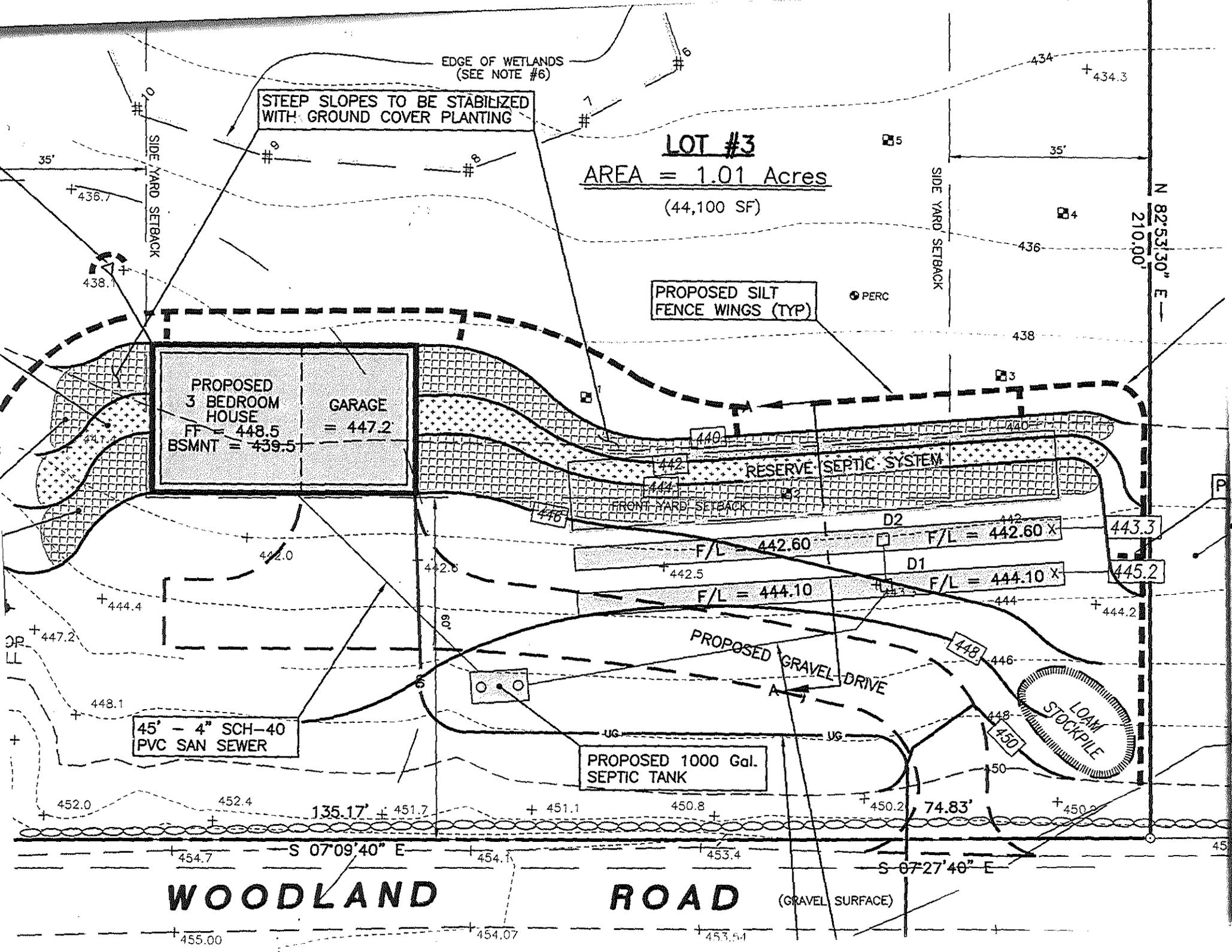
PROPOSED 1000 Gal.  
SEPTIC TANK

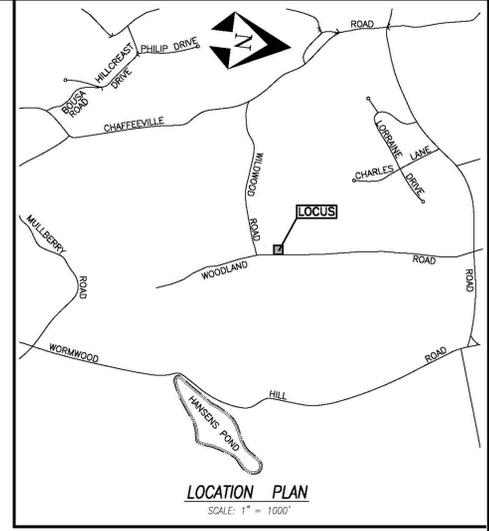
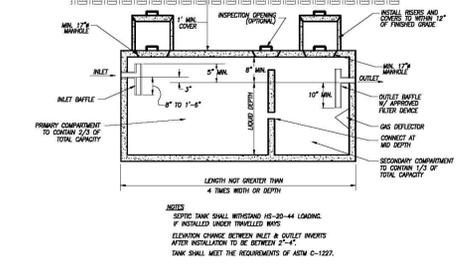
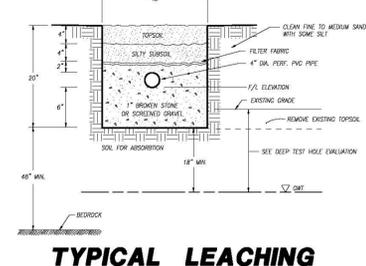
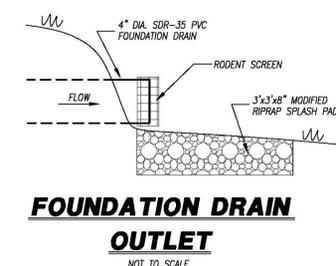
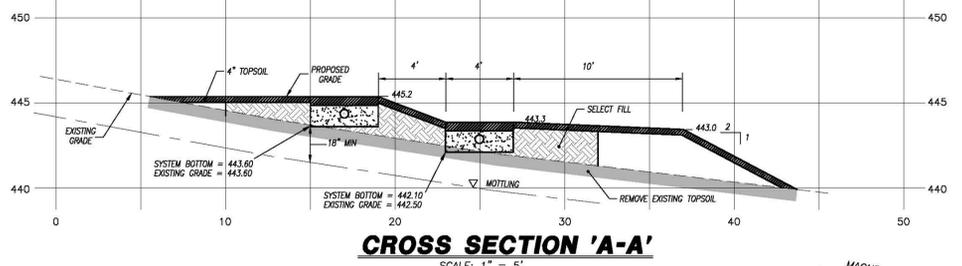
LOAM  
STOCKPILE

**WOODLAND**

**ROAD**

(GRAVEL SURFACE)

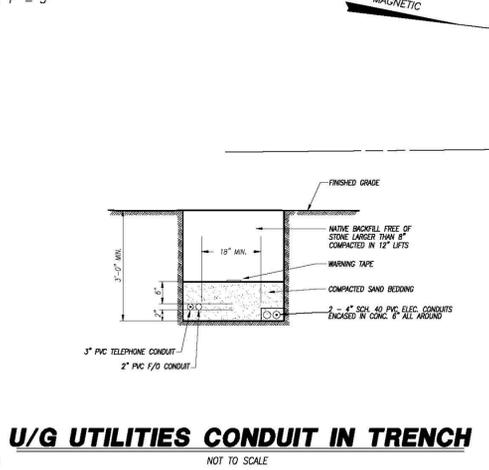




- EROSION & SEDIMENTATION NOTES AND SEQUENCE OF OPERATIONS**
- The proposed activity consists of the construction of a 3 bedroom house, driveway, septic system and well with disturbance within 150' of an inland wetland.
  - Prior to any construction, excavation or filling, all improvements shall be accurately staked in the field by a land surveyor registered in the State of Connecticut.
  - After field staking all erosion sedimentation control devices as shown on the plan and as detailed shall be installed. Properly installed haybales may be used in lieu of silt fence.
  - All trees and brush within the areas of disturbance shall be removed. All limbs and saplings less than 4" in caliper shall be chipped and stockpiled for later reuse as slope stabilization and mulch material. All trees in excess of 4" in caliper shall be removed from the site and disposed of in a manner consistent with State, Federal, and local regulations. Tree stumps shall be ground on site and incorporated in the wood chip stockpile or shall be hauled off the site and disposed at a licensed facility. Burial of tree stumps is not permitted.
  - Final grades shall be achieved as quickly as possible, and immediately thereafter, slopes shall be stabilized with 4" of topsoil. The area shall be seeded and mulched with straw mulch in accordance with the specifications contained herein.
  - All erosion and sedimentation control measures shall be constructed in accordance with standards and specifications of the "2002 Connecticut Erosion & Sedimentation Guidelines", DEP Bulletin #34.
  - All control measures shall be maintained in effective conditions throughout the construction period and is required to be inspected once a week and after all storm events of 1/2 inch or greater of rainfall. Sediment shall be promptly removed from control structures and disposed of on-site in upland areas outside the buffer zone of wetlands. Any silt fence or hay bales damaged as a result of a storm event or construction activities, shall be immediately repaired. Repairs to erosion and sediment control shall be made within 24 hours of the failure. Failure shall mean when the fence has been overtopped, undercut or bypassed, the fence has been moved out of position, or the geotextile has been damaged. If these conditions occur multiple times the applicant shall install a secondary silt fence upslope.
  - The Town of Mansfield shall be notified prior to commencement of construction and at key point during construction so that inspections of erosion and sedimentation control measures can be scheduled.
  - The responsibility for implementation of this plan shall rest with Tom Ainsworth, 51 Bundy Lane, Mansfield, CT, 06268 Telephone: (860) 305-0626
  - Seed Mixture:
 

URON ACHIEVEMENT OF FINAL TOPSOIL SHALL BE SPREAD AND SEEDING WITH FOLLOWING MIX:	
SEED	0.05
CREeping RED FESCUE	0.20
RETIOP	0.15
PERENNIAL RYEGRASS	
KENTUCKY BLUEGRASS	
TOTAL	0.85

AFTER SEEDING IS COMPLETE SPREAD MULCH AT THE RATE OF 1 HAYBALE/500 S.F.

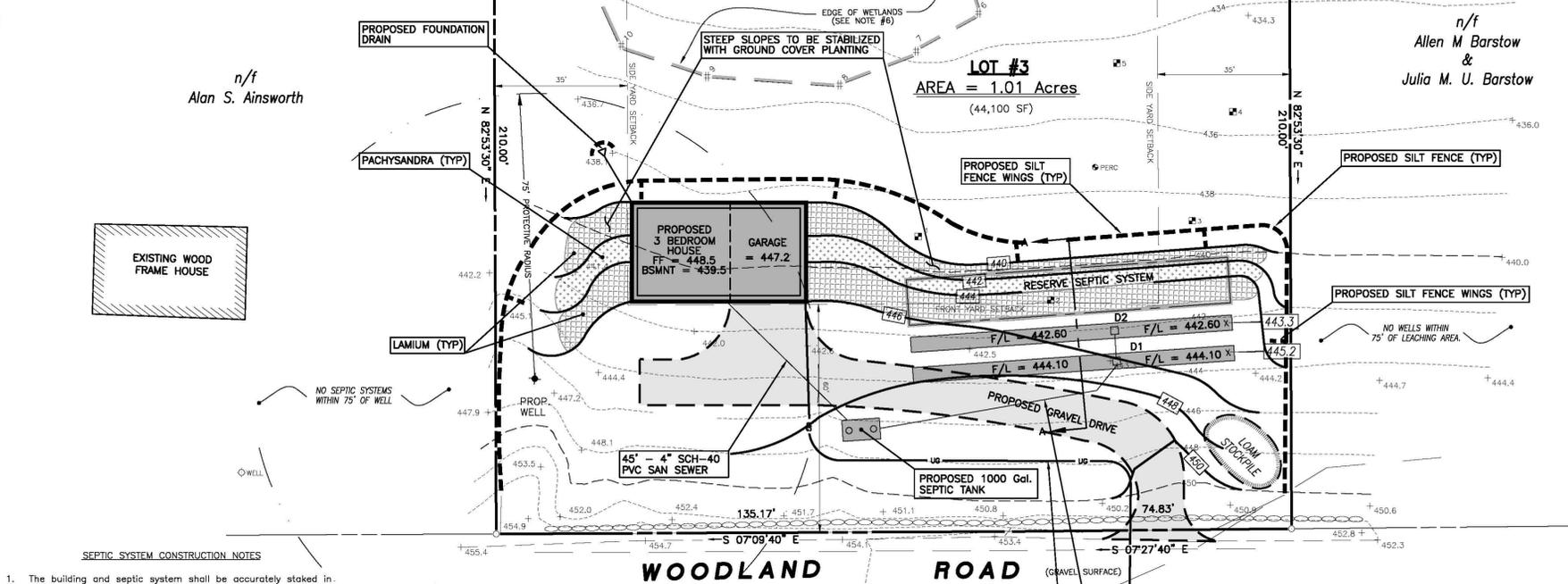


- Tentative Schedule of construction activities:
 

Lot Clearing:	July 30 - Aug 30
Well Drilling:	July 30 - Aug 30
Site Grading and Foundation Construction:	July 30 - Sept 15
Driveway and Septic System Installation:	July 30 - Aug 30
Building Construction:	Aug 15 - Oct 15
Lawn and Seeding:	Oct 15 - Dec 30

- NOTES:**
- This survey has been prepared pursuant to the Regulations of Connecticut State Agencies Sections 20-300b-1 through 20-300b-20 and the "Standards for Surveys and Maps in the State of Connecticut" as adopted by the Connecticut Association of Land Surveyors, Inc. on September 26, 1996;
    - Boundary lines shown conform to a Class "D" horizontal accuracy and were compiled from other maps, record research or other sources of information, not to be construed as having been obtained as the result of a field survey, and subject to such change as an accurate field survey may disclose
    - Topographic features conform to a Class "T-2" vertical accuracy.
  - Owner: Alan S. Ainsworth  
Applicant: Tom Ainsworth  
51 Bundy Lane  
Mansfield, CT  
06268
  - Parcels shown are Lot #3, Block 67 on Assessor's Tax Map #18
  - Parcels area located in Zone C as shown on FEMA Flood Insurance Rate Map #090128 0010 C, Effective Date: January 2, 1981.
  - Elevations based on approximate NGVD 1929. Contours taken from actual field Survey, Contour interval = 2'.
  - Wetlands delineated by John Ianni, Certified Soils Scientist, in April 2016

- MAP REFERENCES:**
- "Plan of Clark Property - Subdivision of 27.4518 - Corner of Wildwood Road & Woodland Road - Mansfield, Connecticut - Scale: 1" = 50' - Dated June 1970 - Prepared by Volney Blodgett L.S." On file in Volume #8 Page #15
  - "Plan of Resubdivision of Leonard Clark Subdivision - Property of Allen M. & Julia M. U. Barstow - 139 Woodland Road - Mansfield, Connecticut - Scale: 1" = 40' - Dated February 1975 - Prepared by Volney Blodgett L.S." On file in Volume #11 Page #7
  - "Property Survey Prepared for Alan S. Ainsworth - Woodland Road - Mansfield, Connecticut - Scale: 1" = 20' - Dated April 18, 2016 - Prepared by KWP Associates"

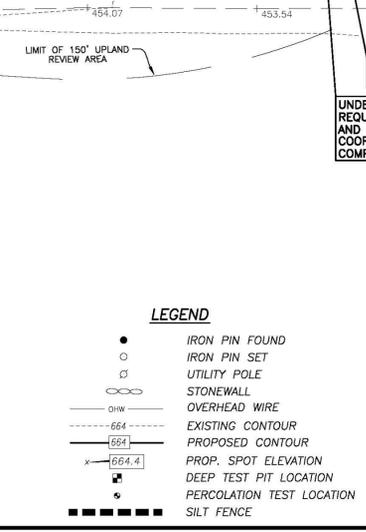
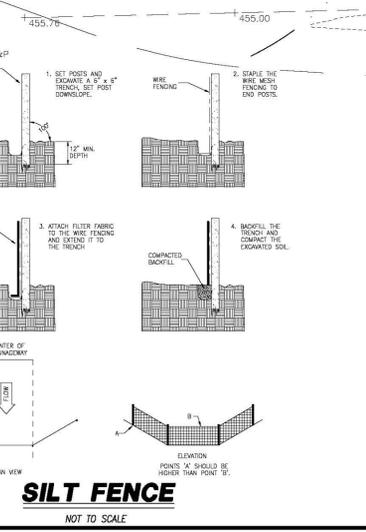


- SEPTIC SYSTEM CONSTRUCTION NOTES**
- The building and septic system shall be accurately staked in the field prior to construction by a licensed Land Surveyor in the State of Connecticut.
  - Topsoil shall be removed and the area of primary leaching field scarified prior to placement of fill. Fill shall meet the gradation requirements noted below. Fill material shall be approved by the engineer or the sanitarian prior to placement. It shall be compacted in six-inch lifts and shall extend a minimum of fifteen feet (15') beyond the last leaching trench before tapering off.
 

Septic System Fill Gradation Requirements		
Coarse Fraction (less than 3" and greater than No. 4 sieve):	45% Max.	
Fine Fraction:		
Sieve	WET	DRY
No. 4	100	100
No. 10	70-100	70-100
No. 40	10-50*	10-75
No. 100	0-20	0-5
No. 200	0-5	0-2.5

Percent passing the #40 sieve can be increased to no greater than 75% if the percent passing the #100 sieve does not exceed 10% and the #200 sieve does not exceed 5%.
  - Precast septic tanks & distribution boxes, etc. shall be set level on six inches (6") of compacted gravel base at the elevations specified on the plans.
 

Solid distribution pipe shall be 4" diameter SDR-35 PVC MEETING ASTM D-3034 with compression gasket joints. It shall be laid true to the lines and grades shown on the plans and in no case have a slope less than 0.125 inches per foot.
  - Sewer pipe from the foundation wall to the septic tank shall be centrifugally cast iron meeting the requirements of ASTM A 74 or schedule 40 PVC meeting ASTM-1785.
  - Foundation drain outlet shall be 4" diameter SDR-35 PVC meeting the requirements of ASTM D-3034 with rubber compression gasket joints and backfilled with a non free-draining material.



- LEGEND**
- IRON PIN FOUND
  - IRON PIN SET
  - UTILITY POLE
  - STONEWALL
  - OVERHEAD WIRE
  - EXISTING CONTOUR
  - PROPOSED CONTOUR
  - PROP. SPOT ELEVATION
  - DEEP TEST PIT LOCATION
  - PERCOLATION TEST LOCATION
  - SILT FENCE

KWP associates  
P.O. BOX 2000, DANFORTH, CT. 06259  
DAVID A. SMITH, P.E. #14173  
DATE: 4/28/2016  
NOT VALID UNLESS SEAL IS AFFIXED HERETO

To my knowledge and belief, this map is substantially correct as noted hereon.  
BRUCE D. WOODS 4/28/2016  
BRUCE D. WOODS, Conn. L.S. #13646  
No certification is expressed or implied unless this map bears the embossed seal of the land surveyor whose signature appears hereon.

**PERCOLATION TEST DATA - March 21, 2016**  
Performed by: Eastern Highland Health District

HOLE	TIME	READING
A	10:59	9 1/2"
	11:06	11"
	11:20	13"
	11:33	14 3/4"
	11:51	15 3/4"
	12:17	17 1/4"
Depth		2'7"
Minimum Percolation Rate = 10.0 - 20.0 min/inch		

**SOIL PIPE @ BUILDING**  
F/L = 446.0  
**SEPTIC TANK**  
1000 GALLON  
TWO COMPARTMENT  
F/L IN = 445.00  
F/L OUT = 444.75  
**DISTRIBUTION BOXES**  
D-1 (OVERFLOW)  
F/L IN = 444.10  
F/L OUT = 444.35  
D-2 (OVERFLOW)  
F/L IN = 442.50  
F/L OUT = 442.85

**DEEP TEST HOLE EVALUATION - March 21, 2016**  
Eastern Highland Health District

TEST PIT	DEPTH	PROFILE
1	0" - 8"	Topsoil
	8" - 30"	Orange Brown Fine Sandy Loam
	30" - 52"	Mottled, Moderate Compact Sandy Loam Till
	Ledge	N/A
	52" - 30"	Topsoil
2	0" - 8"	Topsoil
	8" - 26"	Orange Brown Fine Sandy Loam
	26" - 60"	Mottled, Moderate Compact Sandy Loam Till
	Ledge	N/A
	60" - 26"	Topsoil
3	0" - 6"	Topsoil
	6" - 28"	Orange Brown Fine Sandy Loam
	28" - 56"	Mottled, Moderate Compact Sandy Loam Till
	Ledge	N/A
	56" - 28"	Topsoil
4	0" - 4"	Topsoil
	4" - 25"	Orange Brown Fine Sandy Loam
	25" - 64"	Mottled, Moderate Compact Sandy Loam Till
	Ledge	N/A
	60" - 25"	Topsoil
5	0" - 6"	Topsoil
	6" - 24"	Orange Brown Fine Sandy Loam
	24" - 40"	Mottled, Moderate Compact Sandy Loam Till
	Ledge	N/A
	40" - 24"	Topsoil

**BASIS OF SANITARY DESIGN**

Percolation Rate	= 10.0 - 20.0 min. / in.
3 bedroom house requires	= 495 s.f. effective leaching area
Effective Leaching area	= 3 s.f. / l.f. of trench
Length Required	= 495/3 = 165 l.f.
Length Provided	= 2 (85') = 170 l.f.
Min. Leaching system Spread (MLSS)	= 28 x 1.5 x 1.5 = 58.5'
MLSS Provided	= 60'
LEACHING FIELD	
2 Rows of Trenches totaling 85 l.f. each	
Maximum depth into existing grade = 6"	

DATE	REVISIONS DESCRIPTION	BY
9/12/2016	GRADING, HOUSE & DRIVEWAY LOCATION, SEPTIC TANK, SETBACKS	JES
7/13/2016	GRADING, PLANTING PLAN FOR SLOPE, S&E NOTES, CONSTRUCTION SEQUENCE	JES
5/5/2016	REVISED ORIENTATION OF HOUSE AND DRIVEWAY	JES

**Septic System Design Plan**  
Prepared For  
**TOM AINSWORTH**

**WOODLAND ROAD**  
MANSFIELD, CONNECTICUT

**KWP associates**  
250 Killingly Road  
Pomfret Center, Ct. 06259-0106

SCALE: 1" = 20'  
DATE: 4/28/2016  
SHEET: 1 OF 1  
PROJ # 16013  
Dwn: JES Chk:



# TOWN OF MANSFIELD

DEPARTMENT OF PLANNING AND DEVELOPMENT

Date: September 28, 2016

To: Mansfield Inland Wetlands Agency

From: Jennifer Kaufman, Inland Wetlands Agent

Subject: Woodland Road (Assessor's Parcel ID 11.49.19) (File W1579)  
JC Beall and Katrina Higgins  
Description of Work: Wetland Crossing to Access Property  
Map Date: 9/25/2016

## PROJECT OVERVIEW

The applicants propose to install a stream crossing to access their property for vegetation management and habitat restoration on the west side of Woodland Road (Assessor's Parcel ID 11.49.19). To create this access, the applicants proposed to install a 20 foot long, 36 inch diameter culvert on top of approximately 18 cubic yards of rip rap across an intermittent brook. Approximately 25 cubic yards of 3 inch minus gravel covered with approximately 30 yards of a ¾ inch aggregate mix will be used on either side of the stream crossing to provide a stable surface. There is already the remnants of an old wetland crossing in the proposed location.

- The project includes work in wetlands.
- The project includes work in the 150 foot upland review area.
- The project is located in a Public Water Supply watershed.

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## APPLICATION FEES AND NOTIFICATIONS

- The applicant has paid the required application fee.
- The applicant has submitted copies of the notice mailed to neighbors and a list of abutters to be notified. Certified mail receipts must be submitted prior to action on the application.
- The applicant has submitted copies of notices provided to the Connecticut DPH and Windham Water Works. Certified mail receipts must be submitted prior to action on the application.

## RECEIPT MOTION

\_\_\_\_\_ MOVE to receive the application submitted by JC Beall and Katrina Higgins (IWA File 1579) under the Inland Wetlands and Watercourses Regulations of the Town of Mansfield for installation of a stream crossing on property located on the west side of Woodland Road (Assessor's Parcel ID 11.49.19) as shown on a map dated 9/25/2016 and as described in application submissions, and to refer said application to staff and the Conservation Commission for review and comments.

APPLICATION FOR PERMIT  
MANSFIELD INLAND WETLANDS AGENCY  
4 SOUTH EAGLEVILLE ROAD, STORRS, CT 06268  
860-429-3015x6204 (DIRECT) TEL: 860-429-3330 OR  
FAX: 860-429-6863

FOR OFFICE USE ONLY

File # W 1579  
Fee Paid 3185  
Official Date of Receipt 9-26-16

*Applicants are referred to the Mansfield Inland Wetlands and Watercourses Regulations for complete requirements, and are obligated to follow them. For assistance, please contact the Inland Wetlands Agent at the telephone numbers above.*

Please print or type or use similar format for computer; attach additional pages as necessary.

**Part A - Applicant**

Name: Jc Beall and Katrina Higgins

Mailing Address 828 Wormwood Hill Road, Mansfield, CT, Zip: 06268

Phone: 860-230-4391 Email: jcbeall@gmail.com

**Title and Brief Description of Project:**

Installation of Culvert for Access Point to Property: installation of culvert across wetlands on Parcel # 11.47.19 on Woodland Road

**Location of Project:** Approx 500 ft from north boundary of 11.47.19 on Woodland Road

**Intended Start Date:** November 2, 2016

**Part B - Property Owner** (if applicant is the owner, just write "same")

Name : Tammy Keith and Deborah McKinney (purchase of property by Beall and Higgins expected October 3rd 2016)

Mailing Address: 666 Old Colchester Road, Salem CT Zip: 06420

Phone: 860-213-0887 Email: teddybearandmarvin@snet.net

Owner's written consent to the filing of this application, if owner is not the applicant:

Signature (see attached email)

Applicant's interest in the land: (if other than owner): applicant will take ownership of property on October 3 2016

**Part C - Project Description (attach extra pages, if necessary)**

- 1) Describe in detail the proposed activity here or on an attached page. (See guidelines at end of application)

Please include a description of all activity or construction or disturbance:

- a) in the wetland/watercourse
- b) in the area **adjacent** to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is **off** your property

see attached

- 2) Describe the amount or area of disturbance (in square feet or cubic yards or acres):

- a) in the wetland/watercourse
- b) in the area **adjacent** to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is **off** your property

Access point to get tractor into property for land/vegetation management and habitat restoration. Please see hand-written project description.

Note: very little disturbance of the wetland/watercourse is required, as there is already old fill up to the target culvert point. The culvert will be placed without digging anything in the wetlands "brook bed".

- 3) Describe the type of materials you are using for the project:

Please see attached (hand-written) project description. (Please note that fill is already standing on Woodland-Road side of target culvert area.) Main machine is small Bobcat and small (residential) kubota excavator.

- a) include **type** of material used as fill or to be excavated:

20' culvert 36" diameter; 18 yards of modified Rip Wrap; 80 bales of hay; 25 yds of 3"-minus gravel; 30 yds ¾" aggregate mix.

- b) include **volume** of material to be filled or excavated:

Nothing will be excavated; there will be 25yds of 3" minus gravel and 30 yds of ¾" aggregate mix.

- 4) Describe measures to be taken to minimize or avoid any adverse impacts on the wetlands and regulated areas (silt fence, staked hay bales or other Erosion and Sedimentation control measures).

80 hay bales will be used for control (leaving them in place until green growth is clear through hay bales). There will be 40 hay bales on each side of the target wetland area -- 20 hay bales on the northeast side of culvert, 20 on the northwest side, 20 on southwest side, and 20 on southeast side of culvert.

#### Part D - Site Description

Describe the general character of the land. (Hilly? Flat? Wooded? Well drained? etc.)  
The land is hilly and wooded with the boundaries flattening out to wetlands where water drains. Drainage from elevated areas to wetlands is very good.

#### Part E - Alternatives

Have you considered any alternatives to your proposal that would meet your needs and might have less impact on the wetland/watercourse? Please list these alternatives.

All other points of access to the property would require a greater disturbance to the wetlands. The current site already contains fill that a previous owner installed with a view to installing a driveway. Our aim, at present, is to install a safe and stable access point to the property to maintain and manage the property (which is being overrun by familiar invasive plants -- barberry, bittersweet, and m-roses).

#### Part F - Map/Site Plan (all applications)

1) Attach to the application a map or site plan showing **existing conditions** and the **proposed project** in relation to wetland/ watercourses. Scale of map or site plan should be 1" = 40'; if this is not possible, please indicate the scale that you are using. A sketch map may be sufficient for small, minor projects. **(See guidelines at end of application)**

2) Applicant's map date and date of last revision \_\_\_\_\_

3) Zone Classification RAR 90

4) Is your property in a flood zone? \_\_\_\_\_ Yes \_\_\_\_\_ No X Don't Know

#### Part G - Major Applications Requiring Full Review and a Public Hearing

See Section 6 of the Mansfield Regulations for additional requirements.

#### Part H - Notice to Abutting Property Owners

1) Attach list of abutters, name, and address (see attached)

12) **Proof of Written Notice to Abutters.** You must notify abutting (neighboring) property owners (any property immediately contiguous with the subject property, including those across the street) by certified mail, return receipt requested, stating that a wetland application is in progress, and that abutters may contact the Mansfield Inland Wetlands Agent for more information. Include a brief description of your project. **Postal receipts of your notice to abutters must accompany your application.** To generate an abutters list go to <http://www.mainstreetmaps.com/CT/Mansfield/>

#### Part I - Additional Notices, if necessary

Notice to Windham Water Works and CT Department of Public Health is attached. If this application is in the public watershed for the Windham Water Works (WWW), you must notify the WWW and the Department of Public Health of your project within 7 days of sending the

application to Mansfield--sending it by certified mail, return receipt requested. Contact the Mansfield Inland Wetlands Agent to find out if you are in this watershed.

Notice to Adjoining Town. If your property is within 500 feet of an adjoining town, you must also send a copy of the application, on the same day you sent one to Mansfield, to the Inland Wetlands Agency of the adjoining town, by certified mail, return receipt requested.

The Statewide Reporting Form shall be part of the application and specified parts must be completed and returned with this application.

**Part J - Other Impacts To Adjoining Towns, if applicable**

- 1) Will a significant portion of the traffic to the completed project on the site use streets within the adjoining municipality to enter or exit the site? \_\_\_ Yes \_\_\_ No X Don't Know
  
- 2) Will sewer or water drainage from the project site flow through and impact the sewage or drainage system within the adjoining municipality? \_\_\_ Yes \_\_\_ No X Don't Know
  
- 3) Will water run-off from the improved site impact streets or other municipal or private property within the adjoining municipality? \_\_\_ Yes \_\_\_ No X Don't Know

**Part K - Additional Information from the Applicant**

Set forth (or attach) any other information which would assist the Agency in evaluating your application. *(Please provide extra copies of any lengthy documents or reports, and extra copies of maps larger than 8.5" x 11", which are not easily copied.)*

Our aim is simply to access the property (which we will own on October 3 2016). We intend to restore and manage the property, and foster bee-friendly trees (maples, etc.) and bee-friendly native wildflowers. We intend to eventually put some beehives on the property, which need to be maintained.

**Part L - Filing Fee**

Application fees shall be in accordance with the current Mansfield Code of Ordinance fee Schedule, pursuant to Section 8-1c of the Connecticut General Statutes. The fee schedule includes provisions for applicant-funded consultant studies and reports. The current fee schedule is available in the Planning and Zoning office.

*Note: The Agency may require additional information about the upland review area or about wetlands or watercourses affected by the regulated activity. If the Agency, upon review of your application, finds the activity proposed may involve a "significant activity" as defined in the Regulations, additional information and/or a public hearing may be required.*

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I hereby certify that:

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- I understand the penalties for obtaining a permit through deception or through inaccurate or misleading information.



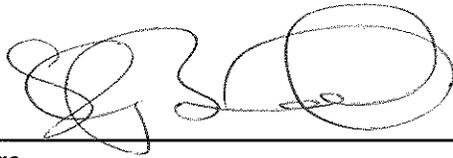
Signature

9.26.16

Date

**Authorization to Enter Property**

The undersigned hereby consent to necessary and proper inspections of the above-mentioned property by members and agents of the Inland Wetlands Agency at reasonable times, both before and after the permit in question has been issued by the Agency.



Signature

9.26.16

Date

**Project Description Guidelines for Part C**

1. Explain exactly what work you propose to do and how close it will be to a wetland or watercourse.
  - 115852560. Describe area of disturbance and volume and type of material to be filled or excavated. How much wetlands will be disturbed? Non-wetland areas nearby?
  - 115852608. Does the area of activity drain toward the wetland?
  - 115852656. Are there alternatives that you considered but eliminated for specific reasons?
  - 115852704. Describe briefly the construction methods. What kind of heavy equipment will be used? When will the work be done?
  - 115852800. How are you protecting the wetlands and watercourses against disturbance that will result from construction?
  - 115852848. Do you have any knowledge of a previous wetlands application for this property? If yes, please explain.

**Sketch Map or Site Plan Guidelines for Part F**

The following 10 details are required for every application:

1. Applicant's name
  - 115852128. Date and revision date, if applicable.
  - 115852176. North arrow and scale of map.



Town of Mansfield, Connecticut  
Web GIS Maps and Online Property Information

by MainStreetGIS, LLC

[Town Website](#) [Feedback](#)

Base Map:

GIS Map | Street View | Tax Maps

Layers | Property | Selection

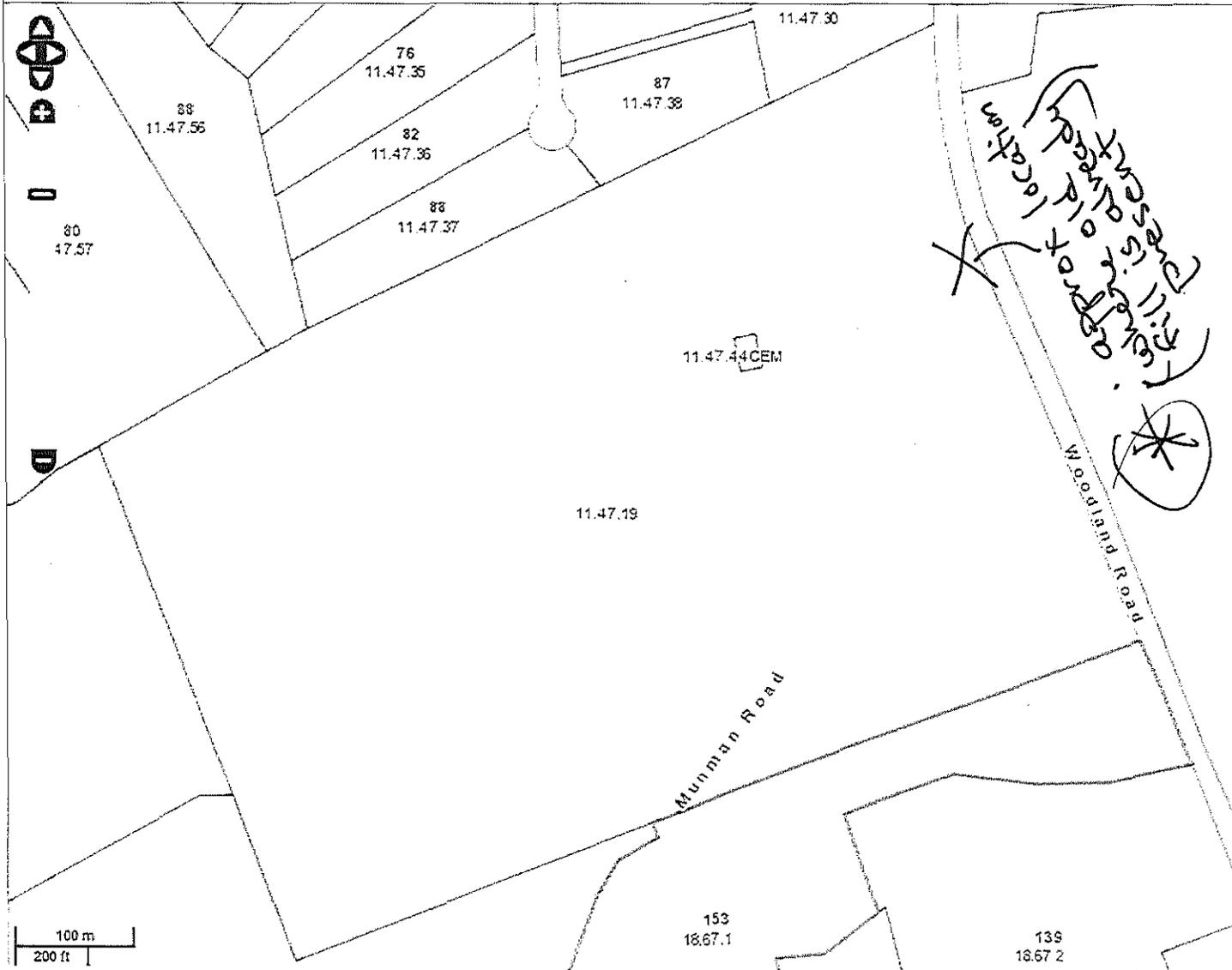
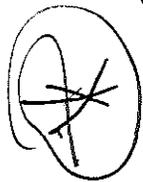
Clear | Save | Mail | Zoom

Selected: 0 (Use selection tool)

MainStreetGIS

1: 4672

*See hand-drawn  
diagram for details  
on materials and plans*



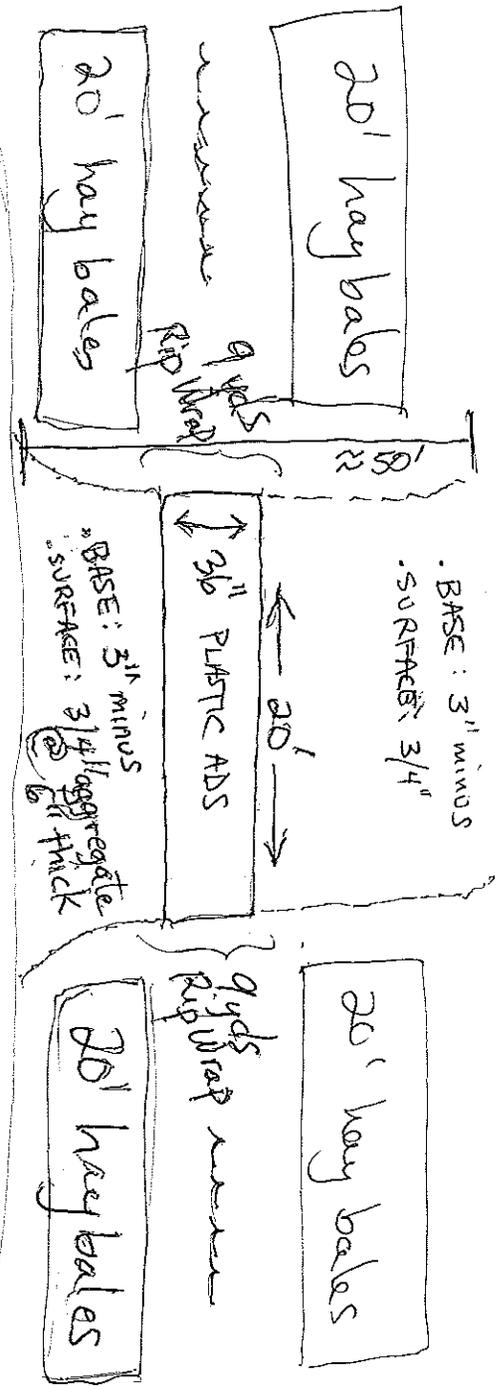
9/25/16

MATERIALS:

- 20' long 36" culvert (PLASTIC ADS)
- 18 yards modified Rip Wrap
- 80 hay bales
- 25 yds 3" minus gravel
- 30 yds 3/4" aggregate mix

SEDIMENT/SPILLAGE CONTROL:

- Rip wrap at both ends
- 40 hay bales at each side of catch crossing; will be left in place until garden growth.



WOODLAND ROAD: ACCESS POINT 1D11.47.19



# TOWN OF MANSFIELD

DEPARTMENT OF PLANNING AND DEVELOPMENT

Date: September 28, 2016

To: Mansfield Inland Wetlands Agency

From: Jennifer Kaufman, Inland Wetlands Agent

Subject: 513 Wormwood Hill Road (File W1580)  
Ed Hall/Tom Wells  
Description of Work: Construction of a Farm Equipment Maintenance Building

Map Date: 9/26/2016

## PROJECT OVERVIEW

The applicants propose to construct a 42 by 52 foot farm maintenance building on the west side of Wormwood Hill Road, approximately 71 feet from the edge of wetlands. Currently there is an existing shed on the site of the proposed building that will be demolished. There is also a catch basin that will be relocated to the southwest of the proposed building. The applicant proposes to use silt fence around all stock piles and in the area of disturbance closest to wetlands. The property will be revegetated and mulched to stabilize the area after disturbance.

- The project includes work in wetlands.
- The project includes work in the 150 foot upland review area.
- The project is located in a Public Water Supply watershed.

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## APPLICATION FEES AND NOTIFICATIONS

- The applicant has paid the required application fee.
- The applicant has submitted copies of the notice mailed to neighbors and a list of abutters to be notified. Certified mail receipts must be submitted prior to action on the application.
- The applicant has submitted copies of notices provided to the Connecticut DPH and Windham Water Works. Certified mail receipts must be submitted prior to action on the application.

## RECEIPT MOTION

\_\_\_\_\_ MOVE to receive the application submitted by Ed Hall/Tom Wells (IWA File 1580) under the Inland Wetlands and Watercourses Regulations of the Town of Mansfield for construction of a 42 by 52 foot farm maintenance building on property located at 513 Wormwood Hill Road as shown on a map dated 9/26/2016 and as described in application submissions, and to refer said application to staff and the Conservation Commission for review and comments.

APPLICATION FOR PERMIT  
MANSFIELD INLAND WETLANDS AGENCY  
4 SOUTH EAGLEVILLE ROAD, STORRS, CT 06268  
860-429-3015x6204 (DIRECT) TEL: 860-429-3330 OR  
FAX: 860-429-6863

FOR OFFICE USE ONLY  
File # W1580  
W           
Fee Paid \$185 -  
Official Date of Receipt 9-27-16

Applicants are referred to the Mansfield Inland Wetlands and Watercourses Regulations for complete requirements, and are obligated to follow them. For assistance, please contact the Inland Wetlands Agent at the telephone numbers above.

Please print or type or use similar format for computer; attach additional pages as necessary.

Part A - Applicant

Name Edward Hall  
Mailing Address 35 Mansfield Hollow Road  
Mansfield Center, CT Zip 06250  
Phone 860-617-5399 Email         

Title and Brief Description of Project

CONSTRUCTION OF 42'x52' FARM EQUIPMENT Maintenance Building  
Location of Project 513 WORMWOOD HILL ROAD  
Intended Start Date November 2016

Part B - Property Owner (if applicant is the owner, just write "same")

Name THOMAS & MICHELLE WELLS  
Mailing Address 513 WORMWOOD HILL ROAD  
Mansfield Center, CT Zip 06250  
Phone 860-234-1605 Email tomwells953@yahoo.com

Owner's written consent to the filing of this application, if owner is not the applicant:

Signature Thomas W Wells date 9/26/16

Applicant's interest in the land: (if other than owner) SITE WORK CONTRACTOR

Part C - Project Description (attach extra pages, if necessary)

1) Describe in detail the proposed activity here or on an attached page. (See guidelines at end of application)

Please include a description of all activity or construction or disturbance:

- a) in the wetland/watercourse
- b) in the area adjacent to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is off your property

a) NO ACTIVITY PROPOSED WITHIN WETLANDS

b) CONSTRUCTION OF CONCRETE WALLS/FOOTINGS AND CONSTRUCTION OF A 42x52' STEEL BUILDING FOR FARM EQUIPMENT REPAIR.

MINOR GRADING TO MATCH EXISTING GRADES AROUND PROPOSED BUILDING

2) Describe the amount or area of disturbance (in square feet or cubic yards or acres):

- a) in the wetland/watercourse
- b) in the area adjacent to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is off your property

a) 0

b) 6,060 SF.

3) Describe the type of materials you are using for the project: THE PROPOSED CONSTRUCTION CONSISTS OF PLACING CONCRETE FOOTINGS, FROST WALLS AND SLABS, ERECTING A STEEL BUILDING AND MINOR GRADING WITH GRAVEL TO MATCH EXISTING GRADES.

a) include type of material used as fill or to be excavated GRAVEL FILL

b) include VOLUME of material to be filled or excavated MINOR GRADING AND UNDER SLAB - GRAVEL ≈ 50 CY.

4) Describe measures to be taken to minimize or avoid any adverse impacts on the wetlands and regulated areas (silt fence, staked hay bales or other Erosion and Sedimentation control measures).

SILT FENCE

Part D - Site Description

Describe the general character of the land. (Hilly? Flat? Wooded? Well drained? etc.)

THE PROJECT AREA IS SLOPED AND IS CURRENTLY IN USE AS A DUNY FARM. THE ENTIRE PROJECT AREA FALLS WITHIN THE CURRENT AREA USED FOR THE OPERATION

**Part E - Alternatives**

Have you considered any alternatives to your proposal that would meet your needs and might have less impact on the wetland/watercourse? Please list these alternatives.

No Feasible alternative. The existing shed location is being used as part of the farm operation currently

**Part F - Map/Site Plan (all applications)**

1) Attach to the application a map or site plan showing existing conditions and the proposed project in relation to wetland/ watercourses. Scale of map or site plan should be 1" = 40'; if this is not possible, please indicate the scale that you are using. A sketch map may be sufficient for small, minor projects. (See guidelines at end of application)

2) Applicant's map date and date of last revision 9/26/16

3) Zone Classification RAR-90

4) Is your property in a flood zone?  Yes  No  Don't Know

**Part G - Major Applications Requiring Full Review and a Public Hearing**

See Section 6 of the Mansfield Regulations for additional requirements.

**Part H - Notice to Abutting Property Owners**

1) Attach list of abutters, name, and address

2) **Proof of Written Notice to Abutters.** You must notify abutting (neighboring) property owners (any property immediately contiguous with the subject property, including those across the street) by certified mail, return receipt requested, stating that a wetland application is in progress, and that abutters may contact the Mansfield Inland Wetlands Agent for more information. Include a brief description of your project. Postal receipts of your notice to abutters must accompany your application. To generate an abutters list go to <http://www.mainstreetmaps.com/CT/Mansfield/>

**Part I - Additional Notices, if necessary**

Notice to Windham Water Works and CT Department of Public Health is attached. If this application is in the public watershed for the Windham Water Works (WWW), you must notify the WWW and the Department of Public Health of your project within 7 days of sending the application to Mansfield--sending it by certified mail, return receipt requested. Contact the Mansfield Inland Wetlands Agent to find out if you are in this watershed.

Notice to Adjoining Town. If your property is within 500 feet of an adjoining town, you must also send a copy of the application, on the same day you sent one to Mansfield, to the Inland Wetlands Agency of the adjoining town, by certified mail, return receipt requested.

The Statewide Reporting Form shall be part of the application and specified parts must be completed and returned with this application.

**Part J - Other Impacts To Adjoining Towns, if applicable**

- 1) Will a significant portion of the traffic to the completed project on the site use streets within the adjoining municipality to enter or exit the site? \_\_\_ Yes  No \_\_\_ Don't Know
  
- 2) Will sewer or water drainage from the project site flow through and impact the sewage or drainage system within the adjoining municipality? \_\_\_ Yes  No \_\_\_ Don't Know
  
- 3) Will water run-off from the improved site impact streets or other municipal or private property within the adjoining municipality? \_\_\_ Yes  No \_\_\_ Don't Know

**Part K - Additional Information from the Applicant**

Set forth (or attach) any other information which would assist the Agency in evaluating your application. *(Please provide extra copies of any lengthy documents or reports, and extra copies of maps larger than 8.5" x 11", which are not easily copied.)*

**Part L - Filing Fee**

Application fees shall be in accordance with the current Mansfield Code of Ordinance fee Schedule, pursuant to Section 8-1c of the Connecticut General Statutes. The fee schedule includes provisions for applicant-funded consultant studies and reports. The current fee schedule is available in the Planning and Zoning office.

*Note: The Agency may require additional information about the upland review area or about wetlands or watercourses affected by the regulated activity. If the Agency, upon review of your application, finds the activity proposed may involve a "significant activity" as defined in the Regulations, additional information and/or a public hearing may be required.*

**Certification**

I hereby certify that:

- \* I am familiar with the information contained in this form and that such information is true and correct to the best of my knowledge.
- \* I understand the penalties for obtaining a permit through deception or through inaccurate or misleading information.

*Edward O'Hall* \_\_\_\_\_ 9/26/16  
Signature Date  
*Thomas W. Mills* \_\_\_\_\_  
Date 9/26/16

**Authorization to Enter Property**

The undersigned hereby consent to necessary and proper inspections of the above-mentioned property by members and agents of the Inland Wetlands Agency at reasonable times, both before and after the permit in question has been issued by the Agency.

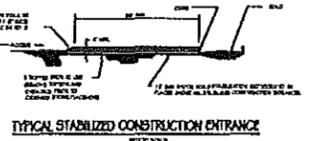
*Edward O'Hall* \_\_\_\_\_ 9/26/16  
Signature Date  
*Thomas W. Mills* \_\_\_\_\_  
Date 9/26/16





**LEGEND:**

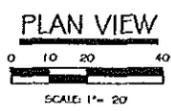
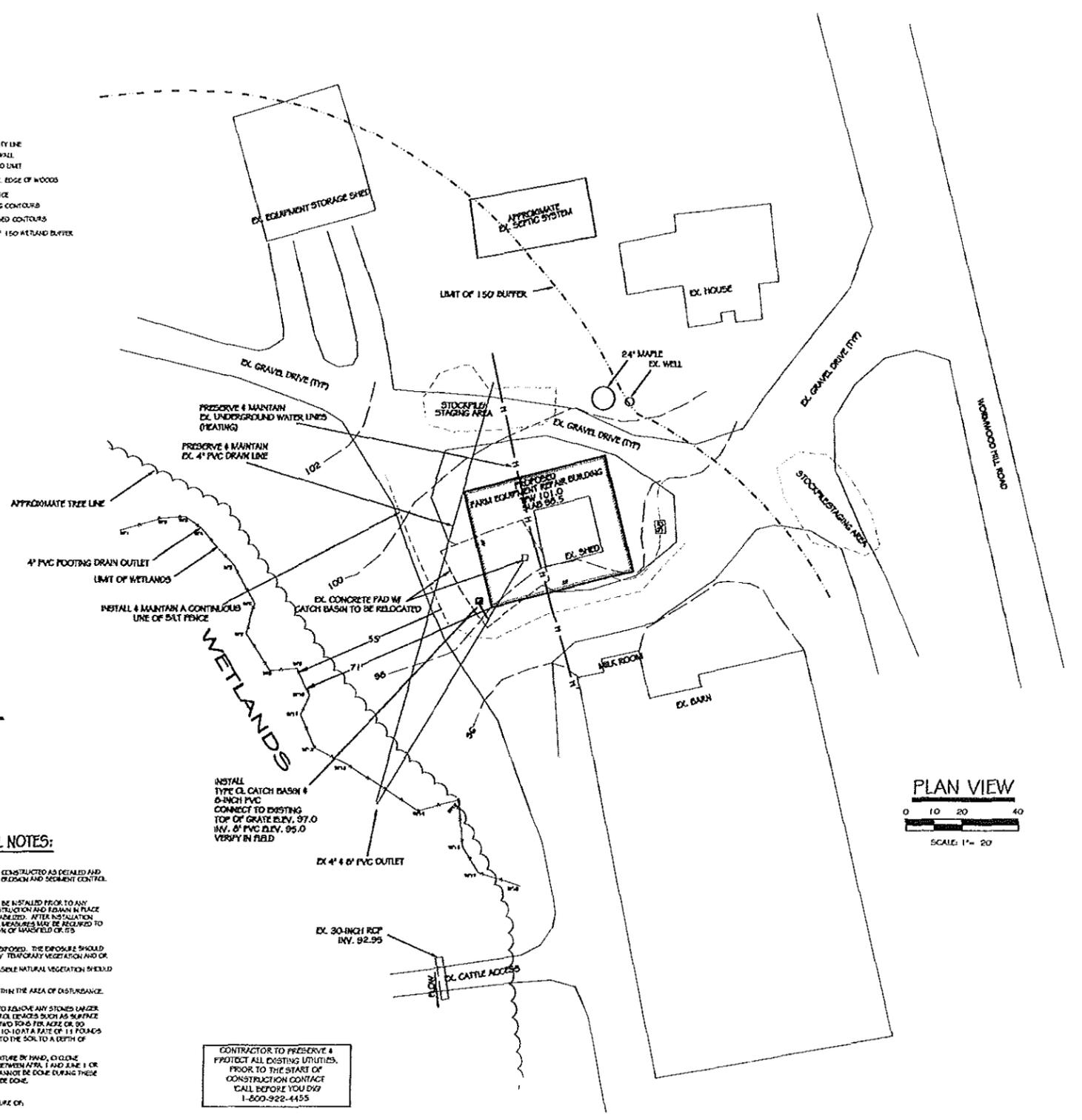
- These standard symbols are to be used on the drawing.
- PROPOSED LINE
  - STONE WALL
  - WETLAND LIMIT
  - APPROX. EDGE OF WOODS
  - SALT FENCE
  - EXISTING CONTOURS
  - PROPOSED CONTOURS
  - LIMIT OF 150' WETLAND BUFFER



**EROSION & SEDIMENT CONTROL NOTES:**

1. ALL EROSION & SEDIMENT CONTROL MEASURES TO BE CONSTRUCTED AS DETAILLED AND SPECIFIED IN THE CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL, JANUARY 2002 AS AMENDED.
2. ALL EROSION & SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION, PROPERLY MAINTAINED DURING CONSTRUCTION AND REMAIN IN PLACE UNTIL ALL DISTURBED AREAS HAVE BEEN PROPERLY STABILIZED. AFTER INSTALLATION OF THE INITIALLY PROPOSED MEASURES, ADDITIONAL MEASURES MAY BE REQUIRED TO ADDRESS FIELD CONDITIONS AS ORDERED BY THE TOWN OF MANSFIELD OR ITS DESIGNATED AGENTS.
3. THE SMALLEST PRACTICAL AREA OF LAND SHOULD BE EXPOSED. THE DISPOSAL SHOULD BE OF THE SHORTEST PERIOD OF TIME. WHEN NECESSARY, TEMPORARY VEGETATION AND OR DE MULCHING SHOULD BE INSTALLED AS SOON AS POSSIBLE. WHEREVER FEASIBLE NATURAL VEGETATION SHOULD BE RETAINED AND PROTECTED.
4. THE STOCKPILING OF BUILDING MATERIALS SHALL BE WITHIN THE AREA OF DISTURBANCE.
5. SEEDING PREPARATION: FINE GRADE AND RAKE SOIL TO REMOVE ANY STONES LARGER THAN 2 INCHES. INSTALL ANY NEEDED EROSION CONTROL DEVICES SUCH AS SURFACE WATER DRAINAGE. APPLY LIMESTONE AT A RATE OF TWO TONS PER ACRE OR 90 POUNDS PER 1,000 SQUARE FEET. FERTILIZE WITH 10-10-10 AT A RATE OF 11 POUNDS PER 1,000 SQUARE FEET. WORK LINE AND FERTILIZER INTO THE SOIL TO A DEPTH OF FOUR INCHES.
6. SEED APPLICATION: APPLY SHADE TOLERANT GRASS MIXTURE BY HAND, OR GLENE SEEDER OR HYDROSEEDER. SEEDING SHALL BE DONE BETWEEN APRIL 1 AND JUNE 1 OR BETWEEN AUGUST 15 AND SEPTEMBER 1. IF SEEDING CHANGE IS DONE DURING THESE TIMES, NOTIFY MAILING PROCEDURE UNTIL SEED CAN BE DONE.
7. ESTABLISH PERMANENT VEGETATION USING A SEED MIXTURE OF:  
 FENUGREK BUREGRASS 20 LB/ACRE  
 CREEPING RED FESCUE 20 LB/ACRE  
 PERENNIAL RYE GRASS 5 LB/ACRE  
 TOTAL 45 LB/ACRE  
 THE RECOMMENDED DATES FOR SEEDING ARE APRIL 1 THROUGH JUNE 1 AND AUGUST 15 THROUGH SEPTEMBER 1.
8. MULCHING: IMMEDIATELY FOLLOWING SEEDING, MULCH THE SEEDED SURFACE WITH STRAW OR HAY AT A RATE OF 1.5 TO 2 TONS PER ACRE. MULCH SHALL BE APPLIED BY HAND OR WITH A BLOWER. PUNCH MULCH INTO SOIL SURFACE APPROXIMATELY TWO TO THREE INCHES.

CONTRACTOR TO PRESERVE & PROTECT ALL EXISTING UTILITIES. PRIOR TO THE START OF CONSTRUCTION CONTACT CALL BEFORE YOU DIG 1-800-922-4455



**MAP STANDARD NOTES:**

1. THIS SURVEY (OR MAP) HAS BEEN PREPARED PURSUANT TO THE REGULATIONS OF CONNECTICUT STATE AGENCIES SECTIONS 20-300b-1 THRU 20-300b-20 AND THE STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON SEPTEMBER 26, 1996; THE TYPE OF SURVEY IS A TOPOGRAPHIC AND WETLAND LOCATION SURVEY.
2. TOPOGRAPHIC FEATURES, IF SHOWN HEREON, WERE PREPARED IN ACCORDANCE WITH CLASS T-2. ELEVATIONS REFERENCE AN ASSUMED DATUM.
3. THE INTENDED PURPOSE OF THIS MAP/SURVEY IS TO DEPICT THE PROPOSED BUILDINGS.

APPLICANT  
EDWARD HALL  
35 MANSFIELD HOLLOW ROAD  
MANSFIELD CENTER, CT 06250

OWNER  
THOMAS & MICHELLE WELLS  
513 WORMWOOD HILL ROAD  
MANSFIELD CENTER, CT 06250

WETLAND CERTIFICATION  
I HAVE DELINEATED STATE OF CONNECTICUT WETLANDS AND WATERCOURSES PRESENT ON THE SUBJECT SITE AND HAVE REVIEWED THIS PLAN AND IT IS MY OPINION THAT THE LIMITS OF THE WETLANDS AND WATERCOURSES DEPICTED HEREON ARE REPRESENTATIVE OF THOSE DELINEATED IN THE FILED.

MARTIN BROOKE, PROFESSIONAL SOIL SCIENTIST DATE

SITE DEVELOPMENT PLAN			
513 WORMWOOD HILL ROAD MANSFIELD CENTER, CONNECTICUT			
DATE MAR	PREPARED FOR Thomas Wells 513 WORMWOOD HILL ROAD MANSFIELD CENTER, CT 06250	SCALE 1"=20'	DATE 3/26/16
DATE MAR	BY REYNOLDS ENGINEERING SERVICES, LLC	PROJECT NO. 16012.00	SHEET NO. 1 OF 1
66 BOGG LANE - LEDBETON, CONNECTICUT 06249 PHONE: 860-463-7419			

To my knowledge and belief, this map is substantially correct as noted hereon.

Robert W. Helstrom, P.L.S. CT LIC. # 13626  
Certification is not valid without the signature and embossed (repression) type seal.

To my knowledge and belief, this map is substantially correct as noted hereon.

Mark A. Reynolds, P.E. CT LIC. # 19769  
Certification is not valid without the signature and embossed (repression) type seal.



# TOWN OF MANSFIELD

DEPARTMENT OF PLANNING AND DEVELOPMENT

Date: September 29, 2016

To: Mansfield Inland Wetlands Agency

From: Jennifer Kaufman, Inland Wetlands Agent

Subject: 205 Pleasant Valley Road (File W1581)  
Evergreen Energy, LLC/Terry and Judy Wollen  
Description of Work: Installation of ground mounted solar panel and geothermal well  
Map Date: 9/28/2016

## PROJECT OVERVIEW

The applicant proposes to install 12 boreholes, six of which will be 24 inches in diameter and six of which will be 18 inches in diameter. All 12 boreholes will be 48 inches deep and fitted with a sonotube concrete form. A trench will be dug a 1 foot wide, 3 foot deep trench will be excavated to connect the solar array and the utility meter and will be back filled once the connection is established. In addition, two 375 foot deep geothermal wells will be drilled and a four foot deep trench will be excavated to connect the wells to the basement of the house. In total, 38 cubic yards of soil will be excavated. The majority of the material will be back filled into the bore holes and trenches. Any remaining material will be distributed under the solar array and seeded and mulched to stabilize the site. All activities will take place in the upland review area. No activities are proposed in wetlands.

- The project includes work in wetlands.
- The project includes work in the 150 foot upland review area.

---

## APPLICATION FEES AND NOTIFICATIONS

- The applicant has paid the required application fee.
- The applicant has submitted copies of the notice mailed to neighbors and a list of abutters to be notified. Certified mail receipts must be submitted prior to action on the application.

## RECEIPT MOTION

\_\_\_\_\_ MOVE to receive the application submitted by Evergreen Energy, LLC (IWA File 1581) under the Inland Wetlands and Watercourses Regulations of the Town of Mansfield for installation of a solar array and geothermal wells on property located at 205 Pleasant Valley as shown on a map dated 9/28/2016 and as described in application submissions, and to refer said application to staff and the Conservation Commission for review and comments.

**APPLICATION FOR PERMIT  
MANSFIELD INLAND WETLANDS AGENCY  
4 SOUTH EAGLEVILLE ROAD, STORRS, CT 06268  
860-429-3015x6204 (DIRECT) TEL: 860-429-3330 OR  
FAX: 860-429-6863**

FOR OFFICE USE ONLY

File # W1581  
W \_\_\_\_\_  
Fee Paid \$185-  
Official Date of Receipt 9-28-16

*Applicants are referred to the Mansfield Inland Wetlands and Watercourses Regulations for complete requirements, and are obligated to follow them. For assistance, please contact the Inland Wetlands Agent at the telephone numbers above.*

Please print or type or use similar format for computer; attach additional pages as necessary.

**Part A - Applicant**

Name Evergreen Energy, LLC.

Mailing Address PO Box 703,

Southington, CT Zip 06489

Phone 860-628-8151 Email rich@evergreenenergy.pro

Title and Brief Description of Project Installation of a 14.88 DC kW ground mounted solar PV system on the east side of the house. In addition two boreholes will be drilled behind the house for a 5-ton geothermal system to heat and cool the house.

Location of Project 205 Pleasant Valley Road, Mansfield Center, CT

Intended Start Date November 7, 2016

**Part B - Property Owner** (if applicant is the owner, just write "same")

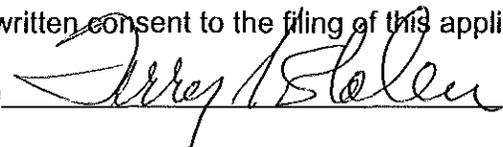
Name Terry & Judy Wollen

Mailing Address 205 Pleasant Valley Road

Mansfield Center, CT Zip 06268 06250

Phone 202-460-7275- Email terry@wollen.com

Owner's written consent to the filing of this application, if owner is not the applicant:

Signature  date 9-28-16

Applicant's interest in the land: (if other than owner) \_\_\_\_\_ Contractor for Homeowner \_\_\_\_\_

**Part C - Project Description (attach extra pages, if necessary)**

- 1) Describe in detail the proposed activity here or on an attached page. (See guidelines at end of application)

Please include a description of all activity or construction or disturbance:

- a) in the wetland/watercourse  
b) in the area **adjacent** to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is **off** your property

---

No work will take place within a wetland, the project work will be adjacent to a wetland on the northeast portion of the property. The project includes twelve boreholes, six will be 24 inches in diameter, and the other six will be 18 inches in diameter. All will go to a depth of 48 inches below grade. Each borehole will be fitted with a sonotube concrete form. Galvanized steel columns will be placed into each borehole followed by concrete mix. A trench, 1 foot wide and 2 to 3 feet deep will be excavated between the solar PV array and the utility meter, located south of the array. In addition to the above, two 375 foot deep borings will be drilled for a geothermal system at the same house. The boreholes will be located behind the house, a piping trench will be excavated between the two boreholes and the basement of the house, in the northeast corner. The trench will be 4 feet deep and backfilled to grade following the installation of piping.

---

- 2) Describe the amount or area of disturbance (in square feet or cubic yards or acres):

- a) in the wetland/watercourse  
b) in the area **adjacent** to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is **off** your property
- 

The total soil to be disturbed will be approximately 38 cubic yards, including 5 cubic yards associated with the foundations for the solar PV, 5 cubic yards associated with the trench between the solar array and the utility meter; and 22 cubic yards associated with the two geothermal boreholes and 6 cubic yards associated with the trenching between the two boreholes and the house.

---

- 3) Describe the type of materials you are using for the project: \_\_\_\_\_

An excavator-mounted hole boring drill will be used to excavate the 12 borings associated with the solar PV foundations. An air rotary drill will be used to drill the two geothermal boreholes. A mini excavator will be used to provide the two trenches for the two systems.

---

- a) include **type** of material used as fill or to be excavated

Native soil will be excavated and replaced in trenches. Ready mix concrete mix will be used for the 12-sonotube foundations associated with the solar PV array. Bentonite slurry will be used to grout the two geothermal boreholes between 4 feet below grade and the bottom of each borehole. \_\_\_\_\_

- b) include **volume** of material to be filled or excavated

Total volume will be 38 cubic yards of soil and or rock. \_\_\_\_\_

---

- 4) Describe measures to be taken to minimize or avoid any adverse impacts on the wetlands and regulated areas (silt fence, staked hay bales or other Erosion and Sedimentation control measures).

Silt fence will be installed between the excavation areas and the adjacent wetland area, behind the proposed solar array. Stockpiled soil will be covered with 6-mil polyethylene sheeting. Excavated soil that is not returned to a site excavation, will be spread out under the solar array and seeded. \_\_\_\_\_

---

**Part D - Site Description**

Describe the general character of the land. (Hilly? Flat? Wooded? Well drained? etc.)

The land area is generally flat, trees are located in the wetland area, east of the project work. \_\_\_\_\_

---

**Part E - Alternatives**

Have you considered any alternatives to your proposal that would meet your needs and might have less impact on the wetland/watercourse? Please list these alternatives.

One option would be to install soil auger/anchors in place of concrete foundations; however, this will cost more than the proposed plan. It is also unknown if soil auger/anchors will provide adequate hold down, as we have no detailed information on the sub-surface soils.

**Part F - Map/Site Plan (all applications)**

1) Attach to the application a map or site plan showing **existing conditions** and the **proposed project** in relation to wetland/ watercourses. Scale of map or site plan should be 1" = 40'; if this is not possible, please indicate the scale that you are using. A sketch map may be sufficient for small, minor projects. **(See guidelines at end of application)**

2) Applicant's map date and date of last revision 9-28-2016

3) Zone Classification RAR 90

4) Is your property in a flood zone?  Yes  No  Don't Know

**Part G - Major Applications Requiring Full Review and a Public Hearing**

See Section 6 of the Mansfield Regulations for additional requirements.

**Part H - Notice to Abutting Property Owners**

1) Attach list of abutters, name, and address

2) **Proof of Written Notice to Abutters.** You must notify abutting (neighboring) property owners (any property immediately contiguous with the subject property, including those across the street) by certified mail, return receipt requested, stating that a wetland application is in progress, and that abutters may contact the Mansfield Inland Wetlands Agent for more information. Include a brief description of your project. **Postal receipts of your notice to abutters must accompany your application.** To generate an abutters list go to <http://www.mainstreetmaps.com/CT/Mansfield/>

**Part I - Additional Notices, if necessary**

Notice to Windham Water Works and CT Department of Public Health is attached. If this application is in the public watershed for the Windham Water Works (WWW), you must notify the WWW and the Department of Public Health of your project within 7 days of sending the application to Mansfield--sending it by certified mail, return receipt requested. Contact the Mansfield Inland Wetlands Agent to find out if you are in this watershed.

Notice to Adjoining Town. If your property is within 500 feet of an adjoining town, you must also send a copy of the application, on the same day you sent one to Mansfield, to the Inland Wetlands Agency of the adjoining town, by certified mail, return receipt requested.

The Statewide Reporting Form shall be part of the application and specified parts must be completed and returned with this application.

**Part J - Other Impacts To Adjoining Towns, if applicable**

- 1) Will a significant portion of the traffic to the completed project on the site use streets within the adjoining municipality to enter or exit the site? \_\_\_Yes  No \_\_\_ Don't Know
  
- 2) Will sewer or water drainage from the project site flow through and impact the sewage or drainage system within the adjoining municipality? \_\_\_ Yes  No \_\_\_ Don't Know
  
- 3) Will water run-off from the improved site impact streets or other municipal or private property within the adjoining municipality? \_\_\_ Yes  No \_\_\_ Don't Know

**Part K - Additional Information from the Applicant**

Set forth (or attach) any other information which would assist the Agency in evaluating your application. *(Please provide extra copies of any lengthy documents or reports, and extra copies of maps larger than 8.5" x 11", which are not easily copied.)*

**Part L - Filing Fee**

Application fees shall be in accordance with the current Mansfield Code of Ordinance fee Schedule, pursuant to Section 8-1c of the Connecticut General Statutes. The fee schedule includes provisions for applicant-funded consultant studies and reports. The current fee schedule is available in the Planning and Zoning office.

*Note: The Agency may require additional information about the upland review area or about wetlands or watercourses affected by the regulated activity. If the Agency, upon review of your application, finds the activity proposed may involve a "significant activity" as defined in the Regulations, additional information and/or a public hearing may be required.*

**Certification**

I hereby certify that:

- I am familiar with the information contained in this form and that such information is true and correct to the best of my knowledge.
- I understand the penalties for obtaining a permit through deception or through inaccurate or misleading information.

Jerry Stollen  
Signature

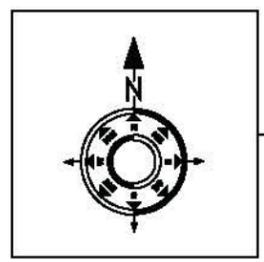
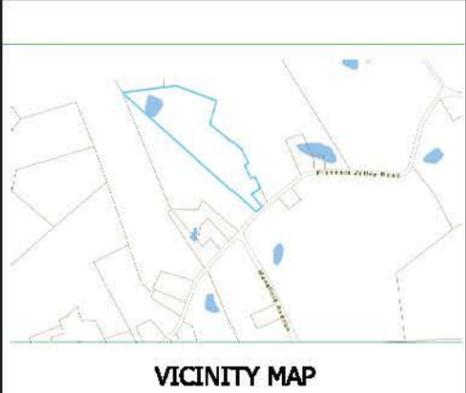
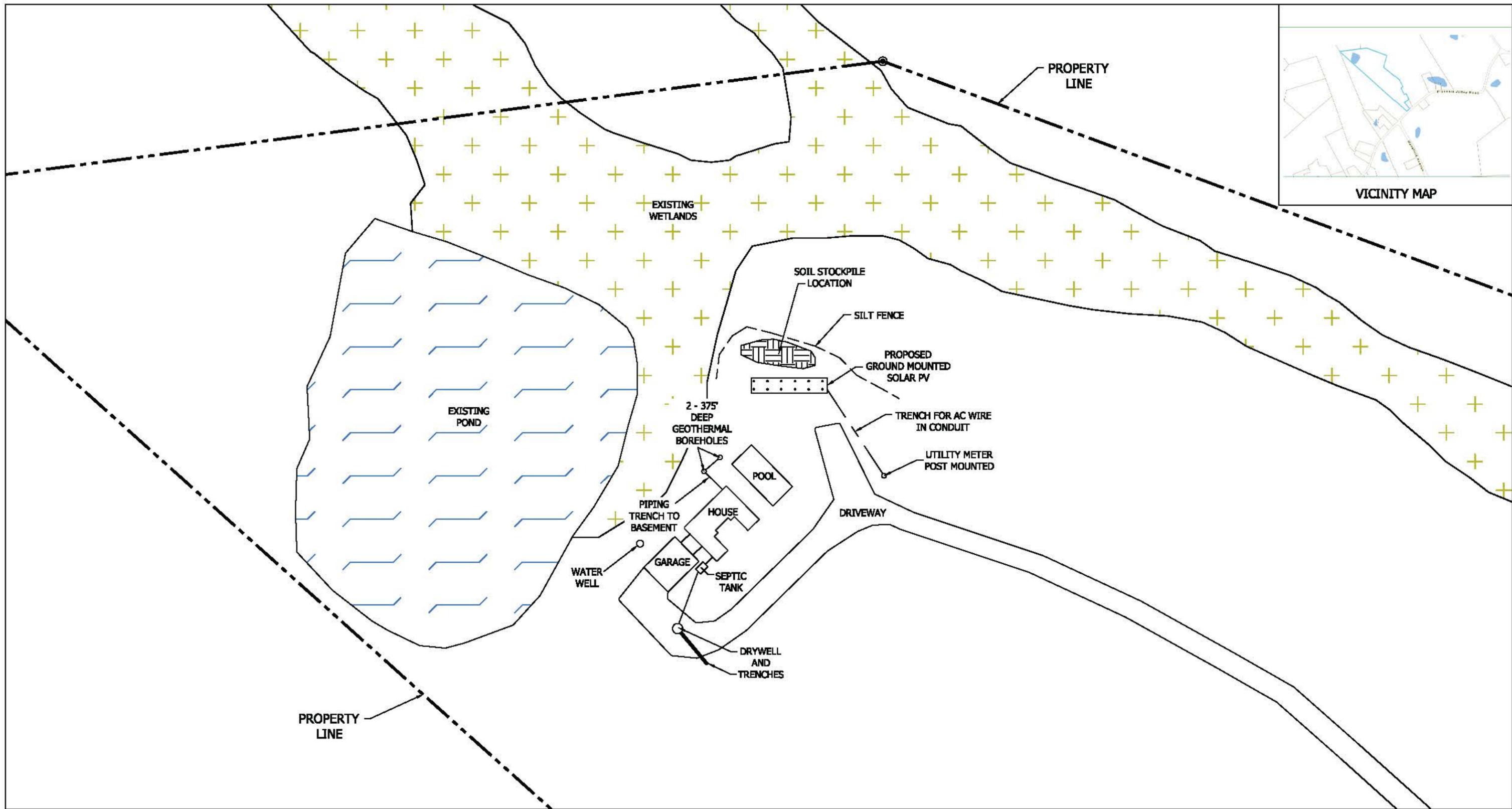
9-28-2016  
Date

**Authorization to Enter Property**

The undersigned hereby consent to necessary and proper inspections of the above-mentioned property by members and agents of the Inland Wetlands Agency at reasonable times, both before and after the permit in question has been issued by the Agency.

Jerry Stollen  
Signature

9-28-2016  
Date



Evergreen Energy  
 Southington, CT

**GROUND MOUNTED SOLAR PV**

NO.	DATE	REVISION

SHEET TITLE <b>SITE PLAN</b>  WOLLEN RESIDENCE 205 PLEASANT VALLEY RD MANSFIELD, CT	PROJECT NO. SCALE: 1" = 80' DATE: 9/28/2016 DRAWING NO.
	<b>S1</b> 1 OF 1 SHEETS

**JOB/DWG DESCRIPTION:**

GROUND MOUNTED  
 SOLAR SYSTEM  
 ARRAY SUB-STRUCTURE

**CUSTOMER / SITE INFO:**

Evergreen Energy  
 48 Landscape

NO. REVISION HISTORY  
 DATE

- INITIAL RELEASE

FAST ANGLE FRAMING



SCALE: NTS

DRAWN BY: MS

DATE: 9-1-2016

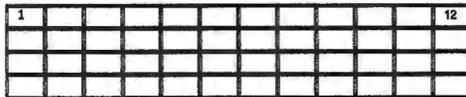
DRAWING NUMBER:

**PVR-PP**

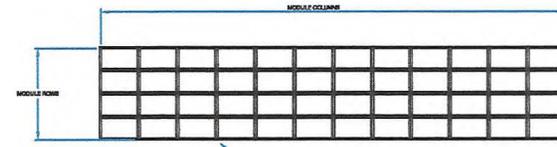
REVISION:

**REV 00**

PAGE 1 OF 3



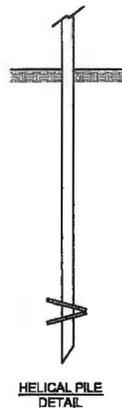
SYSTEM - SUB ARRAY PLAN VIEW



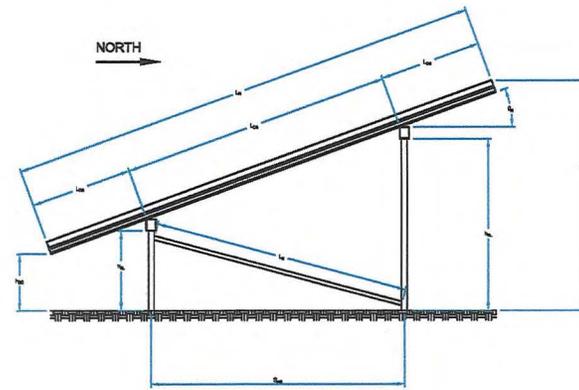
MODULE ARRANGEMENT VIEW LOOKING DOWN

Site Conditions		
Basic Wind Speed	V	80 mph
Ground Snow Load	R <sub>s</sub>	30 psf
Exposure Category	-	B
N-S Site Contour	-	<1:100
Helical Pile Depth	P <sub>0</sub>	80 in. as uplift load bearing struts installed
Max Pile Compr. Load (North)	-	3882 lb
Max Pile Compr. Load (South)	-	659 lb
Pile Uplift Load (North)	-	925 lb
Pile Uplift Load (South)	-	63 lbs
Max Pile Lateral Load	-	1354 lb
Rail Extrusion Maximum Loading	-	159.22 lb/ft

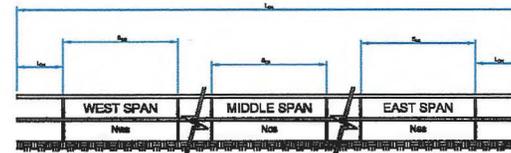
Sub Array Design Conditions		
South Legs Height	h <sub>s</sub>	40.00 in
North Legs Height	h <sub>n</sub>	86.00 in
North-South Leg Spacing	S <sub>NS</sub>	5 ft 6 in
West Span Spacing	S <sub>WS</sub>	13 ft 0 in
West Span Repeats	N <sub>WS</sub>	1
Middle Span Spacing	S <sub>MS</sub>	12 ft 11 in
Middle Span Repeats	N <sub>MS</sub>	3
East Span Spacing	S <sub>ES</sub>	13 ft 0 in
East Span Repeats	N <sub>ES</sub>	1
Cross Braces Length	L <sub>CB</sub>	89.84 in
Horizontal Beam Description	-	5H x 4W x 0.125 Rectangular
Horizontal Beam Overhang	L <sub>OH</sub>	12 in
Horizontal Beam Overall Length	L <sub>OB</sub>	96 ft 9 in
Rail Extrusion Material	-	G178
Rail Extrusion Length	L <sub>RE</sub>	160.00 in
Rail Extrusion Center Span	L <sub>CS</sub>	80.57 in
Rail Extrusion Overhang	L <sub>OH</sub>	39.71 in
Number of Modules in Sub-Array	N <sub>S</sub>	48
Module Array (Col x Row)	-	12 x 4
Module Column Repeat Distance	-	85.78 in
Array Tilt Angle	L <sub>A</sub>	30 deg
Module Ground Clearance	h <sub>GC</sub>	22.00 in
Overall Height	h <sub>OA</sub>	118.15 in
Length of Sub-Array (not incl. beam)	-	85 ft 11 in
Module Manufacturer/Model	-	Winaco WSP310
Module Size/Orient (Horz x Vert)	-	85.55 x 39.33
Individual Module Power Rating	-	310 watts
Sub-Array Power Rating	-	14.88 kW
Number of Sub-Arrays	-	1



NOTE:  
 HELICAL PILE DEPTH SHALL MEET  
 PILE COMPRESSION, TENSION AND LATERAL  
 LOADING AS SHOWN IN SITE CONDITIONS



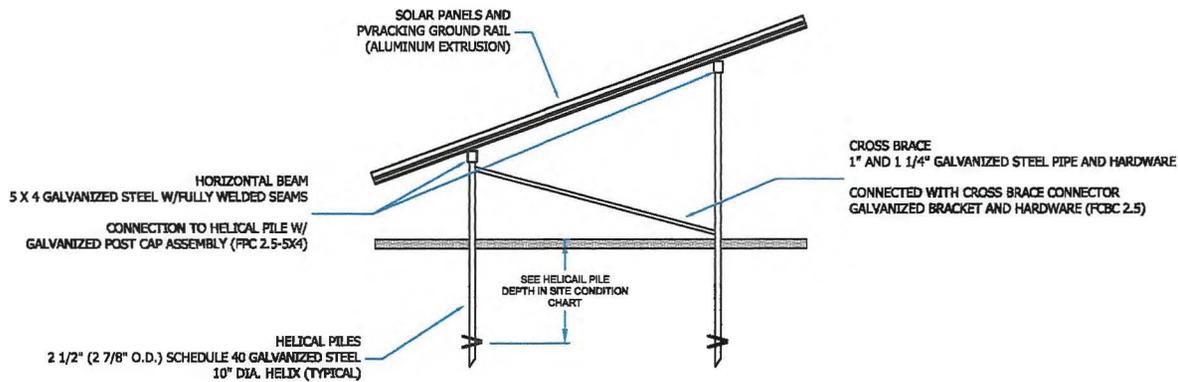
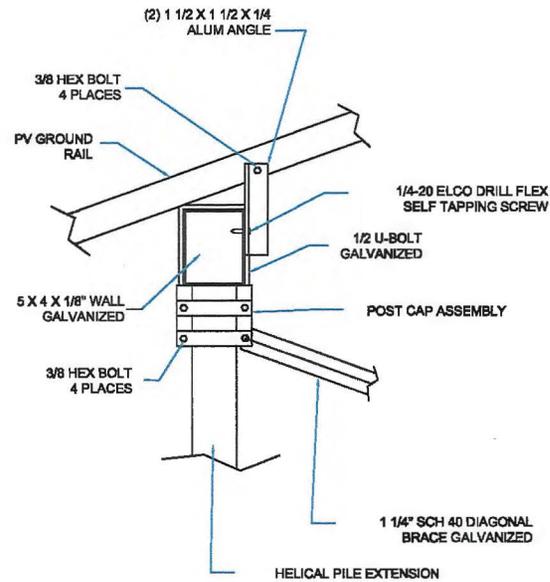
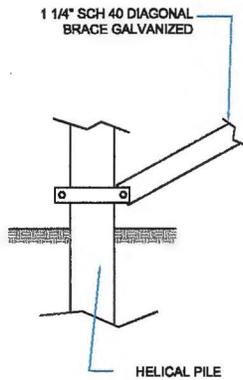
FRAME ELEVATION VIEW FACING WEST



FRAME ELEVATION VIEW FACING NORTH

Net design pressures were calculated in accordance with ASCE 7-05 section 6.5.13, "Design Wind Loads on Open Buildings with Monoslope, Pitched or Troughed Roofs." All load cases were evaluated in determining the limiting load cases. Maximum leg reaction forces represent the highest load condition seen by any leg in the structure. All legs in the structure are designed to meet the maximum load conditions.

**48-12x4**



**FOUNDATION DETAIL**

**PV RACKING**  
 505 KEYSTONE ROAD  
 SOUTHAMPTON, PA 18966  
 PH: 855-PVRACKS  
 FAX: 267-988-4219  
 www.pvracking.com

**JOB/DWG DESCRIPTION:**

GROUND MOUNTED  
 SOLAR SYSTEM  
 ARRAY SUB-STRUCTURE

**CUSTOMER / SITE INFO:**

Evergreen Energy  
 48 Landscape

NO.	REVISION	DATE
	- SEE SHEET 1	

SCALE: NTS

DRAWN BY: MS  
 DATE: 9-1-2015

**DRAWING NUMBER:**

**PVR-PP**

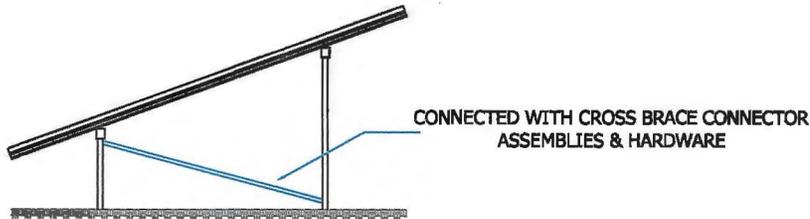
REVISION:

**REV 00**

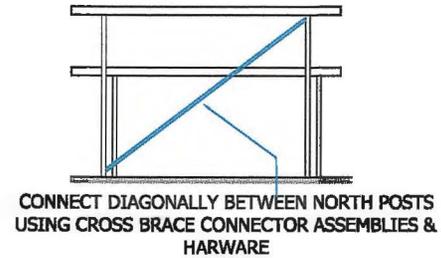
PAGE 2 OF 3

## STRUCTURAL BRACING

### STANDARD CROSS BRACE

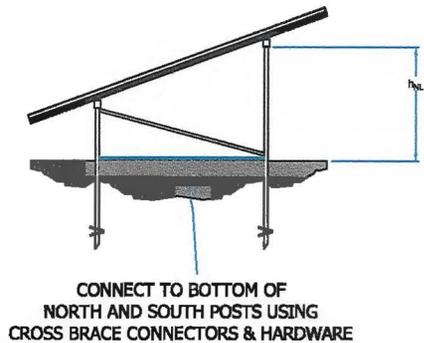


### SEISMIC BRACE ( IF REQUIRED )

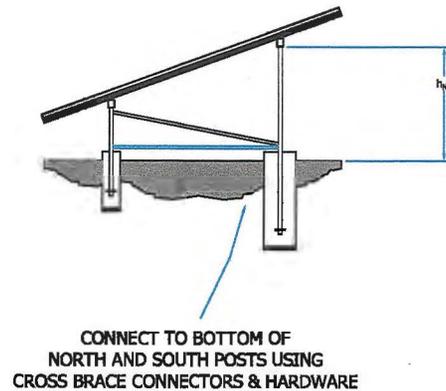


### HORIZONTAL/LATERAL BRACING (IF REQUIRED)

#### HELICAL PIER FOUNDATION DETAIL



#### CONCRETE FOUNDATION DETAIL NOTE: CONCRETE FOOTINGS MUST EXTEND INTO OR BELOW THE FROST LINE FOR THE LOCATION OF ARRAY



**PV RACKING**  
505 KEYSTONE ROAD  
SOUTHAMPTON, PA 18966  
PH: 855-PVRACKS  
FAX: 267-988-4219  
www.pvracking.com

#### JOB/DWG DESCRIPTION:

GROUND MOUNTED  
SOLAR SYSTEM  
ARRAY SUB-STRUCTURE

#### CUSTOMER/ SITE INFO:

Evergreen Energy  
48 Landcape

- SEE SHEET 1  
NO. REVISION DATE  
REVISION HISTORY

THE AREA BETWEEN  
SCALE: NTS

DRAWN BY: MS  
DATE: 9-1-2016

#### DRAWING NUMBER:

**PVR-PP**

REVISION:

**REV 00**

PAGE 3 OF 3

# **PUBLIC HEARINGS**



# TOWN OF MANSFIELD

DEPARTMENT OF PLANNING AND DEVELOPMENT

Date: September 29, 2016

To: Mansfield Inland Wetlands Agency

From: Jennifer Kaufman, Inland Wetlands Agent

Subject: Hunting Lodge Road (Assessor's Parcel ID 15.21.3) (IWA File #1564-2)  
Storrs Lodges LLC  
Description of Work: construction of a 218-unit apartment complex  
Map Date: 3/18/2016, revised through 6/10/2016

## PROJECT OVERVIEW

At your meeting of October 6, 2016, the public hearing for the above application will continue. Based on the opening night of the hearing, staff had anticipated that the hearing on October 6<sup>th</sup> would lead off with a presentation from the intervenors. However, we were recently informed by the applicants that their consultant will need additional time to present their alternatives analysis. The intervenors will also have their expert, Dr. Michael Klemens, make a presentation, as he is not available on November 2<sup>nd</sup>. The Agency's expert, GEI Consultants Inc., will be in attendance and will take questions and assist the Agency. The applicants presented their proposal to the Conservation Commission at their September 21 meeting. The Conservation Commission has listed a number of questions in their minutes that I have shared with GEI. In addition, I have shared with GEI the numerous letters from the public, which also raise questions.

Staff recommends that the Agency keep the public hearing open until the next regularly scheduled meeting on November 2, 2016 to allow the intervenors to complete their presentation, take questions from the public, and ask questions of the applicant. The applicants have consented to an extension of the public hearing through November 2<sup>nd</sup>.

For the record, the following submittals have been received as of September 29, 2016 and should be incorporated in to the public record for the public hearing held October 6, 2016.

### Applicant Submittals

1. Application
  - 1A. Application Resubmittal July 19, 2016
2. A letter dated February 28, 2016 from CT DEEP Regarding State Species of Concern
3. A March 18, 2016 Wetlands Assessment & Impact Analysis: Summary of Findings

4. An Engineering Design and Drainage Report (Both a Summary and Full Report available on website) Dated March 18, 2016
5. A March 30, 2016 Wetlands Assessment-Supplemental: Vernal Pool Investigation
6. An April 4, 2016 Wetlands Assessment-Supplemental: Water Quality Investigation
7. An April 4, 2016 Wetlands Assessment-Supplemental: Functions and Values Assessment
8. An April 4, 2016 Wetlands Assessment-Supplemental: Wetland Mitigation
9. An April 6, 2016 Wetlands Assessment-Supplemental: Review of Stormwater System
10. An April 14, 2016 Wetlands Assessment-Supplemental: Vernal Pool Investigation
11. FA Hesketh's Responses to the GEI Consultants Revised dated 5/31/2016 and revised through 6/10/2016
12. A June 14, 2016 Wetlands Assessment-Supplemental: Water Quality Investigation
13. A June 14, 2016 Wetlands Assessment-Supplemental: Soil Testing
14. A June 14, 2016 Wetlands Assessment-Supplemental: Vernal Pool Investigation
15. A July 12, 2016 Letter from Attorney Fahey Requesting the Public Hearing not be continued to 8/1/16
16. July 12, 2016 Response to Intervention and a February 12, 2011 Report from Michael Klemens
17. A July 12, 2016 Memo from Attorney Sherwood re: Prudent and Feasible Alternative Analysis
18. Revised Plans - June 10, 2016
19. Wetland License issued to Pond Place LLC for Phase I well drilling and testing (File W1428).
20. August 29, 2016 response to 8/12/2016 letter from Mary Harper.
21. Application for Wetland Boundary Amendment
22. September 6, 2016 Applicants Presentation #1
23. September 6, 2016 Applicants Presentation #2
24. September 6, 2016 Applicant Submittals

#### **Staff Memos**

1. March 29, 2016 memo from Jennifer Kaufman, Wetlands Agent
2. June 2, 2016 memo from Jennifer Kaufman, Wetlands Agent
3. June 13, 2016 memo from Jennifer Kaufman, Wetlands Agent
4. July 14, 2016 memo from Jennifer Kaufman, Wetlands Agent
5. August 31, 2016 memo from Jennifer Kaufman, Wetlands Agent
6. September 29, 2016, memo from Jennifer Kaufman, Wetlands Agent

#### **Conservation Commission Minutes**

1. April 20, 2016
2. May 18, 2016
3. June 15, 2106
4. July 20, 2106
5. August 17, 2016
6. September 21, 2016

## Intervenor Submittals

1. August 19, 2016 Verified Petition to Intervene re: W1564-2
2. August 23, 2016 Letter from the Law Offices of Keith Ainsworth
3. A letter from Michael Klemens dated June 6, 2016
4. A Vernal Pool Analysis Map of Storrs Lodges Prepared by Michael Klemens dated May 2016
5. Michael Klemens Curriculum Vitae, undated
6. A letter to Cheryl Chase, Director of the Inland Water Resources Division, CT DEEP from Michael Klemens dated September 10, 2013
7. A Report from Connecticut Ecosystems LLC Entitles Wetlands Report Ponde Place, July 5, 2007
8. April 2009 Eastern Connecticut Environmental Review Team Report for Ponde Place
8. A 2002 MCA Technical Paper Series: No. 5 Best Development Practices Conserving Pool-Breeding Amphibians in Residential and Commercial Developments in the Northeastern United States by Calhoun and Klemens

## GEI, Consultants (IWA's Independent Consultant) Submittals

1. A Memo from Kimberly Bradley and John McGrane of GEI Consultants to Jennifer Kaufman dated May 12, 2016
2. A Memo from Kimberly Bradley and John McGrane of GEI Consultants to Jennifer Kaufman dated June 29, 2016

## Comments from the Public

1. A letter from Kathy and Brian Usher dated May 24, 2016
2. An email response to Kathy Usher from Linda Painter dated May 25, 2016
3. A letter from Susan and Michael Zito, 44 Westgate Lane dated July 9, 2016
4. A letter from Frank Noelker, 491 N. Eagleville Road, dated July 9, 2016
5. A letter from Laurie Sloan, 491 N. Eagleville Road, dated July 9, 2016
6. A letter from Robert & Jennie Talbot, 26 Southwood Road dated July 10, 2016
7. An email from Chris Simon, 17 Silver Falls dated July 12, 2016
8. An email from William Okeson, 61 Northwood Road, dated July 12, 2016
9. A letter from Karen Green, 1090 Stafford Road, dated July 14, 2016
10. A letter from Janet Jones, 49 Farrell Road, dated July 15, 2016
11. A letter from Jake Friedman, 65 Northwood Road, dated July 15, 2016
12. An email from Priscilla Douglas, 241 Wormwood Hill Road, dated July 16, 2016
13. A letter from Terry Webster, 23 Southwood Road, dated July 16, 2016
14. A letter from Lisa Young, 41 Meadowood Road, dated July 16, 2016
15. A letter from Elizabeth & Richard Cowles, 73 Barber Hill Road, Broad Brook, dated July 16, 2016
16. A letter from Merrill Cook, 219 Separatist Road, dated July 16, 2016

17. A letter from John Maloney, 5 Southwood Road, dated July 17, 2016
18. A letter from Kathleen Knecht, 137 Birch Road, dated July 17, 2016
19. A letter from Virginia Gorin, 222 Separatist Road, dated July 17, 2016
20. A letter from Honour Mary D'Amato, 55 Northwood Road, dated July 17, 2016
21. A letter from Kip Kolesinskas, a Consulting Conservation Scientist, dated July 17, 2016
22. A letter from Nancy Silander, 30 Silver Falls Lane, dated July 18, 2016
23. A letter from Winthrop E. Hilding, 22 Southwood Road, dated July 18, 2016
24. A letter from Charles Owen, 26 Separatist Road, dated July 18, 2016
25. A letter from Beck Shafer, 45 Echo Road, dated July 18, 2016
26. A letter from Lieutenant John Slyman and Patricia Slyman, 227 Birch Road, dated July 18, 2016
27. A Letter from Barbara Hurd, 329 N. Eagleville Road, dated July 18, 2016
28. An email from Martin Mendoza-Botelho, 38 Meadowood Road, dated July 19, 2016
29. An email from Cynthia Hirschorn, 63 Davis Road, dated July 27, 2016
30. A letter from John & Virginia Bransfield, 21 Meadowood Road, dated August 4, 2016
31. A letter from Mary Harper, 129 East Road, dated August 12, 2016 (Mary is a member of the Conservation Commission but submitted this as a resident)
32. A letter with attachments from Walter Hirsch, 125 Hunting Lodge Road, dated August 2016
33. An email from Beverly Sims, dated September 4, 2016
34. A letter from Charles Vidich, 40 Frontage Road, Ashford, dated September 6, 2016
35. A letter from Representative Gregg Haddad, dated September 6, 2016
36. A letter from Terry Bitwinski, 16 Silver Falls Road, dated September 6, 2016
37. A letter from Elizabeth Cowles, 73 Barber Hill Road, Broad Brook, dated September 6, 2016
38. An email from Jo and George Fox, dated September 7, 2016



# TOWN OF MANSFIELD

DEPARTMENT OF PLANNING AND DEVELOPMENT

Date: August 31, 2016

To: Mansfield Inland Wetlands Agency

From: Jennifer Kaufman, Inland Wetlands Agent

Subject: Hunting Lodge Road (Assessor's Parcel ID 15.21.3) (IWA File #1564-2)  
Storrs Lodges LLC  
Description of Work: construction of a 218-unit apartment complex  
Map Date: 3/18/2016, revised through 6/10/2016

## PROJECT OVERVIEW

The Conservation Commission has not had the opportunity formally comment on this application. Therefore, I recommend that the Agency keep the public hearing open until the next regularly scheduled meeting on October 6, 2016. The following submittals have been received as of August 31, 2016 and should be incorporated in to the public record for the public hearing held September 6, 2016.

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  - 1A. Application Resubmittal July 19, 2016
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21. Application for Wetland Boundary Amendment.

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2. June 2, 2016 memo from Jennifer Kaufman, Wetlands Agent
3. June 13, 2016 memo from Jennifer Kaufman, Wetlands Agent
4. July 14, 2016 memo from Jennifer Kaufman, Wetlands Agent

### **Conservation Commission Minutes**

1. April 20
2. May 18
3. June 15
4. July 20
5. August 17

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2. A Memo from Kimberly Bradley and John McGrane of GEI Consultants to Jennifer Kaufman dated June 29, 2016

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5. A letter from Laurie Sloan, 491 N. Eagleville Road, dated July 9, 2016
6. A letter from Robert & Jennie Talbot, 26 Southwood Road dated July 10, 2016
7. An email from Chris Simon, 17 Silver Falls dated July 12, 2016
8. A letter from Janet Jones, 49 Farrell Road, dated July 15, 2016
9. An email from Priscilla Douglas, 241 Wormwood Hill Road, dated July 16, 2016
10. A letter from Terry Webster, 23 Southwood Road, dated July 16, 2016
11. An email from Martin Mendoza-Botelho, 38 Meadowood Road, dated July 19, 2016
12. An email from Cynthia Hirschorn, 63 Davis Road, dated July 27, 2016
13. A letter from Mary Harper, 129 East Road, dated August 12, 2016 (Mary is a member of the Conservation Commission but submitted this as a resident)

**TOWN OF MANSFIELD  
INLAND WETLAND AGENCY**



Certified Mail Return Receipt  
#91 7108 2133 3934 5228 3682

*04161*

AUDREY P. BECK BUILDING  
FOUR SOUTH EAGLEVILL ROAD  
STORRS, CT 06268  
(860) 429-3330

**COPY**

May 7, 2009

Ponde Place LLC  
56 East Main Street  
Suite 202  
Avon, CT 06001

Re: Mansfield's IWA approval  
IWA file #1428

Dear Mr. Giorgio,

At a meeting held on 5/4/09, the Mansfield Inland Wetlands Agency adopted the following motion:

“to grant an Inland Wetlands License under Section 5 of the Wetlands and Watercourses Regulations of the Town of Mansfield to **Ponde Place LLC** (file no. W1428), for Phase I well drilling and testing, on property owned by the Keystone Companies, LLC, located at Hunting Lodge and Northwood Roads, as shown on plans dated March 31, 2009 and as described in other applications submissions.

This action is based on a finding of no anticipated significant impact on the wetlands, and is conditioned upon the following provisions being met:

1. Appropriate erosion and sedimentation controls (as shown on the plans) shall be in place prior to construction and maintained during construction and removed when disturbed areas are completely stabilized.
2. There shall be no additional work on the access road in the old fill area between the 2 wetlands; however, if using heavy equipment necessitates additional fill, the applicant shall consult with the Wetlands Agent as to the type and placement of said fill.

This approval is valid for a period of five years (until May 4, 2014), unless additional time is requested by the applicant and granted by the Inland Wetlands Agency. The applicant shall notify the Wetlands Agent before any work begins, and all work shall be completed within one year. Any extension of the activity period shall come before this Agency for further review and comment.”

This letter constitutes your license.

If you have any questions regarding this action, please call the Planning Office at 429-3330.

Very truly yours,

A handwritten signature in black ink that reads "Kath K Holt".

Katherine K. Holt, Secretary  
Mansfield Inland Wetlands Agency

Cc: Roger Kellman, P.E., Hesketh

April 2, 2009

Mansfield Inland Wetlands Agency  
Audrey P. Beck Municipal Building  
4 South Eagleville Road  
Mansfield, CT 06268

Attn: Grant Meitzler

Re: Ponde Place  
Phase 1 Well Installation and Testing  
Hunting Lodge Road  
IWWC Application  
Our File: 04161.00

Dear Mr. Meitzler:

On behalf of the applicant, Ponde Place, LLC, please find attached a Wetlands Application for the installation and testing of up to four wells on the site of the proposed residential project known as Ponde Place on Hunting Lodge Road. Also attached are the plans and a check for \$155.

If you have any questions, please feel free to contact me.

Very truly yours,

**F. A. Hesketh & Associates, Inc.**



Roger Kellman, P.E.  
Project Engineer

cc: The Keystone Companies, LLC  
Attorney Thomas Fahey

T:prj/04161/gmei4029.doc

**APPLICATION FOR PERMIT**  
**MANSFIELD INLAND WETLANDS AGENCY**  
**4 SOUTH EAGLEVILLE ROAD, STORRS, CT 06268**  
**TEL: 860-429-3334 OR 429-3331**  
**FAX: 860-429-6863**

**FOR OFFICE USE ONLY**  
 File # W \_\_\_\_\_  
 Fee Paid \_\_\_\_\_  
 Official Date of Receipt \_\_\_\_\_

*Applicants are referred to the Mansfield Inland Wetlands and Watercourses Regulations for complete requirements, and are obligated to follow them. For assistance, please contact Grant Meitzler, Inland Wetlands Agent at the telephone numbers above.*

Please print or type or use similar format for computer; attach additional pages as necessary.

**Part A - Applicant**

Name Ponde Place LLC

Mailing Address 56 East Main St. Suite 202  
Avon CT Zip 06001

Telephone-Home \_\_\_\_\_ Telephone-Business (860) 677-5555

**Title and Brief Description of Project**

Ponde Place - Phase 1 Well Drilling and testing

Location of Project Hunting Lodge Road and Northwood Road

Intended Start Date Spring 2009

**Part B - Property Owner (if applicant is the owner, just write "same")**

Name The Keystone Companies, LLC

Mailing Address (same as applicant)  
 Zip \_\_\_\_\_

Telephone-Home \_\_\_\_\_ Telephone-Business \_\_\_\_\_

Owner's written consent to the filing of this application, if owner is not the applicant:

Signature (same as applicant) date \_\_\_\_\_

Applicant's interest in the land: (if other than owner) \_\_\_\_\_

**Part C - Project Description (attach extra pages, if necessary)**

1) Describe in detail the proposed activity here or on an attached page. (See guidelines at end of application – page 6.)

Please include a description of all activity or construction or disturbance:

- a) in the wetland/watercourse
- b) in the area **adjacent** to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is **off** your property

1) Installation and testing of water supply wells.

a) There will be no activity within wetlands or watercourse

b) There will be minimal activity adjacent to wetlands. This will include minor clearing, grading and filling to create an access path for the well drilling equipment.

2) Describe the amount or area of disturbance (in square feet or cubic yards or acres):

- a) in the wetland/watercourse
- b) in the area **adjacent** to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is off your property

2a) 0 acres.

2b) .2 acres

3) Describe the type of materials you are using for the project:

clean fill for access path

a) include **type** of material used as fill or to be excavated gravel/stone

b) include **volume** of material to be filled or excavated < 50 cu excavation/fill within the regulated area.

4) Describe measures to be taken to minimize or avoid any adverse impacts on the wetlands and regulated areas (silt fence, staked hay bales or other Erosion and Sedimentation control measures).

minimize disturbance just adequate for equipment access. Silt fence, hay bales, stone as needed for SE+SC measures.

**Part D - Site Description**

Describe the general character of the land. (Hilly? Flat? Wooded? Well drained? etc.)

Moderately wooded and somewhat hilly, well drained except for limited areas.

**Part E - Alternatives**

Have you considered any alternatives to your proposal that would meet your needs and might have less impact on the wetland/watercourse? Please list these alternatives.

Other access points were considered but would have a  
greater wetland impact.

**Part F - Map/Site Plan (all applications)**

1) Attach to the application a map or site plan showing **existing conditions** and the **proposed project** in relation to wetland/ watercourses. Scale of map or site plan should be 1" = 40'; if this is not possible, please indicate the scale that you are using. A sketch map may be sufficient for small, minor projects. (See guidelines at end of application – page 6.)

2) Applicant's map date and date of last revision UT-5 03-31-2009

3) Zone Classification RAP-90 changed to DMP

4) Is your property in a flood zone? Yes  No  Don't Know

**Part G - Major Applications Requiring Full Review and a Public Hearing**

See Section 6 of the Mansfield Regulations for additional requirements.

**Part H - Notice to Abutting Property Owners**

1) List the names and addresses of abutting property owners

Name Address

See attached list.

2) **Written Notice to Abutters** . You must notify abutting property owners by certified mail, return receipt requested, stating that a wetland application is in progress, and that abutters may contact the Mansfield Inland Wetlands Agent for more information. Include a brief description of your project. **Postal receipts of your notice to abutters must accompany your application.** (This is not needed for exemptions).

**Part I - Additional Notices, if necessary**

1) Notice to Windham Water Works is attached. If this application is in the public watershed for the Windham Water Works (WWW), you must notify the WWW of your project within 7 days of sending the application to Mansfield—sending it by certified mail, return receipt requested. Contact the Mansfield Inland Wetlands Agent to find out if you are in this watershed.



CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION  
79 Elm Street  
Hartford, CT 06106-5127

GIS CODE #: \_\_\_\_\_  
For DEP Use Only

Arthur J. Rocque, Jr., Commissioner

### Statewide Inland Wetlands & Watercourses Activity Reporting Form

Please complete this form in accordance with the instructions. Please print or type.

#### PART I: To Be Completed By The Inland Wetlands Agency Only

- 1. DATE ACTION WAS TAKEN: Year \_\_\_\_\_ Month \_\_\_\_\_
- 2. ACTION TAKEN: \_\_\_\_\_
- 3. WAS A PUBLIC HEARING HELD? Yes \_\_\_\_\_ No \_\_\_\_\_
- 4. NAME OF AGENCY OFFICIAL VERIFYING AND COMPLETING THIS FORM:  
(print) \_\_\_\_\_ (signature) \_\_\_\_\_

#### PART II: To Be Completed By The Inland Wetlands Agency Or The Applicant

- 5. TOWN IN WHICH THE ACTION IS OCCURRING: Mansfield  
Does this project cross municipal boundaries? Yes \_\_\_\_\_ No X  
If Yes, list the other town(s) in which the action is occurring: \_\_\_\_\_
- 6. LOCATION: USGS Quad Map Name: Coventry AND Quad Number: 40  
Subregional Drainage Basin Number: 3100-17-2-R1, 3100-19-1
- 7. NAME OF APPLICANT, VIOLATOR OR PETITIONER: Ponde Place LLC
- 8. NAME & ADDRESS/LOCATION OF PROJECT SITE: Hunting Lodge Road / Northwood Road  
Briefly describe the action/project/activity: Well drilling and testing
- 9. ACTIVITY PURPOSE CODE: C
- 10. ACTIVITY TYPE CODE(S): 12, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
- 11. WETLAND / WATERCOURSE AREA ALTERED [must be provided in acres or linear feet as indicated]:  
Wetlands: 0 acres      Open Water Body: 0 acres      Stream: 0 linear feet
- 12. UPLAND AREA ALTERED [must be provided in acres as indicated]: .2 acres
- 13. AREA OF WETLANDS AND / OR WATERCOURSES RESTORED, ENHANCED OR CREATED: 0 acres  
[must be provided in acres as indicated]



**Packet in PDF**

**AGENDA**  
Inland Wetland Agency  
Regular Meeting  
Monday, April 6, 2009  
Council Chambers, Audrey Beck Building

**Call to Order: 7:00 PM**

**Review of Minutes of Previous Meetings and Action Thereon:**

- 3.02.09 - Regular Meeting
- 3.16.09 - Field Trip
- 3.16.09 - Special Meeting

**Communications:**

Conservation Commission: W1423 - Schafer- shed  
W1424 - Whispering Glen- 37 units  
GM monthly business memorandum

**Outstanding Enforcement Actions:**

W1400 – Glode – Stafford Rd  
W1419 - Chernushek, 473 Middle Turnpike-violation notice  
(To be tabled pending outcome of related application)

**Old Business:**

1. W1419 - Chernushek, 473 Middle Turnpike-application
2. W1423 - Shafer, 45 Echo Road - shed within 75'
3. W1424 - Whispering Glen, 73 Meadowbrook Road - 37 units  
(Tabled pending May 4, 2009 Public Hearing)

**New Business:**

1. W1425- Town of Mansfield, Stonemill Rd- Bridge Replacement
2. W1426- Hallock, East side of Wormwood Hill Rd - 3 lots
3. W1427- Hartley, 72 Crane Hill Road- gazebo
4. W1428- Ponde Place, Hunting Lodge and Northwood Rd -  
well drilling & testing
5. W1429- Kleinfelder/Exxon, 4 Corners Remediation

**Reports of Officers and Committees:**

**Other Communications and Bills:**

1. DEP Permit Applications for the Use of Pesticides in State Waters: Swan Lake, Mirror Lake, Curtin Pond on Farmstead Rd.
2. DEP Inland Wetlands Reporting Program 2005 Status & Trends Report
3. DEP Training Program 2005 Summary Report
4. Winter 2009 "The Habitat"

**Adjournment:**

04161



**AGENDA**  
**MANSFIELD INLAND WETLAND AGENCY/PLANNING & ZONING COMMISSION**

Special Meeting – Field Trip  
Wednesday, April 15, 2009

The purpose of the field trip is to observe site and neighborhood characteristics. The merits of the proposals will not be discussed and no public comments will be allowed. Times listed are estimated times of arrival. In the event of inclement weather, or if you mentioned previously that you planned to attend but now find you cannot, please contact the Planning Office at 429-3330.

- 1:00 p.m. Meet at the Planning Office if you would like a ride.
  
- 1:10 p.m. HARTLEY, 72 CRANE HILL ROAD- proposed gazebo  
W1427
  
- 1:25 p.m. HALLOCK, EAST SIDE OF WORMWOOD HILL RD ( east side about 2500 feet north of Route 89)- proposed 3 lot subdivision W1426, PZC File #1285
  
- 1:50 p.m. TOWN OF MANSFIELD, STONEMILL RD- proposed bridge replacement  
W1425
  
- 2:10 p.m. KLEINFELDER/EXXON, ( CVS SITE AT CORNER OF ROUTES 44 AND 195 )-  
proposed ground water remediation W1429, PZC File #1157-2
  
- 2:30 p.m. PONDE PLACE, HUNTING LODGE AND NORTHWOOD RD - proposed well drilling & testing W1428 ( meet at northerly end of Northwood Rd )

cc: IWA/PZC, Conservation Commission, PAC, OSPC, G. Meitzler, G. Padick, C. Hirsch, Kleinfelder, Merchants Mansfield LLC., K. Hallock, Holmes & Henry Assoc., Hartley, Hesketh, Ponde Place LLC., Town of Mansfield Public Works

View Packet Materials

**AGENDA**  
Inland Wetland Agency  
Regular Meeting  
Monday, May 4, 2009  
Council Chambers, Audrey beck Building

**Call to Order: 7:00 PM**

**Review of Minutes of Previous Meetings and Action Thereon:**

- 4.06.2009 - Regular Meeting ✓
- 4.15.2009 - Field Trip ✓

**Communications:**

- Conservation Commission: ✓ W1425 - Town of mansfield - Stone Mill Bridge
- W1426 - Hallock Subdivision
- W1427 - Hartley
- W1428 - Ponde Place
- W1429 - Kleinfelder (CVS)
- GM monthly business memorandum ✓

**Outstanding Enforcement Actions:**

- W1400 - Glode - Stafford Rd ✓

**7:15 PM Public Hearing**

- W1424 - Whispering Glen Condominiums - Meadowbrook Lane

**Old Business:**

**Consideration of action:**

- W1425 - Town of Mansfield - Stone Mill Bridge Replacement *Approval*
- W1426 - Hallock Subdivision - Wormwood Hill Rd *continued*
- W1427 - Hartley - Crane Hill Rd - gazebo in buffer
- W1428 - Ponde Place - well drilling accessway in buffer
- W1429 - Kleinfelder - Rte 44 & 195 - remediation CVS, former Exxon site

**New Business:**

**New Applications:**

- W1430 - Block - 8 Hanks Hill Rd - Modification Request
- W1431 - Juliano Pools - 853 Storrs Rd - in-ground pool

**Reports of Officers and Committees:**

**Other Communications and Bills:**

- Conn. Federation of Lakes News, April 2009
- Other

**Adjournment:**

August 29, 2016

Jennifer Kaufman  
Inland Wetland Agent  
Town of Mansfield  
4 South Eagleville Road  
Mansfield, CT 06268

Re: The Lodges-- IWA Application W1564  
Response to August 12, 2016 Memo

Dear Ms. Kaufman:

Below, we have provided responses to the four (4) comments/questions raised in the memo addressed to you from Mary Harper, a member of the Conservation Commission, dated August 12, 2016. Our responses are numbered following the order presented in the memo.

Comment No. 1:

The memo raises a number of questions regarding the soil types found on the property and how they have been depicted on the application plan set. Reference is made to Sheet IW-1, the NRCS soils map and a 2007 soils report prepared by John P. Ianni, a certified soil scientist, who previously provided consulting services for the project. Regarding Sheet IW-1, in accordance with the required application items listed in the town wetland regulations, the upland soil types were included on this plan based on an interpretation of the NRCS map and the limits of wetland soils were shown taken from the defined limits included on the recently approved official wetlands map for the property. In order to clear up any confusion on this issue, we have revised Sheet IW-1 to more clearly define the soil type boundaries and have also added the wetland soil types to the soil classification table listed on the plan (see attached Sheet IW-1, revised 8/30/16).

It is widely understood that the USDA-NRCS Soil Survey maps are a coarse-scale representation of soil mapping units in the landscape, with an emphasis on agricultural uses. NRCS soil scientists would map hundreds of acres per day. While the soil survey maps are valuable for planning purposes, they are not accurate enough for final site design. That is why the project team's soil scientist accurately delineated the limits of poorly and very poorly drained soils on the property, which were then surveyed and plotted on the plans. This is also the reason why project team members, including the soil scientist of record, Mr. George Logan, inspected the upland soils within the development envelope, and found them to be generally consistent with the types of soils identified in the NRCS soil survey, even though the limits of the soil series may differ considerably in the field as compared to those seen on the less accurate NRCS soil survey map.

It must be noted that the limits of the different types of soils are a matter of some interpretation since it is not possible to directly translate the limits depicted on the NRCS map, or other similar reference source mapping, to the plan set due to a lack of common mapping scale, loss of

accuracy because of previous reproduction/reprographics inconsistencies and recognition of obvious topographical features found on a specific property that affect the drawing of the limits on the plan. Site planners often refer to the NRCS map and other available soil reference materials as tools during the undertaking of an initial general analysis of soil characteristics in concert with the start of the preliminary planning phase for a given site and generally do not do any type of detailed calculations or final site design based heavily on this data. The only soil types on the property that have been defined precisely are the limits of wetland soils shown which were flagged in the field by the soil scientist and located by the project land surveyors.

Responding to another question raised, the point at which the referenced cross culvert under Hunting Lodge Road enters the northeast corner of the property is shown on the plan set and is discussed in the various reports presented with the application. The discharge from this culvert does continue to the west in a poorly defined channel which intersects with the significant north-south wetland and intermittent watercourse corridor which exits the site in the southeasterly corner of the property. No development is proposed that would have any effect on this existing condition.

A question is raised as to the likelihood that infiltrated stormwater runoff could possibly break out further downstream after traveling through the soil profile for some distance particularly during high water table seasons. The purpose of installing the infiltrator systems is to replenish the groundwater flow that will be lost with the introduction of upstream impervious cover. Therefore, any breakout that could occur even under the most severe seasonal conditions would only be replicating existing conditions.

Comments No. 2 & 3:

Our responses to Comments No. 2 and 3 have been combined since we believe both comments raise essentially the same concerns and questions regarding the suitability of the on-site soils to allow infiltration to successfully occur from the proposed stormwater infiltrator systems and the bio-retention basins. First, no one is disputing that the underlying soil types do present a challenge to the designers to successfully introduce the concept of infiltration into the overall stormwater management system for the project. This is a design goal for the design of the stormwater management plan for the project to address the issues of water quality treatment and replenishment of current groundwater recharge lost by the installation of impervious surfaces throughout the project site.

It should be noted that the macro stormwater hydrologic analysis completed for the project including all the computer modeling does not include any effects realized by the inclusion of infiltrator units or bio-retention basins in the system. The infiltrators are treated in the calculations as detention devices similar to above ground detention basins or watertight underground chambers or solid pipe systems. Therefore, achieving the design goal for post-development conditions of reducing peak flow rates leaving the developed site to downstream watersheds for all design storm events is not dependent on reducing runoff from the site by retaining and infiltrating the runoff on site. This results in a very conservative design, especially once the positive effects of the infiltrators are factored in.

It is our opinion that the design of the infiltrator systems and the use of the bio-retention basins will prove to be very successful in accomplishing our design goals. Each component of the proposed infiltrator systems has been carefully placed throughout the development based on detailed field inspections and soil testing that included deep hole tests and the conduct of permeability testing for each system location. The proper location for each of the bio-retention basins was determined in the field by our soil scientist George Logan, based on his field observations. As noted in our response to Comment No. 1 above, the use of soil type delineations based on the NRCS soil map or other printed reference materials is simply not accurate enough for any level of detailed analysis or design. A detailed summary of the soil testing completed and the design parameters used was presented in our written responses to GEI comments dated June 17, 2016. A copy of the table included in that response is attached.

The specific location and depth at which the bottom of the proposed infiltrator systems and bio-retention basins are set take into account the detailed soil observations completed in the field at each proposed location. For some of the systems, we will install an underdrain system upstream of the infiltrator field or at the bottom of a bio-retention basin to ensure that the seasonal groundwater elevation is maintained at the assumed design grade. The discharge of flow from these underdrains will be day-lighted to the surface in a conventional manner based on the available topographical conditions. It should be also noted that it is our experience that once the project is completed, the seasonal high groundwater elevation will be permanently dropping in the areas where the systems are located due to the loss of surface infiltration with the installation of upstream impervious surfaces. This will further enhance the performance of the infiltrators in restoring groundwater recharge.

A question was raised in the memo regarding the permeability testing procedure used by SSES, which is the falling head permeability test method. This is an industry standard utilized for this type of soil analysis following standard ASTM protocol. There are basically two types of laboratory tests: falling head and constant head methods. Falling head method is usually used when there will be samples with a wide gradation of fine and coarse soil types as is the case on this site. An interesting article prepared by University of Toledo that presents a rather thorough explanation of the two permeability test methods is attached.

The soil testing completed by George Logan at the location of each of the proposed bio-retention basins was to answer the review question: is the seasonal high groundwater table high enough that an underdrain would be required? For bio-retention basins 1, 2, and 3, the answer was no, since these would be located in well drained soils. For the rest of the basins, to be located in moderately well drained soils, the answer was yes. The distinction between "faint" and "prominent" mottles was the soil scientist's attempt to more carefully record field conditions. Occasionally faint mottles, which typically indicate a high groundwater table for short periods of time during the wettest years, are missed.

Ms. Harper references her experience regarding a proposed 2015 residential subdivision application in Mansfield, Williams Re-subdivision (a.k.a. Williams Heights), to the subject proposal. We believe this reference is not apropos on a number of points, including the fact that the two sites are substantially different. For instance, a substantial portion of the reference re-subdivision site and contributing sub-watersheds had been disturbed in the past, apparently having a significant impact with regards to drainage patterns. The proposed project was for a

large lot single family residential subdivision utilizing septic systems with a very basic stormwater management plan proposed. This is not the case at the subject site. The assertion that "many soil engineers and scientists do not consider mottling to be a reliable indicator of high seasonal water tables" is not supported by common design practice nor the design guidelines included in the Public Health Code. Soil mottling in undisturbed soils, such as those identified throughout the subject site, is a reliable indicator of seasonal high groundwater.

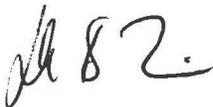
Comment No. 4:

At the request of GEI during the comment review period, a small riprap emergency overflow spillway was added to each of the bio-retention basins rather than relying on surface flow overtopping of the vegetated sides of the basins. The flow from the spillway will be directed to overland flow towards the receiving wetlands. We will add a detail for the spillways on the next revised set of plans. This is a minor addition to the plan details.

In summary, it is our professional opinion that there is no technical reason to conduct any additional testing or monitoring of groundwater or soil conditions on the property at this juncture. This opinion is based on our design team's experience over many years with the successful implementation of these types of infiltrator systems on many projects, combined with the exhaustive field observations and data collection already undertaken by the design professionals over the past 10 years. Further, given the flexibility in the design and installation options available for these types of systems, minor adjustments in the field to enhance performance can be completed at the time of installation based on any unanticipated conditions encountered.

Very truly yours,

**F. A. Hesketh & Associates, Inc.**



David S. Ziaks, P.E.

**The University of Toledo  
Soil Mechanics Laboratory**

**Permeability Testing - <sup>1</sup>Constant and Falling Head Tests**

**Introduction**

In 1856 the French engineer Henri D'arcy demonstrated by experiment that it is possible to relate the discharge rate of water flowing from a soil to the hydraulic or total head gradient in the soil and a property of the soil which we refer to as the coefficient of permeability or the hydraulic conductivity (Equation 1). Darcy's Law, as it is called, is a very useful law because it is not possible to derive a theoretical law for the flow of water in soil. Soils samples are tested in the laboratory using constant head or falling head test procedures in order to obtain the coefficient of permeability. The coefficient of permeability is used to compute the quantity of flow for all types of flow problems in soil where laminar flow conditions exist.

**Darcy's Law**

$$q = k \cdot i \cdot A \tag{1}$$

where  $q$  = discharge rate ( $L^3/T$ )  
 $k$  = coefficient of permeability ( $L/T$ )  
 $i$  = hydraulic (total head) gradient =  $h / L$ , ( $L/L$ )  
 $A$  = cross-sectional area of the soil sample ( $L^2$ )

**Apparatus**

1. Funnel
2. Pan
3. Balance
4. Permeameter
5. Constant head tank
6. Manometers
7. Overflow flask
8. Graduated flask
9. Timing Device
10. Thermometer

---

<sup>1</sup> ASTM D 2434 – 1968 (Reapproved 1994)

## Procedure

### A. Preparation

- 1) Obtain the mass of the permeameter.
- 2) Carefully place and compact the dry soil in the permeameter in 3 to 5 layers. Level the top surface of the soil by applying a small pressure to the porous stone.
- 3) Measure the height of the compacted soil. This is equal to  $L$  for the computing the total volume of soil.
- 4) Measure the distance from the top manometer tube to the top of the bottom porous stone. This is the length  $L$  for the falling head test.
- 5) Measure the mass of the permeameter and the dry soil.

### B. Constant Head Permeability Test

- 1) Assemble the permeameter and attach the manometer tubing to the side of the permeameter. Attach the tubing from the constant head supply to the top of the permeameter. Attach the exit tubing to the bottom of the permeameter and place the other end in the overflow flask.
- 2) Open the valves to the permeameter and slowly add water to the constant head tank to saturate the soil sample.
- 3) Open the clamps on the manometer tubes.
- 4) Adjust the rate of flow and allow the flow to reach a stable head condition, i.e. water levels in the manometer remain constant. Record the water levels in the manometers as  $h_1$  (near the top of the soil) and  $h_2$  (near the bottom of the soil).
- 5) Measure and record the discharge  $q$  and the time  $t$ .
- 6) Repeat the steps 3 and 4 two additional times using different values of  $h_1$  and  $h_2$  (total head difference), which can be achieved by adjusting the overflow level of the discharge.

### C. Falling Head Permeability Test

- 1) Close the clamp on the bottom manometer tube.
- 2) Place the overflow flask adjacent to the manometer scale so that the water level can be read on the manometer scale. Record this as the reading of the discharge level,  $R_d$ .
- 3) Close the valve on the bottom of the permeameter cell and allow the top manometer tube to fill with water. Close the valve to the top of the permeameter.
- 4) Obtain the reading on the top manometer scale. Record this reading as  $R_1$ .
- 5) With one person watching the manometer and another person timing, open the valve to the bottom of the permeameter and measure the time for the water to flow from level 1 to level 2. Record these as  $R_2$  and  $t$ .
- 6) Close the valve to the bottom of the permeameter and open the valve to the top of the permeameter in order to add water to the top manometer tube. Repeat the test two additional times (steps 4 and 5) using different water levels ( $R_1$  and  $R_2$ ) in the manometer tubes.

### Calculations

Compute average values of permeability obtained from both the constant and falling head tests using Equations 2 and 3 and Table 1. Compute the void ratio of the soil using Equation 4 and the data in Table 2.

#### Constant Head Test

$$k = \frac{QL}{hAt} \quad (2)$$

Where

Q = total discharge volume ( $L^3$ );

L = length of the soil sample between the manometers (L);

h = total head difference measured on the manometers (L);

A = cross-sectional area of the soil sample ( $L^2$ ).

#### Falling Head Test

$$k = \frac{aL}{At} \ln\left(\frac{h_1}{h_2}\right) \quad (3)$$

Where

a = cross-sectional area of the standpipe ( $L^2$ );

L = length of soil sample measured from the top manometer to the bottom of the soil;

t = time increment for measuring flow for constant head test or time for water to fall from  $h_1$  to  $h_2$  for falling head test (T);

$h_1, h_2$  = total head at time  $t_1$  and  $t_2$  (L).

#### Void Ratio

$$e = \frac{G_s \gamma_w}{\gamma_{dry}} - 1 \quad (4)$$

### Results

For the constant head test, compute the discharge velocity ( $v = Q / A \times t$ ) and total head gradient ( $i = h/L$ ). Plot discharge velocity versus total head gradient for the constant head test using Figure 1. Obtain the slope of the best-fit line.

### Conclusions

Is the permeability representative of the type of soil tested in the laboratory?

Compare the average values of permeability from the two tests.

For the constant head test, compare the average permeability and the slope of the best-fit line from the graph of discharge velocity versus total head gradient.

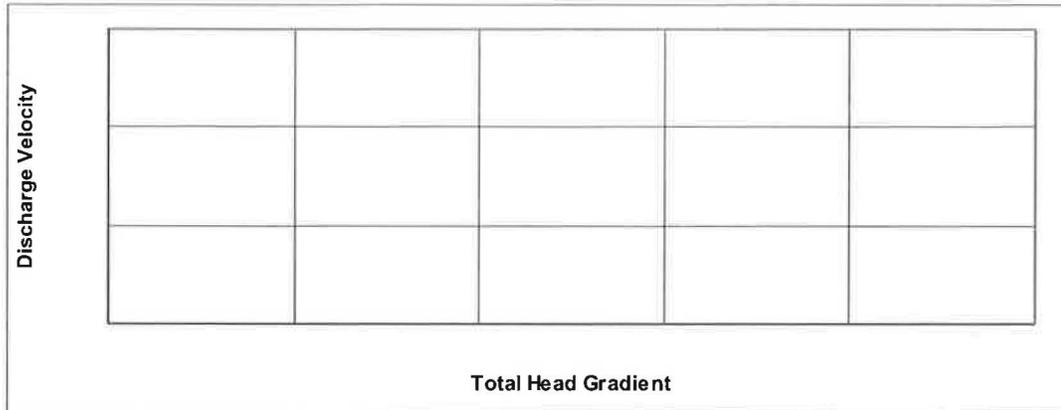
Did laminar flow occur for the test? Explain.

**Table 1- Constant and Falling Head Permeability**

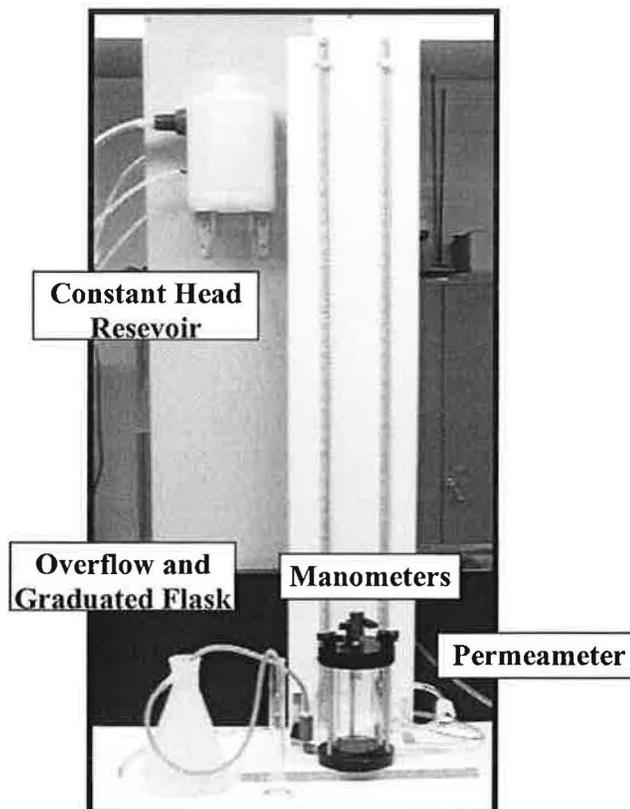
Permeability Test	Group _____	Date _____	
Soil Description			
Weight of Dry Soil	(lb.)		
Diameter of Permeameter	3.0 Inch		
Area of Soil Sample	(Inch) <sup>2</sup>	(cm) <sup>2</sup>	
Total Length of Soil Sample	(Inch)		
Dry Unit Weight	(lb/ft <sup>3</sup> )		
Specific Gravity (Assumed)	2.65	Void Ratio =	
Soil Length for Falling Head Test, L	10.0 (cm)		
Manometer Tube Spacing (= L for CHT)	7.6 (cm)		
<b>Constant Head Test (CHT)</b>	Trial 1	Trial 2	Trial 3
Time, t (sec)			
Discharge, Q (cm <sup>3</sup> )			
Water Level in Manometer, h <sub>1</sub> (cm)			
Water Level in Manometer, h <sub>2</sub> (cm)			
Total Head Difference, h <sub>1</sub> – h <sub>2</sub> (cm)			
Coefficient of Permeability, k (cm/sec)			
Average value of k (cm/sec)			
Discharge Velocity, Q/(Ax t ) (cm/sec)			
Gradient, i = h/L			
Slope of Best-Fit Line (cm/sec)			
<b>Falling Head Test (FHT)</b>	Trial 1	Trial 2	Trial 3
Area of Inlet Tube, a (cm <sup>2</sup> )	0.32	0.32	0.32
Length of Soil Sample, L (cm)			
Elapsed Time, t (sec)			
Reading of discharge level, R <sub>d</sub> (mm)			
Reading at start of test, R <sub>1</sub> (mm)			
Reading at end of test, R <sub>2</sub> (mm)			
h <sub>1</sub> = R <sub>1</sub> - R <sub>d</sub> (mm)			
h <sub>2</sub> = R <sub>2</sub> - R <sub>d</sub> (mm)			
Coefficient of Permeability, k (cm/sec)			
Average value of k (cm/sec)			

**Table 2- Data for Computing Void Ratio**

Cell Number	1	2	3	4
Weight of Dry Soil ( $W_s$ ) (lb)	2.46	2.42	2.41	2.47
Total Length of Soil Sample (inch)	4.74	5.57	5.04	5.13



**Figure 1 – Discharge Velocity Vs. Total Head Gradient (Constant Head Test)**



**Picture 1 – Permeability Apparatus**

Attachment A – Response to GEI Comment # 3:

TAKEN FROM  
JUNE 17 RESPONSES  
BY FAHA

Design Assumptions for Stormwater Infiltrator Systems:

- No credit was taken in the macro model calculations for infiltration or other LID design techniques that are included in the proposed site drainage system design. To be conservative, the drainage model treats all pavement types as impervious. The actual peak rates of runoff generated for all storm events will therefore be actually less than projected in the macro model results.
- The purpose of incorporating infiltrator systems in the site stormwater management design was to provide the opportunity for groundwater recharge to the extent possible. Since the existing soils are mixture of B and C horizons, it appears that this is a prudent design approach. The infiltrator systems combined with the bio-retention basins provide sufficient volume for WQV and GRV as defined by the CTDEEP.
- Based on the field testing recently conducted, it appears that extended period of high groundwater is not a concern where the system units are proposed. In general, permeability rates are more than sufficient throughout the first 3-5 feet of soil and there is no true hardpan cutoff layer of soil but a somewhat compact, complex C horizon comprised of coarse gravelly and sandy loams starting at about 3 feet below existing surface and continuing down to 7-8 feet. Except for one location downstream of Test Pit #1, no ledge was detected in the deep test pits conducted. Given the size of the excavator used for the testing, it was not possible to determine if this was ledge refusal or just a local heavy concentration of compacted very boney material.
- In addition to the infiltration flow from the units to the surrounding soils, the outlets from the systems are regulated by a weir placed in the outlet control structures which is set to allow the units to drain completely between storm events.
- Generally speaking, the GW elevations in developed areas will drop below their historic levels due to cut-off of surface recharge to the underlying groundwater table.
- Below is a summary of the assumed design parameters for placement of the seven (7) infiltrator unit systems.

<u>System #</u>	<u>Average Existing Grade</u>	<u>Assumed GW Elev. (1)</u>	<u>Observed Seepage (1)</u>	<u>Bottom of Units</u>	<u>Avg. Perm Rate (2)</u>
VIII-A	565.0	5.0	8.0	560.0	8.8
II-A	565.5	3.6 (3)	5.0	562.0	6.1
IV-A	553.5	3.0	4.0	552.0	15.6
VI-A	555.0	4.0	n/a	550.0	5.0
VII-A	551.0	4.0	n/a	548.0	9.5
X-A	558.5	3.0	5.5	556.0	6.3
IX-A	553.0	3.0	5.1	551.67	4.5

(1) Based on an interpretation of the data recorded for observed faint to darker mottling, indications of any seepage in the deep hole tests and general field observations.

(2) Feet./Day

(3) Underdrain provided upstream of system to reduce GW below 561.0.

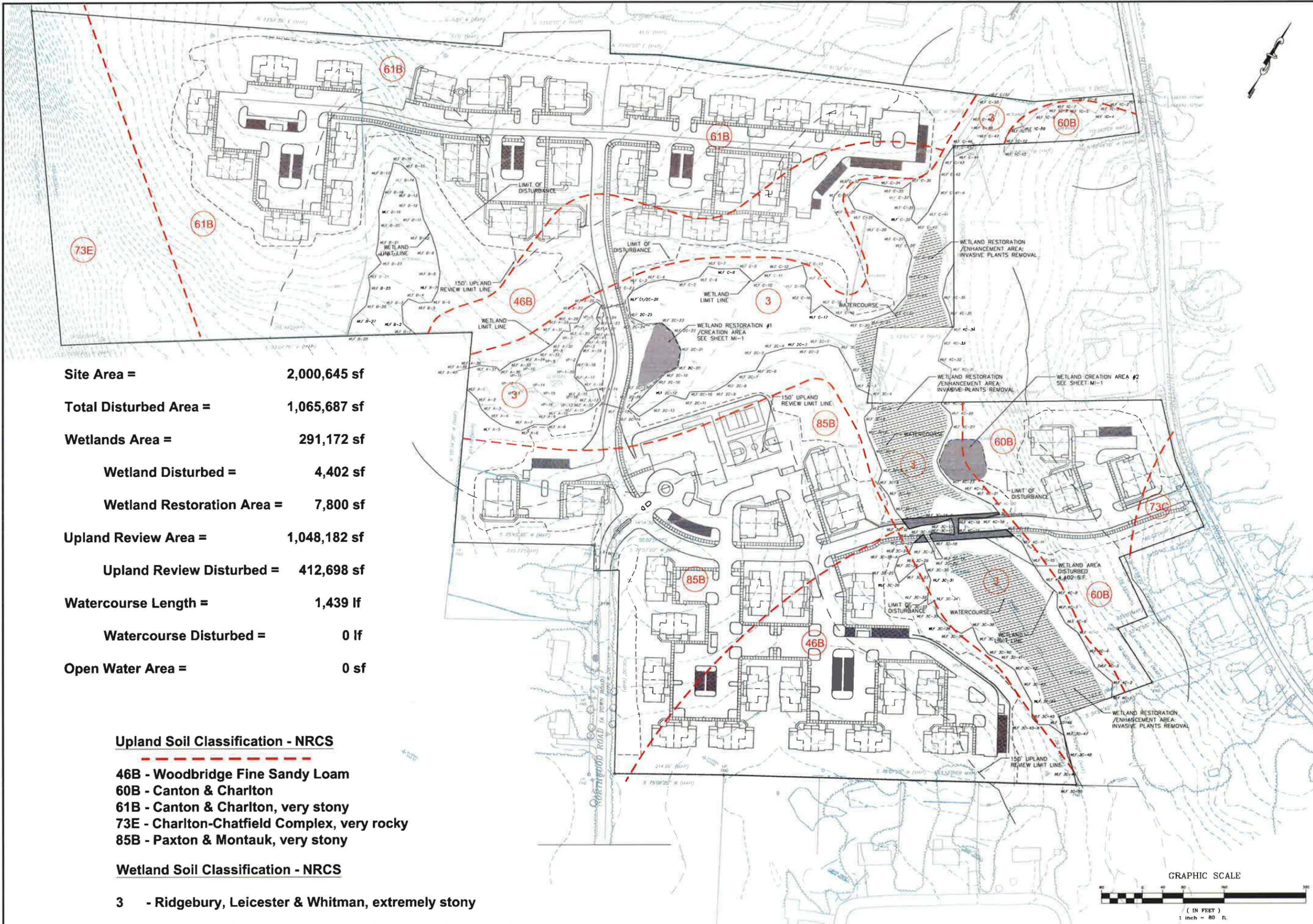
**Site Area = 2,000,645 sf**  
**Total Disturbed Area = 1,065,687 sf**  
**Wetlands Area = 291,172 sf**  
**Wetland Disturbed = 4,402 sf**  
**Wetland Restoration Area = 7,800 sf**  
**Upland Review Area = 1,048,182 sf**  
**Upland Review Disturbed = 412,698 sf**  
**Watercourse Length = 1,439 lf**  
**Watercourse Disturbed = 0 lf**  
**Open Water Area = 0 sf**

**Upland Soil Classification - NRCS**

- 46B - Woodbridge Fine Sandy Loam
- 60B - Canton & Charlton
- 61B - Canton & Charlton, very stony
- 73E - Charlton-Chatfield Complex, very rocky
- 85B - Paxton & Montauk, very stony

**Wetland Soil Classification - NRCS**

- 3 - Ridgebury, Leicester & Whitman, extremely stony



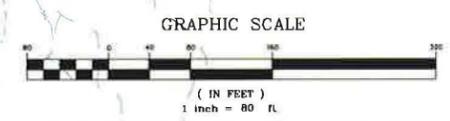
**THE LODGES AT STORRS**

**FAH** F. A. Hesketh & Associates, Inc.  
 6 Creamery Brook, East Granby, CT 06026  
 Civil & Traffic Engineers • Surveyors • Planners • Landscape Architects  
 Phone (860) 658-8000  
 Fax (860) 844-8600  
 e-mail: fah@fahct.com

No.	Date	Description
1	06-10-2016	Town Comments
2	08-30-2016	Add Wetland Soil Types

INLAND WETLANDS PLAN  
 PREPARED FOR  
**STORRS LODGES, LLC**  
 HUNTING LODGE ROAD  
 MANSFIELD, CONNECTICUT  
 Date: 03-18-16 Drawn by: CAD Job no: 04161  
 Scale: 1" = 80' Checked by: DSZ Sheet no: 1 OF 1  
 D:\0304\04161\0304-05-31-16\Comments\0304-02.dwg: W-1 (revised), Aug. 26, 2016 - 11:21:38 AM

**IW-1**



FILE

## LETTER OF TRANSMITTAL

TO: *MANSHFIELD RAMMIM DEPT*

DATE: 11/30/2015

OFFICE JOB FILE NO: *04161*

PROJECT NAME: *HUNTING LODGE ROAD*

ATTN:

PROJECT LOCATION:

WE ARE SENDING YOU HEREWITH:

NO OF COPIES	ITEM TITLE	MADE BY	ORIGINALS	PAPER PRINTS	MYLAR COPY	OTHER	REMARKS
<i>15</i>	<i>CUSTOMER &amp; FIELD LOCATION MAPS / PS-1</i>			<i>X</i>			<i>FULL SIZE</i>
<i>2</i>	<i>SURVEY MAP PS-1</i>			<i>X</i>			<i>FULL SIZE</i>
<i>15</i>	<i>" " "</i>			<i>X</i>			<i>11X17</i>
<i>15</i>							
<i>15</i>	<i>WETLANDS REPORT</i>			<i>X</i>			<i>DATED 11/25/15</i>
<i>1</i>	<i>COMPLETED APPLICATION</i>		<i>X</i>				
<i>1</i>	<i>CHECK &amp; FWD</i>		<i>X</i>				

**COMMENTS:**

*FOR WETLANDS BOUNDARY  
AMENDMENT APPLICATION*

**SENT BY:**

MAIL  
SPECIAL DELIVERY  
FEDEX  
MESSENGER *DR. P - OFF*  
OTHER

C.C: *POMME PLACE LLC*

F. A. Hesketh & Associates, Inc.

By:

IF ENCLOSURES LISTED ABOVE ARE NOT RECEIVED KINDLY NOTIFY AT ONCE

File # \_\_\_\_\_  
Fee Paid \_\_\_\_\_  
Date Submitted \_\_\_\_\_



# Mansfield Inland Wetlands Agency

## Application to Change or Amend the Inland Wetlands and Watercourses Map, Mansfield, Connecticut

Pursuant to Section 122-12 of the Mansfield Inland Wetlands and Watercourses Regulations, all petitions to amend the Inland Wetlands and Watercourses Regulations shall be subject to a public hearing and payment of the fee (\$300). Any person who submits a petition to amend the Mansfield Inland Wetlands and Watercourses Map, shall bear the burden of proof for all requested map amendments. The Fee Schedule established in Article V, Chapter 122, Section 122-12 of the Mansfield Code of Ordinances, authorizes the Agency to hire independent consultants at the expense of the applicant when the Agency deems it necessary to do so.

1. Applicant's Name PONDE PLACE LLC  
 Address 30 ONSET CROSSING SUITE 600 SIMSBURY, CT 06070  
 Phone Number 860-217-1700 email tory@thekeystonecompanies.com
2. Applicant's interest in the property: Owner Lessee Optionee Other
3. Property Owner(s)' Name SAME AS APPLICANT  
 Address \_\_\_\_\_  
 Phone Number \_\_\_\_\_ email \_\_\_\_\_
4. Location of Property (include street address) and Tax Parcel Id (Map, Block, Lot):  
HUNTING LODGE ROAD PARCEL ID 15.21.3
5. Reason for the requested action:  
AMEND TOWN OFFICIAL WETLAND & WATERCOURSES MAP

### The following must be submitted as part of this petition:

- The wetlands and watercourses from the Official Map
- The proposed amendment
- Documentation by a certified soils scientist of the distribution and types of wetland soils and watercourses on subject property. (Please include the Soil Scientist's Certification)
- A Map certified by a Connecticut Licensed Land Surveyor and the Soil Scientist indicating the watercourses and flag locations set by the soil scientist defining the boundaries of wetland soil types
- Map(s) indicating any proposed development of the land in relation to existing and proposed wetland and watercourse boundaries.

In addition, please provide the following information:

- Total Area of Wetlands on property from Official Map: 15.29 Ac / 666,232 S.F. (Ac/SF)
- Total Length of Watercourse from Official Map: 0 (LF)
- Total Area of Wetlands as Flagged by Soil Scientist: 6.68 Ac / 291,172 S.F. (Ac/SF)
- Total Area of <sup>OPEN WATER BODY</sup> Wetlands as Flagged by Soil Scientist: 0 (Ac/SF)
- Total Length of Watercourse as determined by Survey: 1,439 L.F. (LF)
- Total Area of Open Water as determined by Survey: 0 (Ac/SF)
- Wetland Net Change (exclude wetland to open water): -8.61 Ac / -375,060 S.F. (Ac/SF)
- Watercourse Length Net Change: ADD 1,439 L.F. (LF)
- Open Water Area Net Change: 0 (Ac/SF)
- Total Land Area of the Property: 45.93 Ac / 2,000,645 S.F. (Ac/SF)

**Certification**

I hereby certify that:

- I am familiar with the information contained in this form and that such information is true and correct to the best of my knowledge.
- I understand the penalties for obtaining a permit through deception or through inaccurate or misleading information.

Anthony George  
Signature

11-30-15  
Date

**Authorization to Enter Property**

The undersigned hereby consent to necessary and proper inspections of the above-mentioned property by members and agents of the Inland Wetlands Agency at reasonable times, both before and after the permit in question has been issued by the Agency.

Anthony George  
Signature

11-30-15  
Date

Property Details

Number of records found: 1

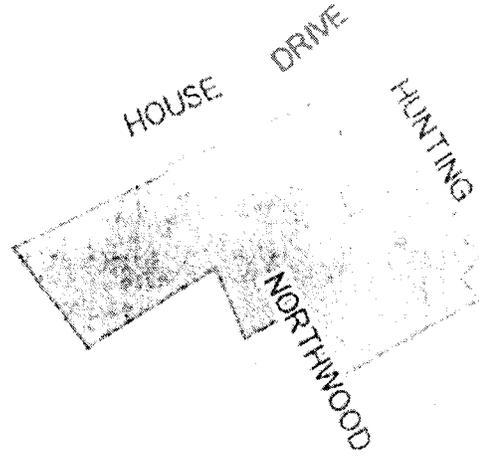
One record is displayed for each address found at the selected property. Multiple addresses may occur in the case of condominiums.

HUNTING LODGE RD  
00 15 21 3

[View Property Record Card](#)

PARCEL ID: 15 21 3  
LOCATION: HUNTING LODGE RD  
LAST SALE DATE: 2013-07-15  
CO-OWNER  
MAILING ADDRESS LINE 2  
MAILING ADDRESS CITY: SIMSBURY  
MAILING ADDRESS ZIP: 06070  
ROOF STRUCTURE:  
HEAT TYPE:  
BUILDING STYLE:  
LANDUSE DESCRIPTION: Res. Vacant Land  
NEIGHBORHOOD:  
LAND ASSESSMENT: 78800  
EXTRA FEATURES ASSESSMENT: 0  
BODY RATE: 780/405  
APPROXIMATE YEAR BUILT: 1900  
NUMBER OF ROOMS:  
NUMBER FULL BATHS:  
BUILDING AREA EFFECTIVE: 0

ACCOUNT NUMBER: 15 21 3  
LAND AREA: 48.9  
OWNER: PONDE PLACE LLC  
MAILING ADDRESS LINE 1: 38 DORSET CROSSING DR STE 500  
MAILING ADDRESS LINE 3:  
MAILING ADDRESS STATE: CT  
MAILING ADDRESS COUNTRY:  
ROOF COVERING:  
HEAT FUEL:  
LANDUSE CODE: 500  
ZONING: RAR00  
BUILDING ASSESSMENT: 0  
OTHER BUILDING ASSESSMENT: 0  
TOTAL ASSESSMENT: 78800  
LAST SALE VALUE: 0  
NUMBER OF STORIES:  
NUMBER OF BEDROOMS:  
NUMBER OF HALF BATHS:  
BUILDING AREA GROSS: 0



Owner: PONDE PLACE LLC  
Co-Owner:  
Address: 30 DORSSET CROSSING DR STE 800  
IMSBURY CT 06070

Assessment: Total: 78800  
Building: 0 Land: 78800 Yard: 0

Alias History

<u>Grantor</u>	<u>Book / Page</u>	<u>Sale Date</u>	<u>Sale Price</u>
ASPORTAS ABRAHAM EST ET AL	300/ 192	1990-08-22	
REFERENCE	370/ 413	1996-03-06	
EYSTONE COMPANIES LLC THE	563/ 91	2004-12-01	300000
PONDE PLACE LLC	720/ 296	2012-01-30	
	753/ 405	2013-07-15	



PO

EAGLEVILLE

Additional Information  
Land Area: 45.9 AC Zoning: RAR90  
Land Use: 500 - Res. Vacant Land  
Neighborhood:

Building Information

Style:  
Year Built: 1900  
Rooms, Bedrooms:  
Baths, Half Baths:  
Living Area:  
Gross Area:

Stories

Heat Fuel:  
Heat Type:  
AC Type:  
Roof Structure:  
Roof Covering:

Extra Features

<u>Description</u>	<u>Area / Units</u>	<u>Assessment</u>
<u>Sub Areas</u>		
<u>Description</u>	<u>Living Area</u>	<u>Gross Area</u>

THE KEYSTONE COMPANIES LLC

OPERATING ACCOUNT  
20 DORSET KING STE 600  
SIMSBURY CT 06070-1470

UNITED BANK  
61-7031-2111

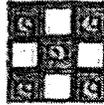
11/30/2015

PAY TO THE ORDER OF Town of Mansfield

\$\*\*500.00

Five Hundred and 00/100\*\*\*\*\* DOLLARS

Town of Mansfield



MEMO

wetlands application - Ponde Place

AUTORIZED SIGNATURE

⑈001016⑈ ⑆211170318⑆ 40000404837⑈

THE KEYSTONE COMPANIES LLC

Town of Mansfield

11/30/2015

1016

500.00

Cash - United checkin wetlands application - Ponde Place

500.00

THE KEYSTONE COMPANIES LLC

Town of Mansfield

11/30/2015

1016

500.00

Cash - United checkin wetlands application - Ponde Place

500.00

REPORT DATE: November 25, 2015PAGE 1 OF 3

REMA ECOLOGICAL SERVICES, LLC

164 East Center Street, Suite 8  
Manchester, CT 06040

860.649.REMA (7362)

ON-SITE SOIL INVESTIGATION & WETLAND DELINEATION REPORT

## PROJECT NAME &amp; SITE LOCATION:

+/- 45.93 acresHunting Lodge RoadMansfield, CTREMA Job No.: 15-1860-MNS18Field Investigation Date(s): 10/1, 10/9, 10/10/2015

Field Investigation Method(s):

 Spade and Auger Backhoe Test Pits Other: \_\_\_\_\_

## REPORT PREPARED FOR:

EdR999 South Shady Grove RoadSuite 600Memphis, TN 38120

## Field Conditions:

Weather: Mostly sunny to cloudy, 50s to 70sSoil Moisture: Low-moderateSnow Depth: noneFrost Depth: none

## Purpose of Investigation:

- Wetland Delineation/Flagging in Field  
 Wetland Mapping on Sketch Plan or Topographic Plan  
 High Intensity Soil Mapping by Soil Scientist  
 Medium Intensity Soil Mapping from *The Soil Survey of Connecticut Maps* (USDA-NRCS)  
 Other: \_\_\_\_\_

Base Map Source: CT Soil Survey web (USDA-NRCS) Figure A(attached)Wetland Boundary Marker Series: RES-A-1 to RES-A-40 (open line), RES-B-1 to RES-B-28 (open line), RES-C-1 to RES-C-51 tied to RES-2C-1 to RES-2C-28 tied to RES-3C-1 to 3C-50, RES-1C-1 to RES-1C-13, and RES-4C-1 to RES-4C-36 (all open lines)

General Site Description/Comments: The "study area" or "site" is a roughly 49.93-acre, residentially-zoned parcel, westerly of Hunting Lodge Road, and northerly, easterly, and westerly of the northern terminus of Northwood Road, in Mansfield, CT. The site is predominately wooded and undisturbed, except for historic disturbances associated with filling just northerly of the terminus of Northwood Road, and with a crossing over the site's eastern wetland corridor and stream to connect Hunting Lodge Road with Northwood Road. The soils within the study area are both disturbed and undisturbed in nature, and are derived from glacial till (i.e. unstratified sand, silt & rock), both with and without a hardpan, and with rocky/sandy fill in the areas noted. The disturbed upland soils are identified as the Udorthents (306) soil mapping unit. The undisturbed upland soils are the well drained Paxton and Montauk (85), Canton and Chariton (60), and Chariton and Chatfield (73) soil series complexes, and the moderately well drained Woodbridge (46) soil series, while the undisturbed wetland soils belong to the poorly and very poorly drained Ridgebury, Leicester, and Whitman (3) soil series complex. The site's regulated wetland areas include a seasonally saturated to seasonally flooded eastern forested corridor associated with an intermittent stream, tributary to Eagleville Brook, and western forested wetlands, including a hillside seep and vernal pool habitat, that drain westerly to Cedar Swamp Brook. All of the forested wetlands are red-maple dominated swamps, with typical understory species (e.g. spicebush, highbush blueberry). However, the eastern forested wetland understory is dominated by Japanese barberry, and invasive shrub.

ON-SITE SOIL INVESTIGATION & WETLAND DELINEATION REPORT (CONTINUED)

PROJECT NAME & SITE LOCATION: +/- 45.93 acres  
Hunting Lodge Road, Mansfield, CT

SOIL MAP UNITSUpland Soils

**Montauk loam (85).** This series consists of very deep, well drained soils formed in till derived primarily from granitic materials. These soils are on upland till plains and moraines. Slope ranges from 0 to 35 percent. Saturated hydraulic conductivity is moderately high or high in the solum and low to moderately high in the substratum. Mean annual temperature is about 49 degrees F, and mean annual precipitation is about 45 inches. Thickness of the solum and depth to the firm till substratum typically ranges from 20 to 38 inches but the range currently includes 18 to 38. Rock fragments range from 3 to 35 percent in the solum and 5 to 50 percent in the C horizon. The soil ranges from extremely acid to moderately acid throughout.

**Paxton fine sandy loam (85).** This series consists of deep, well drained soils formed in a coarse-loamy mantle underlain by firm, compact glacial till on uplands. They are nearly level to very steep soils on till plains, low ridges and drumoidal landforms. The soils formed in acid glacial till derived mainly from schist, gneiss or granite. In tilled areas, these soils have a dark brown fine sandy loam surface layer 8 inches thick. The subsoil from 8 to 26 inches is dark yellowish brown and olive brown fine sandy loam. The substratum from 26 to 60 inches is olive, very firm and brittle gravelly fine sandy loam.

**Udorthents (306).** This soil mapping unit consists of well drained to moderately well drained soils that have been altered by cutting, filling, or grading. The areas either have had two feet or more of the upper part of the original soil removed or have more than two feet of fill material on top of the original soil. Udorthents or Made Land soils can be found on any soil parent material but are typically fluvial on glacial till plains and outwash plains and stream terraces.

**Woodbridge fine sandy loam (46).** This series consists of deep, moderately well drained soils formed in a coarse-loamy mantle underlain by firm, compact glacial till on uplands. They are nearly level to moderately steep soils on till plains, low ridges and drumoidal landforms. The soils formed in acid glacial till derived mainly from schist, gneiss or granite. In tilled areas, these soils typically have a very dark grayish brown fine sandy loam surface layer 7 inches thick. The subsoil from 7 to 30 inches is dark yellowish brown and light olive brown fine sandy loam, mottled below 18 inches. The substratum from 30 to 60 inches is light olive brown, very firm and brittle gravelly fine sandy loam.

**Charlton very stony fine sandy loam (73).** This series consists of very deep, well drained coarse-loamy soils formed in friable, glacial till on uplands. They are nearly level to very steep soils on till plains and hills. The soils formed in acid glacial till derived mainly from schist, gneiss or granite. In tilled areas, these soils have a surface layer of dark brown fine sandy loam 8 inches thick. The subsoil from 8 to 26 inches is yellowish brown fine sandy loam and sandy loam. The substratum from 26 to 60 inches or more is grayish brown gravelly fine sandy loam.

**Chatfield loam (73).** This series consists of moderately deep, well drained, and somewhat excessively drained soils formed in till. They are nearly level to very steep soils on glaciated plains, hills, and ridges. Slope ranges from 0 to 70 percent. Crystalline bedrock is at depths of 20 to 40 inches. Permeability is moderate or moderately rapid. In tilled areas, these soils have a surface layer that is very dark to dark grayish brown loam up to 8 inches thick. The subsoil from 8 to 26 inches is brown, flaggy silt loam.

**Canton stony fine sandy loam (61).** This series consists of deep, well drained soils formed in a coarse-loamy mantle underlain by sandy glacial till on uplands. They are nearly level to very steep soils on till plains and hills. The soils formed in acid glacial till derived mainly from schist, gneiss or granite. Typically, these soils have a surface layer of very dark grayish brown fine sandy loam 2 inches thick. The subsoil from 2 to 23 inches is yellowish brown fine sandy loam, gravelly fine sandy loam and gravelly sandy loam. The substratum from 23 to 60 inches is pale brown gravelly loamy sand.

**ON-SITE SOIL INVESTIGATION & WETLAND DELINEATION REPORT (CONTINUED)**

**PROJECT NAME & SITE LOCATION:** +/- 45.93 acres  
Hunting Lodge Road, Mansfield, CT

**SOIL MAP UNITS****Wetland Soils**

**Ridgebury fine sandy loam (3).** This soil series consists of deep, poorly and somewhat poorly drained soils formed in a coarse-loamy mantle underlain by firm, compact glacial till on uplands. They are nearly level to moderately steep soils on till plains, low ridges and drumloidal landforms. The soils formed in acid glacial till derived mainly from schist, gneiss or granite. Typically these soils have a black sandy loam surface layer 6 inches thick. The mottled subsoil from 6 to 16 inches is olive gray sandy loam. The mottled substratum from 16 to 60 inches is a light olive brown and olive, very firm and brittle gravelly sandy loam.

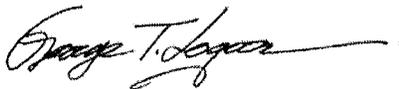
**Leicester fine sandy loam (3).** This series, which in some Connecticut counties is found only in complex with the Ridgebury and Whitman series, consists of deep, poorly drained loamy soils formed in friable glacial till on uplands. They are nearly level to gently sloping soils in drainage ways and low lying positions on till covered uplands. The soils formed in acid glacial till derived mainly from schist, gneiss or granite. Typically, these soils have a surface layer of black fine sandy loam 6 inches thick. The subsoil from 6 to 23 inches is grayish brown, mottled fine sandy loam. The substratum from 26 to 60 inches or more is dark yellowish brown, mottled, friable, gravelly fine sandy loam.

**Whitman fine sandy loam (3).** This series, which in some Connecticut counties is only mapped in complex with the Ridgebury and Leicester series, consists of deep, very poorly drained soils formed in a coarse-loamy mantle underlain by firm, compact glacial till on uplands. They are nearly level and gently sloping soils on till plains, low ridges and drumloidal landforms. The soils formed in acid glacial till derived mainly from schist, gneiss or granite. Typically these soils have a black fine sandy loam surface layer 8 inches thick. The mottled subsoil from 8 to 15 inches is gray sandy loam. The mottled substratum from 15 to 60 inches is firm, olive gray to gray dense glacial till.

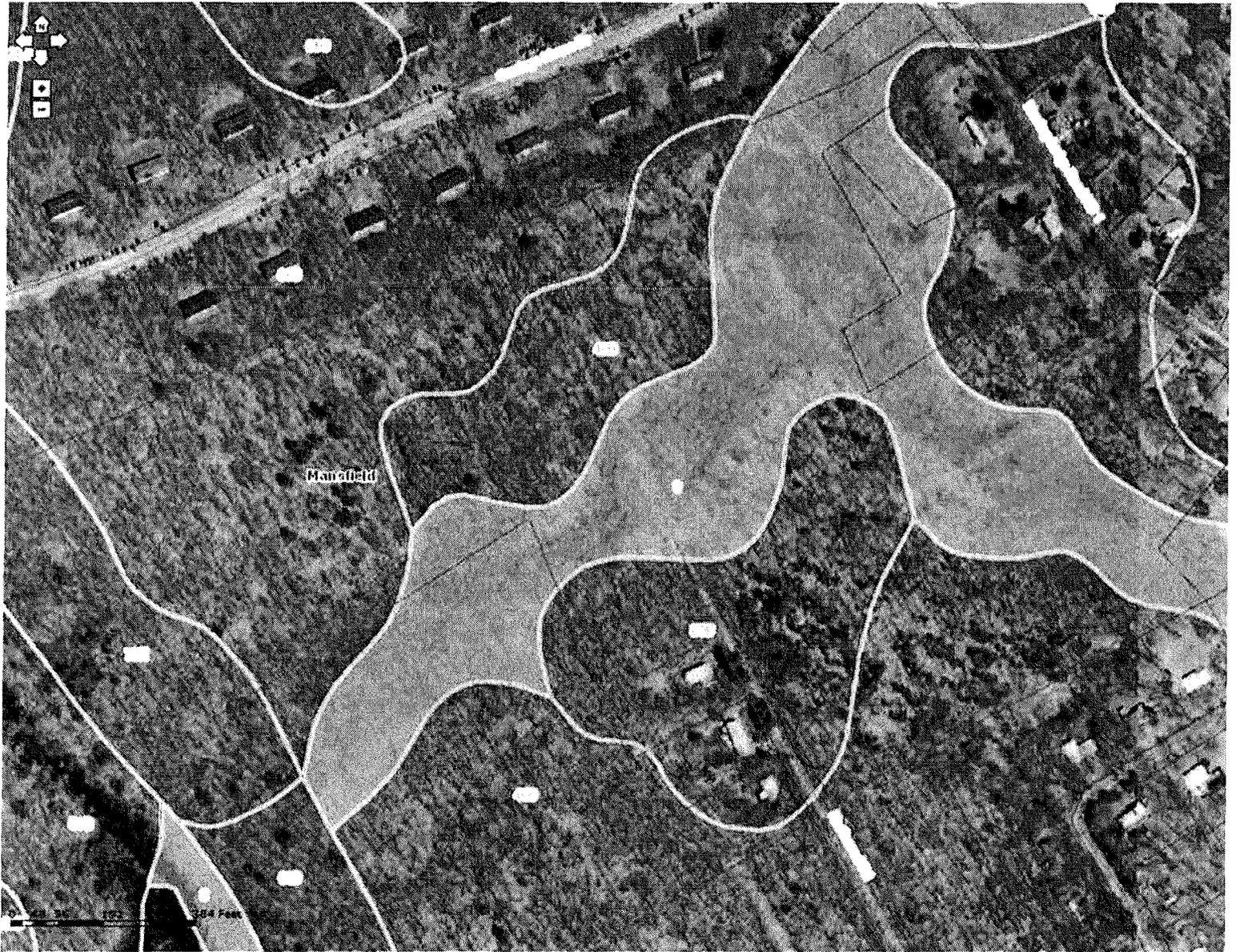
Any accompanying soil logs and soil maps, and the on-site soil investigation narrative are in accordance with the taxonomic classification of the National Cooperative Soil Survey of the USDA Natural Resource Conservation Service, and with the Connecticut Soil Legend (DEP Bulletin No.5, 1983), as amended by USDA-NRCS. Jurisdictional wetland boundaries were delineated pursuant to the Connecticut General Statutes (CGS Sections 22a-36 to 22a-45), as amended. The site investigation was conducted and/or reviewed by the undersigned Registered Soil Scientist(s) [registered with the Society of Soil Scientists of Southern New England (SSSSNE) in accordance with the standards of the Federal Office of Personnel Management].

Respectfully submitted,

**REMA ECOLOGICAL SERVICES, LLC**



George T. Logan, MS, PWS, CSE  
Registered Soil Scientist, Professional Wetland Scientist  
Field Investigator/Senior Reviewer

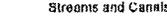
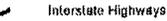
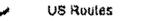
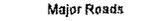
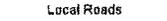
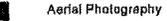


Soil Map—State of Connecticut  
 (Proposed Storrs Lodges, Hunting Lodge Road, Mansfield, CT)



Soil Map—State of Connecticut  
(Proposed Storrs Lodges, Hunting Lodge Road, Mansfield, CT)

**MAP LEGEND**

<b>Area of Interest (AOI)</b>		 Spoil Area
 Area of Interest (AOI)		 Stony Spot
<b>Soils</b>		 Very Stony Spot
 Soil Map Unit Polygons		 Wet Spot
 Soil Map Unit Lines		 Other
 Soil Map Unit Points		 Special Line Features
<b>Special Point Features</b>		<b>Water Features</b>
 Blowout		 Streams and Canals
 Borrow Pit		<b>Transportation</b>
 Clay Spot		 Rails
 Closed Depression		 Interstate Highways
 Gravel Pit		 US Routes
 Gravelly Spot		 Major Roads
 Landfill		 Local Roads
 Lava Flow		<b>Background</b>
 Marsh or swamp		 Aerial Photography
 Mine or Quarry		
 Miscellaneous Water		
 Perennial Water		
 Rock Outcrop		
 Saline Spot		
 Sandy Spot		
 Severely Eroded Spot		
 Sinkhole		
 Slide or Slip		
 Sodic Spot		

**MAP INFORMATION**

The soil surveys that comprise your AOI were mapped at 1:12,000. Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut  
Survey Area Data: Version 14, Sep 22, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 28, 2011—May 12, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

State of Connecticut (CT600)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
3	Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony	46.6	14.4%
29A	Agawam fine sandy loam, 0 to 3 percent slopes	2.2	0.7%
46B	Woodbridge fine sandy loam, 0 to 8 percent slopes, very stony	62.2	19.2%
51B	Sutton fine sandy loam, 2 to 8 percent slopes, very stony	17.9	5.5%
60B	Canton and Charlton soils, 3 to 8 percent slopes	18.0	5.6%
60C	Canton and Charlton soils, 8 to 15 percent slopes	4.1	1.3%
61B	Canton and Charlton soils, 3 to 8 percent slopes, very stony	58.0	17.9%
61C	Canton and Charlton soils, 8 to 15 percent slopes, very stony	25.2	7.8%
62C	Canton and Charlton soils, 3 to 15 percent slopes, extremely stony	7.3	2.2%
62D	Canton and Charlton soils, 15 to 35 percent slopes, extremely stony	28.2	8.7%
73C	Charlton-Chatfield complex, 3 to 15 percent slopes, very rocky	24.0	7.4%
73E	Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky	10.5	3.2%
84B	Paxton and Montauk fine sandy loams, 3 to 8 percent slopes	5.3	1.7%
84C	Paxton and Montauk fine sandy loams, 8 to 15 percent slopes	0.9	0.3%
85B	Paxton and Montauk fine sandy loams, 3 to 8 percent slopes, very stony	9.2	2.9%
85C	Paxton and Montauk fine sandy loams, 8 to 15 percent slopes, very stony	0.1	0.0%
302	Dumps	2.1	0.7%
W	Water	1.8	0.5%
<b>Totals for Area of Interest</b>		<b>323.5</b>	<b>100.0%</b>

# MANSFIELD INLAND WETLAND AGENCY

## ABUTTER NOTIFICATION FORM

to be sent by Certified Mail

<http://www.usps.com/send/waystosendmail/extraservices/certifiedmailservice.htm>

Pursuant to Mansfield's Inland Wetland Agency notification requirements, abutting property owners are hereby notified of a wetland application pending before the Inland Wetland Agency. The complete file for this application is available for review in the Planning Office. Questions regarding the application or application review process may be addressed by calling the Planning Office at (860) 429-3330 or emailing at [www.PlanZoneDept@mansfieldct.org](mailto:www.PlanZoneDept@mansfieldct.org)

**I. Public Hearing/Meeting Dates:**

December 7, 2015

Date/Time of Next Scheduled Meeting

At the above listed scheduled meeting date the Wetland application will be received by the Agency. No presentation by the applicant will be given at this meeting. Public comment (written or verbal) is encouraged to be presented at the next regularly scheduled meeting. For more details (date and time) of the next meeting, please contact the Planning Office at (860)429-3330.

**II. Location of Proposal:** Hunting Lodge Road

**III. Applicant:** Ponde Place LLC

**IV. Owner:** Ponde Place LLC

**V. Proposed Use:** Wetland Map Amendment Application  
(Statement of Use/Statement of Justification to be attached)

**VI. Map:** (Attach 8 1/2x11" or 11x17" map depicting proposal)

\*Notices are to be sent within 7 (seven) days of the receipt of the application by the office staff. To verify that Notice requirements have been met, applicants are required to submit Certified Mailing receipts and one copy of information mailed to property owners to the Planning Office. Failure to meet Notice requirements or to submit return receipts to the Planning Office promptly may necessitate application processing delays.

✓ Parcel ID: 8.23.15  
 UCONN/CELERON SQ ASSOC LLC  
 C/O FLAGSHIP MGT SERVICES INC  
 55 ERIEVIEW PLAZA  
 CLEVELAND OH 44114-1816

✓ Parcel ID: 8.23.16.2  
 UCONN/CELERON SQ ASSOC LLC  
 C/O FLAGSHIP MGT SERVICES INC  
 55 ERIEVIEW PLAZA  
 CLEVELAND OH 44114

✓ Parcel ID: 15.21.UC1036  
 UNIVERSITY OF CONNECTICUT  
 NORTHWOOD APTS BLDG #1636  
 U BOX 3036 FACILITIES MGMT  
 STORRS CT 06269

✓ Parcel ID: 15.23.1  
 GIANOPOULOS GEORGE A  
 2930 SAGEBRUSH DR  
 FORT COLLINS CO 80525

✓ Parcel ID: 15.23.2  
 TAVAR THOMAS A  
 23 OLD FARM HILL RD  
 NEWTOWN CT 06470

✓ Parcel ID: 15.23.3  
 COLES MARTY L  
 4 MIDDLE BUTCHER RD  
 ELLINGTON CT 06029

✓ Parcel ID: 15.23.4  
 GAGEONEA RADU & MARIA E  
 253 HUNTING LODGE RD  
 STORRS MANSFIELD CT 06269

Parcel ID: 14.21.2  
 UNIVERSITY OF CONNECTICUT  
 NORTHWOOD APARTMENTS  
 STORRS CT 06269

✓ Parcel ID: 15.21.1  
 BEHESHTI MORTEZA  
 61 BIRCHWOOD HIGHTS  
 STORRS CT 06268

✓ Parcel ID: 15.21.2  
 UNITED SOCIAL & MENTAL HEALTH  
 RESOURCES INC  
 PO BOX 839  
 DAYVILLE CT 06241

✓ Parcel ID: 15.21.3  
 PONDE PLACE LLC  
 30 DORSET CROSSING DR STE 600  
 SIMSBURY CT 06070

✓ Parcel ID: 15.21.4  
 COOPER ROBERT L  
 135 HUNTING LODGE RD  
 STORRS CT 06268

✓ Parcel ID: 15.21.6  
 HIRSCH WALTER A  
 132 HUNTING LODGE RD  
 STORRS CT 06268

✓ Parcel ID: 15.21.23  
 MENDOZA, MARTIN &  
 MENDOZA, VERONICA BARCELONA DE  
 38 MEADOWOOD RD  
 MANSFIELD CT 06268

✓ Parcel ID: 15.21.25  
 COWLES RICHARD S &  
 COWLES ELIZABETH A  
 60 MEADOWOOD ROAD  
 STORRS CT 06268

✓ Parcel ID: 15.21.27  
 MILLER ELIZABETH L EST OF  
 MILLER JOHN K EXECUTOR  
 3 WOODLEDGE DR  
 EAST GRANBY CT 06026

✓ Parcel ID: 15.21.36  
 HILDITCH MARCUS M  
 55 NORTHWOOD RD  
 STORRS CT 06268

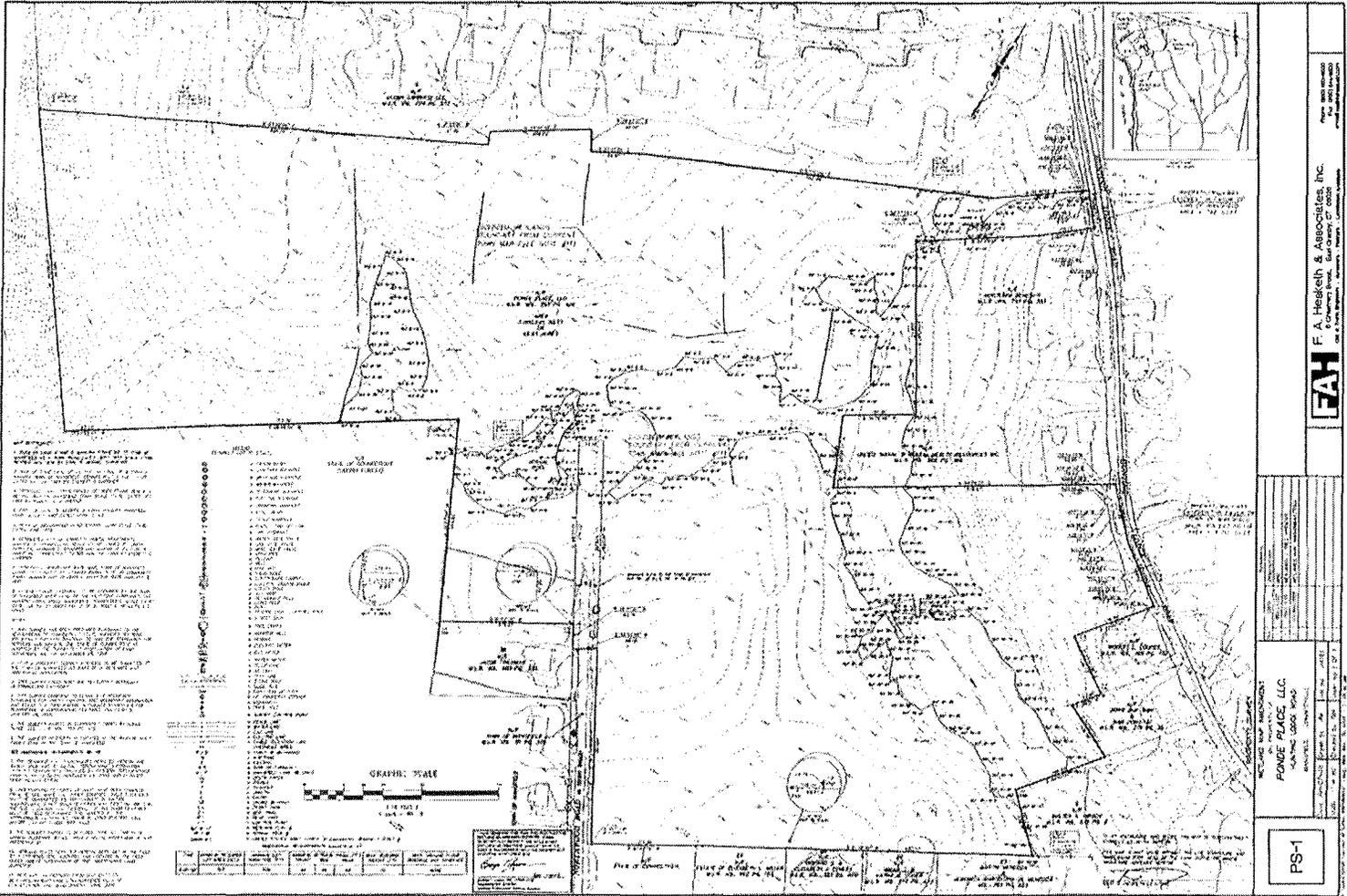
✓ Parcel ID: 15.21.37  
 SIMS BEVERLY P  
 61 NORTHWOOD RD  
 STORRS CT 06268

✓ Parcel ID: 15.21.38  
 FRIEDMAN JACOB  
 65 NORTHWOOD ROAD  
 STORRS CT 06268

✓ Parcel ID: 8.21.5  
 UCONN CARRIAGE LLC  
 300 SOUTH OLD WOODWARD  
 BIRMINGHAM MI 48009

✓ Parcel ID: 15.21.5  
 SHIN DONG GUK &  
 SHIN DONG-JU  
 37 MAXFELIX DR  
 STORRS CT 06268

✓ Parcel ID: 15.21.24  
 USHER BRIAN J & KATHY M  
 44 MEADOWOOD RD  
 STORRS CT 06268



**FAH** F. A. Heisketh & Associates, Inc.  
 Surveyors  
 14000 WOOD ROAD  
 MAYFIELD, OHIO 44130  
 (440) 933-1111

PS-1

Minutes  
Mansfield Inland Wetlands Agency  
Regular Meeting  
Monday, December 7, 2015  
Council Chambers, Audrey P. Beck Municipal Building

Members present: C. Ausburger, B. Chandy, J. Goodwin, R. Hall, G. Lewis (arrived at 7:02 p.m.), K. Rawn, B. Ryan, V. Ward, S. Westa

Members absent:

Alternates present: P. Aho, K. Holt

Staff present: L. Painter, Director of Planning and Development; J. Kaufman, Wetlands Agent

Chairman Goodwin called the meeting to order at 7:00 p.m. and appointed Aho to act in the absence of members.

**Review of Minutes:**

- A. 11-2-15 Regular Meeting: Hall MOVED and Ausberger seconded to approve the 11-2-15 minutes. MOTION PASSED UNANIMOUSLY. Ryan disqualified herself.
- B. 11-16-15 Special Meeting: Chandy MOVED and Ryan seconded to approve the 11-16-15 Special Meeting minutes. MOTION PASSED UNANIMOUSLY.

**Communications:**

The Conservation Committee meeting minutes and Kaufman's monthly business memo were noted.

**Public Hearing:**

- A. **W1557 – C.L. Niarhakos, 101 East Road, 3 lot re-subdivision:** Lewis arrived at 7:02 p.m.; Aho no longer seated. Ryan MOVED and Ward seconded to extend the public hearing on the 3-lot subdivision application of Christopher and Lindsey Niarhakos (File W1557), 101 East Road, Williams Heights subdivision, until January 4, 2016. MOTION PASSED UNANIMOUSLY.

**Old Business:**

- A. **W1557 – C.L. Niarhakos, 101 East Road, 3 lot re-subdivision:** Item tabled. Public hearing continued.

**New Business:**

- A. **W1559 – Storrs Lodges, LLC, Application to Amend Inland Wetlands and Watercourse Map:** Westa MOVED and Hall seconded to:

- Receive the application to change or amend the Inland Wetlands and Watercourses Map, Mansfield, CT, submitted by Storrs Lodges, LLC (IWA File #1559) under the Inland Wetlands and Watercourses Regulations of the Town of Mansfield on property located on the west side of Hunting Lodge Road (parcel ID 15.21.3) as shown on a map dated 2/5/2005 and revised through 11/30/2015 and as described in application submissions;
- Refer said application to staff and the Conservation Commission for review and comments;
- Schedule a Public Hearing for February 1, 2016; and
- Engage the services of Pietras Environmental Group, LLC., to provide independent technical peer review on the application.

Pursuant to Section 8.6 of Mansfield's Inland Wetlands and Watercourses Regulations, all fees incurred for this review will be the responsibility of the applicant. A deposit in the amount of \$1,300.00 shall be provided by the applicant prior to issuance of a notice to proceed. Any unspent funds shall be returned to the applicant.

**B. W1560 – M. Slowik, 895 Mansfield City Road, Lot Split for Single Family Dwelling:**

Kaufman clarified that the property is not located in the public water supply. Chandy MOVED and Ryan seconded to receive the application submitted by M. Slowik (IWA File #1560) under the Wetlands and Watercourses Regulations of the Town of Mansfield for single family dwelling on property located at 895 Mansfield City Road as shown on a map dated 10/23/2015 and as described in application submissions, and to refer said application to staff and the Conservation Commission for review and comments.

MOTION PASSED UNANIMOUSLY.

**C. J-5 Jurisdictional Ruling Dunham Pond Road: Kaufman corrected the motion to state**

that the subject land is owned by the Town of Mansfield. Lewis MOVED and Chandy seconded to approve a Jurisdictional Ruling finding that the removal of a root mass caused by an uprooted tree and repair of the stream channel on land owned by the Town of Mansfield (IWA File # J-5) as shown on a map dated 12/1/2015 and as described in the associated attachments is permitted as a non-regulated activity pursuant to Section 4.0 of the Inland Watercourses and Wetlands Regulations of the Town of Mansfield. MOTION PASSED UNANIMOUSLY.

**Reports from Officers and Committees:**

A Field Trip to 895 Mansfield City Road was scheduled for 3:00 p.m. 12-16-2015. Inasmuch as the Storrs Lodges, LLC application, on Hunting Lodge Road is a map amendment request, and not a specific application for a project, no field trip is scheduled at this time.

**Other Communications:**

Chair called the Agency's attention to the CACIWC communications, stating they provided a good summary of Agency approval parameters and suggested the members review the material.

**Adjournment:**

Chairman Goodwin declared the meeting adjourned at 7:13 p.m.

Respectfully submitted,

Vera S. Ward, Secretary

04161

**MEETING NOTICE AND AGENDA  
MANSFIELD INLAND WETLANDS AGENCY**

**Monday, January 4, 2016 ■ 6:30 PM**

Audrey P. Beck Municipal Building ■ 4 South Eagleville Road ■ Council Chambers

- 1. Call to Order**
- 2. Roll Call**
- 3. Review of Minutes**
  - a. 12/07/2015
  - b. 12/16/2015 – Special Meeting Field Trip
- 4. Communications**
  - a. Conservation Commission Minutes
  - b. Monthly Business Memorandum
- 5. Public Hearing**
  - a. **W1557 – C. L. Niarhakos, 101 East Road, 3 lot re- subdivision**  
Item tabled until 1/19/16.
- 6. Old Business**
  - a. **W1557 – C. L. Niarhakos, 101 East Road, 3 lot re- subdivision**  
Item tabled until 1/19/16.
  - b. **W1559 – Storrs Lodges, LLC, Hunting Lodge Road (Parcel ID 15.21.3), Application to Amend Inland Wetlands and Watercourses Map**  
Item tabled until 2/1/16
  - c. **W1560 – M. Slowik, 895 Mansfield City Road, Lot Split for Single Family Dwelling**  
Memo from Inland Wetland Agent
- 7. New Business**
- 8. Reports from Officers and Committees**
- 9. Other Communications and Bills**
  - a. Society of Soil Scientists of Southern New England
  - b. 2015 Legislation and Regulation Advisory, DEEP
  - c. Connecticut Wildlife, November/December Issue
- 10. Adjournment**

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**PIETRAS ENVIRONMENTAL GROUP, LLC**

**WETLANDS INVESTIGATION REPORT**

January 9, 2016

Town of Mansfield, ATTN: Jennifer Kaufman, Inland Wetlands Agent  
10 South Eagleville Road  
Storrs-Mansfield, CT 06268

Re: Storrs Lodges, LLC, (formerly known as Ponde Place, LLC), Hunting Lodge Road,  
Mansfield, CT  
PEG Job # 2015-189

Dear Ms. Kaufman:

In accordance with your request, I conducted a site inspection to the subject property on December 16, 2015. The purpose of the investigation was to verify the proposed wetland boundaries that were previously established by Rema Ecological Services, LLC (RES) in October 2015. An on-site investigation and wetland delineation report, dated November 25, 2015, was prepared by Mr. George T. Logan, RES Soil Scientist and Wetland Scientist. According to the report RES staff conducted site inspections to the subject property on 10/1, 10/9 & 10/10/2015. The wetland boundaries were delineated with consecutively numbered, pink and blue survey tapes. The wetland boundaries were located by survey and plotted onto a property survey map prepared by F.A. Hesketh & Associates, Inc. The survey map is entitled, "Wetland Map Amendment on Property of Ponde Place, LLC., Hunting Lodge Road, Mansfield, CT," (revision date of 11-30-2015).

During the December 16, 2015 inspection I found all of the wetland boundary flags that had been previously established by RES. On 12/16/2015 I dug test holes with a spade and auger for soils identification. Site conditions on 12/16/2015 included: partly sunny and seasonably warm with temperatures in the 50's. The entire property was inspected.

Based on my 12/16/2015 investigation I am in agreement with the wetland boundaries that were previously delineated by RES with the exception of three small areas (refer to Figure 1). I determined that additional poorly drained Ridgebury wetlands are present (1) to the east of wetland flags C-25 thru C-27, (2) to the east of wetland flags C-43 thru C-48 and (3) to the west of C1-10 thru C1-13. In addition, I observed two areas with transitional soils containing a mix of non-wetland Woodbridge and wetland Ridgebury soils. These two transitional areas are labeled with a "T" in Figure 1.

A joint site investigation was conducted on January 4, 2016. Those in attendance at the inspection were Jennifer Kaufman, Tony Giorgio, George Logan and Thomas Pietras. The three areas identified to contain additional wetlands on 12/16/2015 were investigated. Test holes were dug with spade and auger. It was jointly agreed by both Mr. Logan and Mr. Pietras that poorly drained Ridgebury wetlands are present within the three areas. On 1/4/2016 the wetland boundaries were revised in the three areas in order to include the additional wetland soils (refer to Figure 2).

15 Briarwood Lane  
Wallingford, CT 06492  
203-314-6636

EMAIL Tom@pletrasenvironmentalgroup.com  
WEB SITE pletrasenvironmentalgroup.com

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**Wetlands Investigation Report for Storrs Lodges, LLC, (formerly known as Ponde Place, LLC), Hunting Lodge Road, Mansfield, CT** page 2 of 2

The two areas containing a mix of non-wetland and wetland soils (labeled with a "T" in Figure 1) were also investigated on 1/4/2016. The soils in the two transitional areas were identified as moderately well drained Woodbridge fine sandy loam. A few test holes contained poorly drained soil profiles. However, the poorly drained soil profiles are a very small component of the Woodbridge soil mapping unit and are treated as inclusions. No additional wetlands were identified in the two transitional areas. The ground water table in the two transitional areas of Woodbridge soils was noted to be exceptionally high (within 6 to 12 inches of the soil surface). Even though the transitional areas of Woodbridge soils do not qualify as wetlands, the high water table in this area should be noted. The revised wetland boundary line flags per the 1/4/2016 joint site investigation were located by survey and plotted onto the property survey map entitled, "Ponde Place, LLC., Hunting Lodge Road, Mansfield, CT," as prepared by F.A. Hesketh & Associates, Inc. (revision date of 1-08-16). I have reviewed the revised property survey map (1-08-16) and determined that the wetlands boundary lines shown on the map are substantially correct.

In conclusion, I inspected the property on December 16, 2015. The wetland boundary lines previously established by RES were determined to be substantially correct with the exception of three small areas. I determined that additional wetlands are present in these three areas (refer to Figure 1). On 1/4/2016 a joint site investigation was held. Mr. George Logan and Mr. Thomas Pietras inspected the soils in the three areas identified to contain additional wetlands on 12/16/2015. The wetlands boundaries were revised in the three areas to include the additional wetlands (refer to Figure 2). The survey map prepared by F.A. Hesketh & Associates, Inc. (revision date of 1-08-16) portrays all of the wetlands on the property, including the revised wetland boundary lines per the 1-4-2016 joint site investigation, and this map was determined to be substantially correct.

Respectfully submitted,

*Thomas W. Pietras*

Thomas W. Pietras, Professional Wetland and Soil Scientist

cc: George Logan

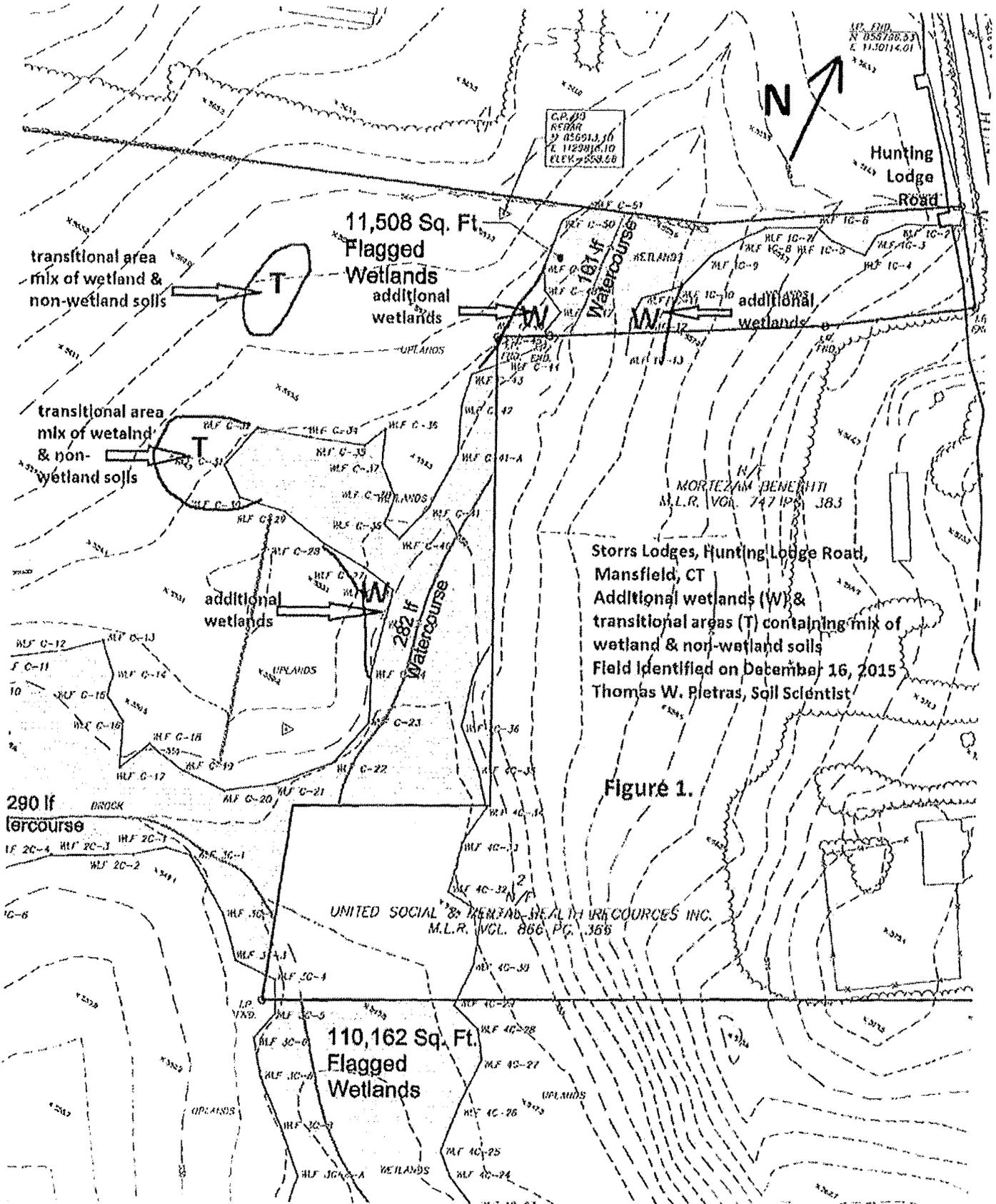


Figure 1.

transitional area  
mix of wetland &  
non-wetland soils

11,508 Sq. Ft.  
Flagged  
Wetlands  
additional  
wetlands

transitional area  
mix of wetland  
& non-  
wetland soils

additional  
wetlands

additional  
wetlands

Storrs Lodges, Hunting Lodge Road,  
Mansfield, CT  
Additional wetlands (W) &  
transitional areas (T) containing mix of  
wetland & non-wetland soils  
Field Identified on December 16, 2015  
Thomas W. Pietras, Soil Scientist

110,162 Sq. Ft.  
Flagged  
Wetlands

UNITED SOCIAL & HEALTH RESOURCES INC.  
M.L.R. VOL. 866 PG. 368

290 ft  
Brook

C.P. 719  
REBAR  
N 056913.16  
E 112916.10  
ELEV. 253.68

C.P. 610  
N 056100.03  
E 1130114.01

Hunting  
Lodge  
Road



MORTIZIAM BENEHITI  
M.L.R. VOL. 747 PGS. 383

L.P.  
VXD.

UPLANDS

UPLANDS

WETLANDS

UPLANDS

UPLANDS

UPLANDS

UPLANDS

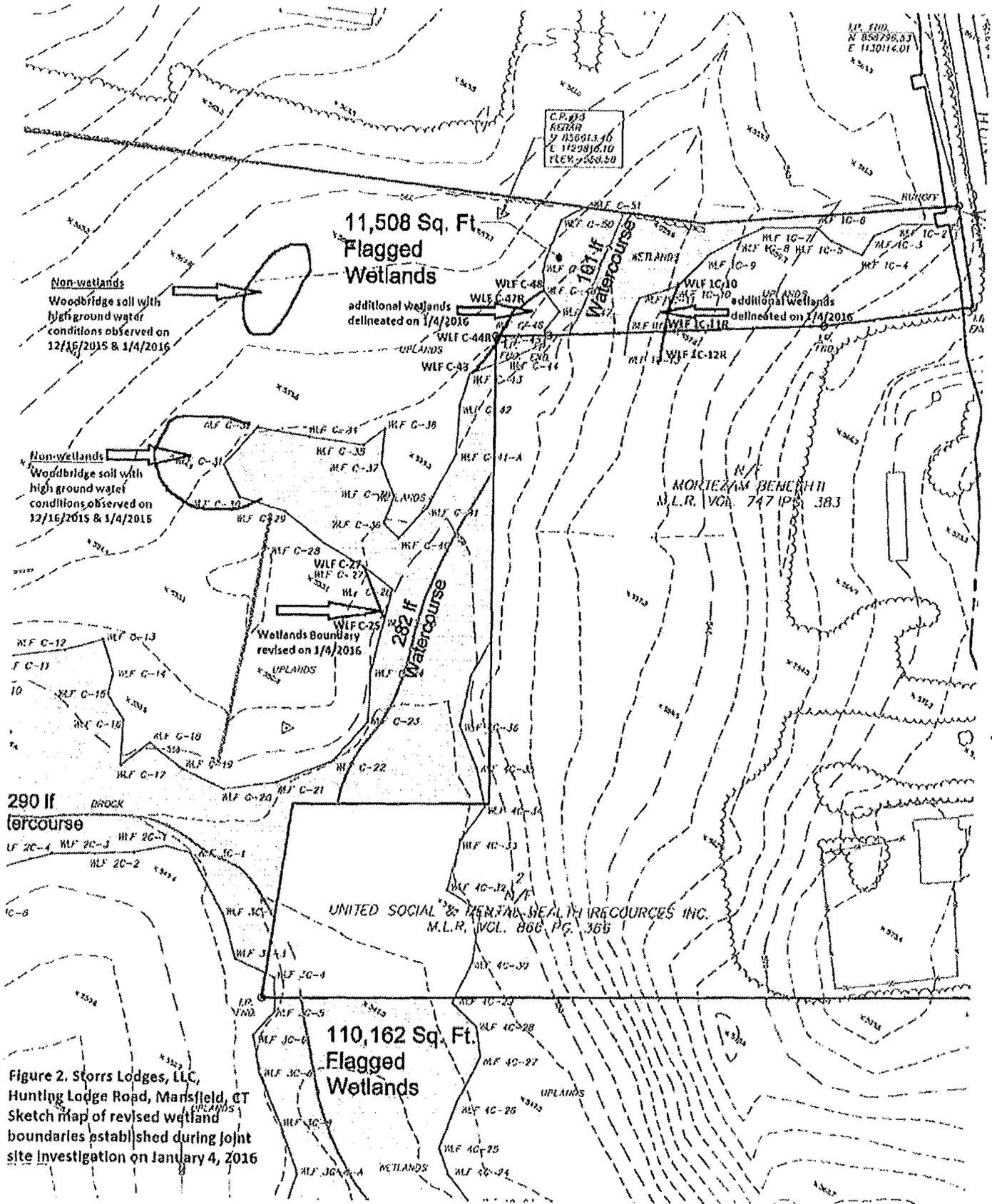


Figure 2. Storrs Lodges, LLC, Hunting Lodge Road, Mansfield, CT Sketch map of revised wetland boundaries established during joint site investigation on January 4, 2016



<b>PS-1</b>	METERS MAP AMENDMENT ON PROPERTY OF <b>PONDE PLACE, LLC</b> HUNTING LODGE ROAD, MANSTON, CONNECTICUT		SHEET NO. 1 OF 1
	DATE: 08-07-08 DRAWN BY: JY SCALE: 1" = 40'	CHECKED BY: JY DATE: 08-11-08	APPROVED BY: JY DATE: 08-11-08
<b>F.A.H.</b> F. A. Hoskoth & Associates, Inc. 400 West Street, East Granby, CT 06035 (860) 339-8888 • Fax: (860) 339-8889		FORM 1000 (8-07-00) THE BUREAU OF CONSTRUCTION 1-14-00	

04161

FILE

**AGENDA**  
**Regular Meeting**  
Mansfield Conservation Commission  
Wednesday, January 20, 2016  
Audrey P. Beck Building  
Conference Room B  
7:30 p.m.

1. Call to Order
2. Roll Call
3. Opportunity for Public Comment
4. Minutes
  - December 16, 2015 Regular Meeting
5. New Business
  - a. Enabling Legislation to Create a Local Conservation Fund "Project Green Space"
  - b. Other
6. Continuing Business
  - W1559 (Storrs Lodges, LLC), west side of Hunting Lodge Road, Application to Amend Inland Wetlands and Watercourses Map
  - Monitoring Procedures for Town-Owned Easements
  - Mansfield Tomorrow | Our Plan ▶ Our Future
  - Town of Coventry/ Mansfield Control of Fanwort in Eagleville Lake
  - UConn Agronomy Farm Irrigation Project
  - Status of UConn's Hazardous Waste Transfer Station
  - Other
7. Communications
  - Minutes
    - Open Space: 12/15/15
    - PZC: 1/4/15
    - IWA: 1/4/15
8. Other
9. Future Agendas
10. Adjournment

**MEETING NOTICE AND AGENDA**  
**MANSFIELD INLAND WETLANDS AGENCY**

**Monday, February 1, 2016 ▪ 6:30 PM**

Audrey P. Beck Municipal Building ▪ 4 South Eagleville Road ▪ Council Chambers

- 1. Call to Order**
- 2. Roll Call**
- 3. Review of Minutes**
  - a. 1-04-16– Meeting Minutes
- 4. Communications**
  - a. Conservation Commission Minutes
  - b. Monthly Business Memorandum
- 5. Public Hearing**
  - a. **W1557 – C. L. Niarhakos, 101 East Road, 3 lot re- subdivision**  
Memo from Wetlands Agent
  - b. **W1559 – Storrs Lodges, LLC, Application to Amend Inland Wetlands and Watercourses Map**  
Memo from Wetlands Agent
- 6. Old Business**
  - a. **W1557 – C. L. Niarhakos, 101 East Road, 3 lot re- subdivision**
  - b. **W1559 – Storrs Lodges, LLC, Application to Amend Inland Wetlands and Watercourses Map**
- 7. New Business**
  - a. **W1561– H. Raphaelson, Dog Lane, 2 lot subdivision**  
Memo from Wetlands Agent
- 8. Reports from Officers and Committees**
- 9. Other Communications and Bills**
  - a. DEEP- 2015 Aquatic Plant Control at Swam and Mirror Lake
  - b. DEEP- Grants to Municipalities for the control of Aquatic Invasive Species
- 10. Adjournment**

Minutes  
Mansfield Inland Wetlands Agency  
Regular Meeting  
Monday, February 1, 2016  
Council Chambers, Audrey P. Beck Municipal Building

Members present: J. Goodwin, C. Ausburger, R. Hall, G. Lewis, K. Rawn, B. Ryan, V. Ward, S. Westa  
Members absent: B. Chandy  
Alternates present: P. Aho, T. Berthelot, K. Holt (6:33 p.m.)  
Staff present: J. Kaufman, Wetlands Agent  
L. Painter, Director of Planning and Development;

Chairman Goodwin called the meeting to order at 6:30 p.m. and appointed alternate Aho to act in Chandy's absence.

**Approval of Minutes:**

**a. 1/04/2016 Regular Meeting:**

Rawn MOVED and Ryan seconded to approve the 1/4/2016 minutes as corrected. MOTION PASSED UNANIMOUSLY.

**Communications:**

The Conservation Commission meeting minutes and Kaufman's monthly business memo were noted.

**Public Hearing:**

**a. W1557 – C.L. Niarhakos, 101 East Road, 3 lot re-subdivision**

Goodwin opened the continued Public Hearing at 6:35 p.m. Members present were Goodwin, Ausburger, Hall, Lewis, Rawn, Ryan, Ward, Westa, and alternates Aho, Berthelot and Holt. Aho was appointed to act. Kaufman noted an email request from the applicant to withdraw his application. Noting no further comments or questions, Hall MOVED, Ryan seconded, to close the Public Hearing at 6:36 p.m. MOTION PASSED UNANIMOUSLY.

Westa MOVED, Hall seconded to accept the applicant's January 15, 2016, request to withdraw the application. MOTION PASSED UNANIMOUSLY.

**b. W1559 – Storrs Lodges, LLC, Application to Amend Inland Wetlands and Watercourses Map**

Goodwin opened the Public Hearing at 6:37 p.m. Members present were Goodwin, Ausburger, Hall, Lewis, Rawn, Ryan, Ward, Westa, and alternates Aho, Berthelot and Holt. Aho was appointed to act. Wetlands Agent Kaufman read the Legal Notice into the record as it appeared in The Chronicle on 1/19/16 and 1/27/16 and noted 1/20/16 comments from the Conservation Commission, a 1/27/16 memo from Kaufman and a 1/9/16 Wetlands Investigation Report from Thomas W. Pietras, Professional Wetland and Soil Scientist, Pietras Environmental Group, LLC.

P. Anthony Giorgio, Ph.D., Managing Director of The Keystone Companies, LLC, introduced his team and reviewed the request for an amendment to the Inland Wetlands and Watercourses Map of the Town of Mansfield.

David Ziaks, President, F.A. Hesketh and Associates, Inc., explained why the applicant's wetlands flagging differed from the Town Wetlands Map.

George T. Logan, Registered Soil Scientist, Professional Wetland Scientist, REMA Ecological Services, LLC, recited his qualifications and then reviewed his methodology and conclusions. He explained the characteristics of the soils on the site as presented in his 11-25-15 Delineation Report. In response to a question about how or if weather conditions and/or the season when the sampling is done affects results, he explained that soils do not change composition from season to season or in various weather conditions unless there is a severe drought. He further reported that there were minor flag adjustments that slightly expanded the area of wetlands made after consultation with Mr. Pietras. He contrasted the current wetlands boundary as depicted on the Town's Wetland Map with the flagging that he conducted, showing the difference.

Thomas W. Pietras, Professional Wetland and Soil Scientist, Pietras Environmental Group, LLC., is the independent expert contracted by the Mansfield Inland Wetlands Agent to review and critique the applicant's report. He reviewed his credentials and presented his findings. He stated that he was in substantial agreement with the applicant's work except for three small areas where he was of the opinion wetland soils existed but were not depicted on the applicant's map. After consultation with the applicant, however, the applicant agreed to include those areas. With these revisions he stated that he was satisfied that the wetlands were properly depicted and mapped.

Brian Usher, 44 Meadowood Road, stated that he has lived at his property since 1985 and is very concerned about the possibility of construction on the subject site behind his property. He reports that his property and that of his neighbors are already extremely wet. The Chairman informed Mr. Usher that this is an issue that should be raised when/if any future application is brought before the IWA and PZC regarding developing the property because if not, the information he presented this evening will not be part of the public record of any future application.

Rawn MOVED, Ryan seconded, to close the Public Hearing at 7:29 p.m. MOTION PASSED UNANIMOUSLY.

#### **Old Business:**

**a. W1557 – C.L. Niarhakos, 101 East Road, 3 lot re-subdivision**

Item withdrawn.

**b. W1559 – Storrs Lodges, LLC, Hunting Lodge Road (Parcel ID 15.21.3), Application to Amend Inland Wetlands and Watercourses Map**

Ryan MOVED, Ward seconded, to amend the Inland Wetlands and Water Courses Map, Mansfield, CT pursuant to section 15.0 of the Mansfield Inland Wetlands and Watercourses Regulations to reflect the wetland delineation on a parcel located on the west side of Hunting Lodge Road (assessor's parcel id 15.21.3) conducted by REMA Ecological Services and reviewed by Pietras Environmental Group and depicted on a map dated 2/8/2007 revised through 1/8/2016 (File # W1559). MOTION PASSED UNANIMOUSLY.

#### **New Business:**

**a. W1561– H. Raphaelson, Dog Lane, 2 lot subdivision**

Ryan MOVED, Rawn seconded, to receive the application submitted by H. Raphaelson (IWA File #1561) under the Wetlands and Watercourses Regulations of the Town of Mansfield for 2-lot subdivision- Raphaelson Estates on property located on the east side of Dog Lane (assessor's parcel id 16.41.23) as shown on a map dated 1/12/2016 and as described in application submissions, and to refer said application to staff and the Conservation Commission for review and comments and to schedule a public hearing for 3/7/16. MOTION PASSED UNANIMOUSLY. A field trip is scheduled for February 10, 2016, at 3 p.m.

**Reports from Officers and Committees:**

None.

**Other Communications:**

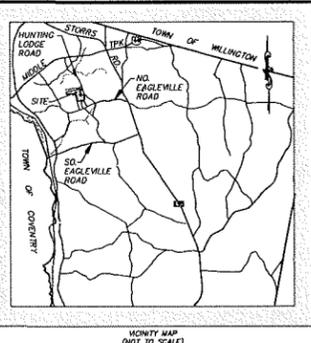
Noted.

**Adjournment:**

Chairman Goodwin declared the meeting adjourned at 7:35 p.m.

Respectfully submitted,

Vera S. Ward, Secretary



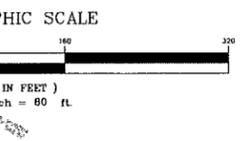
- MAP REFERENCES:**
1. PLAN OF LAND G AND E MAGURA CONVEYED TO TOWN OF MANSFIELD AS A TOWN ROAD DATED 1957 SCALE 1"=40' REVISED NOV 1956 BY EARL R. MOORE, SURVEYOR
  2. MAP OF SOME LAND OF GEORGE MAGURA, JR & EMMA J. MAGURA TOWN OF MANSFIELD, CONNECTICUT SCALE 1"=100' DATED MAY 24, 1969 BY EVERETT O. GARDNER
  3. PROPOSED LAND CONVEYANCES BETWEEN FRANK ZENI & J. WILLIAM TRANTUM MANSFIELD CONN SCALE 1"=50' DATED OCT 1969 BY ROBERT J. SCHNEIDER
  4. PART OF LAND OF GEORGE & EMMA MAGURA MANSFIELD CONN SCALE 1"=40' DATED APRIL 7, 63
  5. PLAN OF MEADOWOOD ROAD STORRS CONN SCALE 1"=80' DATED JUNE 1953
  6. CORRECTED MAP OF CARRIAGE HOUSE APARTMENTS MANSFIELD, CONNECTICUT SCALE 1"=40' OWNED BY SIMON KONGHER, NORMAN S. SHARROD AND MARVIN M. PATRON, W. HARTFORD CONNECTICUT DATED AUG. 12, 1968 BY EVERETT O. GARDNER
  7. FIRM FLOOD INSURANCE RATE MAP, TOWN OF MANSFIELD, CONNECTICUT HARTFORD COUNTY PANEL 5 OF 20 COMMUNITY PANEL NUMBER 000128 0005 C EFFECTIVE DATE JANUARY 2, 1981.
  8. EASEMENT MAP, EASEMENT TO BE ACQUIRED BY THE TOWN OF MANSFIELD OVER LAND OF THE KEYSTONE COMPANIES, LLC HUNTING LODGE ROAD, MANSFIELD, CONNECTICUT, SCALE 1"=40', DATE: 06-23-07 SHEET NO. 2 OF 2, TOWN OF MANSFIELD, L.S. 17945.
- NOTES:**
1. THIS SURVEY HAS BEEN PREPARED PURSUANT TO THE REGULATIONS OF CONNECTICUT STATE AGENCIES SECTIONS 20-300-1 THROUGH 20-300-10 AND THE STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON SEPTEMBER 26, 1996.
  2. IT IS A PROPERTY SURVEY INTENDED TO BE SUBMITTED TO THE TOWN OF MANSFIELD AS PART OF A WETLANDS MAP AMENDMENT APPLICATION.
  3. THIS SURVEY FALLS INTO THE RE-SURVEY BOUNDARY DETERMINATION CATEGORY.
  4. THIS SURVEY CONFORMS TO CLASS A-2 ACCURACY STANDARDS FOR PHOTO CONTROL AND BOUNDARY INFORMATION AND CLASS T-3 TOPOGRAPHIC ACCURACY STANDARDS FOR PLANIMETRIC & TOPOGRAPHIC FEATURES. PHOTO DATE: JANUARY 28, 2005.
  5. THE SUBJECT PARCEL IS CURRENTLY OWNED BY PONDE PLACE, LLC, M.L.R. VOL. 753 PG. 405.
  6. THE SUBJECT PROPERTY IS LOCATED IN THE RAR-90 MULTI-FAMILY ZONE IN THE TOWN OF MANSFIELD. SEE DIMENSIONAL REQUIREMENTS BELOW.
  7. THE BEARINGS AND COORDINATES DEPICTED HEREON ARE BASED UPON NAD 83 DATUM. TOPOGRAPHIC INFORMATION DEPICTED HEREON WAS PROVIDED BY EASTERN TOPOGRAPHS FROM A PHOTO DATED NOVEMBER 23, 2003 AND IS BASED UPON NAD83 DATUM.
  8. UNDERGROUND FEATURES (IF ANY) HAVE BEEN COMPILED FROM RECORD MAPS AND OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED AS APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE. THE SIZE, LOCATION AND EXISTENCE OF ALL SUCH FEATURES MUST BE FIELD DETERMINED AND VERIFIED BY THE APPROPRIATE AUTHORITIES PRIOR TO CONSTRUCTION. CALL BEFORE YOU DIG 1-800-922-4455.
  9. THE SUBJECT PARCEL IS IN FLOOD ZONE 'C'. AREAS OF MINIMAL FLOODING BASED UPON A VISUAL INSPECTION OF MAP REFERENCE #7.
  10. WETLAND FLAGS DEPICTED HEREON WERE SET IN THE FIELD BY A CERTIFIED SOIL SCIENTIST AND LOCATED IN THE FIELD UNDER DIRECT SUPERVISION OF THE UNDERGROUND LAND SURVEYOR.
  11. WETLANDS AS DIGITIZED FROM MAP ENTITLED, WETLANDS/WATERCOURSES/WATERBODIES PLAN OF CONSERVATION AND DEVELOPMENT, APRIL, 2006

- LEGEND (SYMBOLS NOT TO SCALE)**
- CATCH BASIN
  - SANITARY MANHOLE
  - DRAINAGE MANHOLE
  - WATER MANHOLE
  - TELEPHONE MANHOLE
  - ELECTRIC MANHOLE
  - UNKNOWN MANHOLE
  - YARD DRAIN
  - CABLE MANHOLE
  - FLARED END SECTION
  - FIRE HYDRANT
  - WATER GATE VALVE
  - GAS GATE VALVE
  - MISC. GATE VALVE
  - VENT PIPE
  - FILLCAP
  - WELL
  - MAIL BOX
  - HAND HOLE
  - CONTROLLER CABINET
  - ELECTRIC TRANSFORMER
  - UTILITY POLE
  - CROSSWALK POLE
  - MISC. POLE
  - POST
  - TRAFFIC LIGHT SUPPORT POLE
  - STREET SIGN
  - TREE (TYP.)
  - MONITOR WELL
  - BORING
  - ELECTRIC METER
  - GAS METER
  - WATER METER
  - TELEPHONE
  - AC UNIT
  - TREE LINE
  - STONE WALL
  - QUADE RAIL
  - DIRECTION OF FLOW
  - I.P. PROPERTY CORNER
  - MONUMENT
  - DRILL HOLE
  - SURVEY CONTROL POINT
  - FENCE LINE
  - WATER LINE
  - GAS LINE
  - ELECTRIC LINE
  - CABLE TELEVISION LINE
  - OVERHEAD WIRES
  - POINT OF BEGINNING
  - NORTHING
  - EASTING
  - NOW OR FORMERLY
  - MANSFIELD LAND RECORDS
  - DETAILED ANGLE
  - RADIUS
  - TANGENT
  - LENGTH
  - CHORD
  - CHORD BEARING
  - FRONT YARD
  - SIDE YARD
  - REAR YARD
  - CONTROL POINT
  - WETLAND FLAG #
  - VERNAL POOL #
  - UNITED STATES ARMY CORPS OF ENGINEERS TRANSECT POINT #

**STATE OF CONNECTICUT (UCCON FOREST)**

**LEGEND (SYMBOLS NOT TO SCALE)**

- CATCH BASIN
- SANITARY MANHOLE
- DRAINAGE MANHOLE
- WATER MANHOLE
- TELEPHONE MANHOLE
- ELECTRIC MANHOLE
- UNKNOWN MANHOLE
- YARD DRAIN
- CABLE MANHOLE
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- REAR YARD
- CONTROL POINT
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- VERNAL POOL #
- UNITED STATES ARMY CORPS OF ENGINEERS TRANSECT POINT #



ZONE	MINIMUM REQUIRED LOT AREA (AC.)	MINIMUM LOT FRONTAGE (FT)	MINIMUM SETBACK FROM (FT)	MAX. BUILDING HEIGHT (FT)	MAX. GROUND FLOOR BUILDING AND COVERAGE
RAR-90	5.0	200	80 35 50	35	NONE

SEE DIMENSIONAL REQUIREMENTS MANSFIELD, CT

**WETLAND MAP AMENDMENT ON PROPERTY OF**  
**PONDE PLACE, LLC.**  
 HUNTING LODGE ROAD  
 MANSFIELD, CONNECTICUT

**PROPERTY SURVEY**

**PS-1**

**Revisions:**

No.	Date	Description
1	08-27-07	MISC.
2	10-27-10	WETLANDS / TITLE UPDATED
3	11-20-2015	WETLANDS MAP AMENDMENT/TITLE
4	01-08-16	REVISED WETLAND LINE PER FIELD WALK

Date: 02-07-05  
 Scale: 1" = 80'  
 Drawn by: RM  
 Checked by: TSH  
 Job no.: 04161  
 Sheet no.: 1 OF 1

TO MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.  
 THIS MAP IS NOT VALID WITHOUT THE LIVE SIGNATURE AND IMPRESSION OF THE SEAL OF THE LAND SURVEYOR WHOSE SIGNATURE APPEARS HEREON.

© 2004 F.A.H. Surveyors/Wetland Amendment 3.dwg, WMA, Jan. 26, 2016 - 12:35:05 PM

**F.A.H.**  
**F. A. Hesketh & Associates, Inc.**  
 6 Creamery Brook, East Granby, CT 06026  
 Civil & Traffic Engineers • Surveyors • Planners • Landscape Architects

Phone (860) 653-8000  
 Fax (860) 844-8600  
 e-mail: fah@fah.com

Mary Harper submitted this document as a resident. She is also a member of the Conservation Commission.

TO: Jennifer Kaufman  
Inland Wetland Agent  
Mansfield, CT

FROM: Mary G. Harper  
Conservation Commission

Re: IWA Application W1564  
The Lodges at Storrs (Storrs Lodges, LLC)

Date: August 12, 2016

At the July 20, 2016, meeting of the Conservation Commission, the above-referenced application was discussed briefly. The Town's third-party consultant reviewer, GEI, is expected to attend the September meeting of the Conservation Commission. Concerns were raised at the July 20, 2016 Conservation Commission meeting regarding the functionality of the proposed stormwater infiltration basins proposed for the development given the soils on the property. As agreed at the July 20, 2016 Conservation Commission meeting, questions regarding the soils and proposed infiltration basins are raised here, to be directed to GEI to address so that we can better understand the stormwater management plans proposed.

1. Soils maps on the June 10, 2016 revised plans (Sheet IW-1) are not clear defined and do not appear to match the current NRCS soils map. The NRCS depicts 33.4% (14.2 acres) of the property including, apparently, five of the ten proposed Bioretention infiltration basins (Basins 5, 6, 7, 9, and 10), as composed of (3) Ridgebury, Leicester and Whitman soils, 0-8% slopes, and extremely stony. The applicant's soil consultant report (John P. Ianni, M.S. Highland Soils LLC, to David Ziaks, F.A. Hesketh, and Associates, Inc., June 28, 2007), describes these as "wetland soils ... rang[ing] from poorly drained to very poorly drained ... formed over a compact to friable glacial till."

Approximately 9.7 acres, or 22.7%, are classified as (46B) Woodbridge fine sandy loams, 0-8% slopes, very stony. Two of the proposed basins (#3 and #4) are slated for these soils, which the 2007 soil report describes thus: "The soils of the Woodbridge series formed from a compact glacial till that gives rise to a seasonally perched high water table."

The 2007 soil report also noted that the upland soils in the project area included the Sutton series in addition to the Woodbridge series, and that "the Sutton series also have a high water table and overlay a friable and sandy glacial till. The main difference between the two soils (Sutton and Woodbridge) is the parent material or underlying glacial till."

The "final series" identified on the property in 2007 "include well drained soils of the Charlton series. These soils also overlay a friable and sandy glacial till and are deeper to the seasonal water table."

The NRCS map identifies approximately 3.3 acres (7.7%) of the property as Canton and Charlton soils (60B) on 3-8% slopes; Bioretention Basin #8 is proposed in these soils. Canton and Charlton, 3-8% slopes, very stony soils (61B) comprise 10.5 acres (24.7%) and are proposed to house Bioretention Basins #1 and #2.

Based on the NRCS map, the remaining soils include Charlton-Chatfield complex, 3-15% slopes, very rocky (73C), Charlton-Chatfield complex, 15-45% slopes, very rocky (73E), the two soils making up only .2 acres.

In the 2007 soils report, specific mention was made of seasonal and occasional surface water flow:

An existing culvert discharges onto the property along Hunting Lodge Road. The cross culvert conveys surface water from a seasonally ponded area on the east side of the road. The surface flow was not classified as a regulated seasonal watercourse due to the lack of

a defined channel with banks. It should be noted that surface water is conveyed from the cross culvert toward the wetlands. Although this area is not classified as a regulated wetland, it should be noted as an area of occasional surface flow.

Questions for GEI:

- What is the precise delineation of the soil types across the property?
- Does the seasonal and/or occasional surface water flow onto the property, combined with the large amount of high-perched-water table soils, suggest a propensity for excessive surface runoff as well as poor surface water infiltration (because soils above the dense till becomes saturated to the surface, resulting in standing water)?
- Where the dense layer is exposed by excavation, will excess water, in high-water-table seasons, and in storms, flow out to the surface because it cannot infiltrate down fast enough?

2. GEI in Item 3 of its June 29, 2016 memo (from Kimberly Bradley and John McGrane, GEI, to Jennifer Kaufman, IWA, June 29, 2016), noted that “The entire design is dependent on the permeability of the existing soils and ground water levels,” and that “Geotechnical borings and laboratory permeability tests, or in-place permeability tests may be needed to verify whether the infiltration systems are viable.”

In response, the applicant reported that “Additional deep test pits and permeability tests have been completed in the field” included in a report by Soil Science and Environmental Services, Inc. (SSES), dated June 6, 2016.

Questions for GEI:

- What are the SSES-related “revisions to the subsurface infiltrator designs ... incorporated or the plans revised 6/10/16”? How are they supposed to work?

3. GEI Item #4 in June 29, 2016 memo (ibid) noted that “Accurate groundwater readings should be taken to determine year-round water levels in the areas of the proposed infiltration and the BioRetention Basins. If high groundwater levels are present, *even just seasonally* (emphasis mine), then the infiltration will not function as designed.” GEI continued, indicating the basins “will not properly function if they are partially filled with groundwater. If the designed storage volume is occupied with groundwater, they will not have the capacity to store surface runoff, and may overtop the basins.” The applicant’s response was that “Additional groundwater measurements were taken in the field at each proposed bioretention basin location.” But GEI noted that

It should be clarified that direct seasonal groundwater level readings were not collected for the site; rather, field evaluation of soil mottling and redoximorphic features as indicators of seasonal high groundwater levels were used. These, along with seepage or standing water observations, were collected via the Soil Science and Environmental Services, Inc. Report included in Attachment A of the FAHA Comment Response Memorandum, in addition to the Soil Testing completed by REMA Ecological Services, LLC (on May 25, 2016, reported in 6/14/16 letter).

The results indicate that groundwater is very close to the surface (i.e., within 16 to 22 inches below ground surface for most locations). Based on these readings, it will be imperative that a functional underdrain system be installed so that the basins and infiltrator system drain completely between storms. The plans have been updated to show a conceptual underdrain at the location specified. Generally, this seems acceptable and should address the problem, however, further construction detail should be provided perhaps as a condition of approval.”

GEI’s response to the data submitted by applicants is “Generally, these lines of evidence and revisions to basin design are acceptable.”

#### Questions for GEI:

- Please explain how the test hole (bioretention area) data in the 6/14/16 REMA supplemental wetlands assessment soil testing is reconciled with the mapped soil types: How, for example, can the Ridgebury, Leicester, Whitman (3) soils, which are classified as extremely stony, possess a subsoil of fine sandy loam? Likewise, the Woodbridge (46B) very stony, very poorly drained soils in Bioretention Basins #3 and #4 be classified as well and moderately well drained?
- SSES's test pits were dug with an excavator (12 pits) as follows: "undisturbed soil cores ... were extracted ... from selected soil horizons ... for permeability analyses ... which were tested for saturated hydraulic conductivities using a falling head permeability test method." What is that method?
- SSES and REMA, as noted in the GEI memo, used "depths to soil mottling and/or other redoximorphic indicators of a seasonal high groundwater table along with depths to hardpan, seepage and/or standing water were recorded for each deep test pit." How can seepage and standing water be observed in summer in a moderate drought year, which follows the drought year of 2015? Please explain/interpret the variability between "depth to faint mottles" and "depth to prominent mottles" by REMA. These two mottling types appear to have marked differences in depth.
- Why is mottling used as a reliable indicator of high seasonal water tables? Although I am not a soil scientist, I do have some experience in evaluating soil profiles in my work as an archaeologist, and also direct experience relative to the formerly proposed Williams Resubdivision in Mansfield, which has soils that are strikingly similar to the Storrs Lodges property. Many soil scientists and engineers do not consider mottling to be a reliable indicator of high seasonal water tables. In the Williams Resubdivision, soil scientists determined that Ridgebury, Leicester, and Whitman (3) soils exhibited a high seasonal water table from 0 to 10 inches below the surface from fall to spring; Basins #5, #6, #7, #9 and #10 are proposed in these soils at Storrs Lodges. Woodbridge soils (46B) exhibit a seasonal high water table at an average depth of 20 inches; Basins #3 and #4 are planned in these soils. However, soil scientists and an engineer familiar with Mansfield's geology and hydrology observed in the proposed Williams Resubdivision water flow paths, eroded areas, and exposed tree roots, which indicated surface water runoff in relatively large quantities. As noted in Item #1, above, at least some seasonal surface flow was observed by soil scientist John Ianni in the Storrs Lodges project. The observations of water flow and erosion evidence in the Williams Resubdivision area prompted a closer study of soil conditions and drainage, with standpipe monitoring in the seasonal high water period. That monitoring with standpipes proved that the mottling in the Williams Resubdivision was *not* an accurate representation of high groundwater. In areas of supposed 16 to 22-inch high groundwater depth based on mottling, the actual confirmed heights were near-surface, an average of 8 inches, and within 4 inches of the ground surface or higher, for sustained periods. These levels of water would make infiltration basins nonfunctional for much of the year, and in danger of overtopping, if they are present on the Storrs Lodges property.

I would like to understand better how the groundwater and surface water behaves on the Storrs Lodges property. I wonder, perhaps, whether a project of this magnitude warrants seasonal standpipe monitoring so that the Town can be sure that the proposed basins will work as designed and not impact wetlands or watercourses. I also think that an extremely close walkover of the entire project by GEI is perhaps warranted, if not already conducted, to make and record observations of surface flow paths, eroded tree roots, wetland-favoring vegetation, and other signs of high seasonal water runoff issues, if present. During the IWA walkover on August 11, 2016, which was aborted due to thunderstorms, some erosion and tree root exposure was observed along the western mounded edge of the "intermittent" watercourse in the eastern part of the property, near proposed crossing. LiDar imagery shows wetlands and flow paths and anomalous features that should be identified in the field, however difficult to discern

in a summer and drought period. What is GEI's opinion on a detailed project-wide walkover and/or standpipe monitoring?

4. GEI Item #5 in June 29, 2016 memo (ibid). It appears that GEI is still looking for construction detail of the Bioretention Basin Spillways. Where does overflow go? And to where do the planned underdrains egress water?

**COMMUNICATIONS**

## Jessie Richard

---

**From:** rhoss1@juno.com  
**Sent:** Friday, September 09, 2016 4:48 PM  
**To:** PlanZoneDept  
**Subject:** PZC meeting of Sept 6

Joanne Goodwin Chair  
Linda Painter Staff

Greetings

I would like to express my dismay with the PZC meeting of September 6th. After several delays in providing a public hearing on the Ponde Place/Storrs Lodges project, you noticed a public hearing for this meeting at 6:25pm. At that time you rearranged the schedule that in effect postpone the starting time to 8:25pm. You allowed the first speaker, the developers rep, to continue on for much more than you would allow a citizen to speak [An hour and 20 minutes vs 5 minutes]. This was an egregious disrespectful slap in the face to those that attended the meeting in order to speak.

I know the hearing was continued to October 6 and I hope you will give the taxpayers of Mansfield the opportunity to speak in a timely manner.

Please use the microphones so those of us in attendance and those watching on TV can hear what is being said. This is not the first time this has been suggested. In addition I would like to suggest that voting should be done with a hands raised gesture as opposed to a simple voice vote so that those watching on TV can see who votes which way. You will also be able to record the voting in an accurate way.

Thank you.  
Ric Hossack  
Middle Tpk  
Storrs

---

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## Jessie Richard

---

**From:** Elizabeth Wassmundt <etwno1@sbcglobal.net>  
**Sent:** Thursday, September 08, 2016 11:09 AM  
**To:** PlanZoneDept  
**Subject:** Conduct of meetings

To: Joanne Goodwin  
Linda Painter  
Jessie  
Jennifer Kaufman  
Members Planning & Zoning Commission and Inland Wetlands Agency

Re: Meeting of September 6, 2016

I object to the last minute postponement of the public hearing on Storrs Lodges to the end of the Planning & Zoning and Inland Wetland meetings. This was completely disrespectful to the people attending the meeting who had been notified that the public hearing was to be at 6:45 pm. You show callous disregard for the applicant for Storrs Lodges and the Intervener who have to pay their attorneys to sit through your meetings. What gives you the right to do this? When I first became seriously interested in understanding the operation of Mansfield's town government, I thought there could be no group more arrogant and disrespectful of the public than Mayor Paterson's Town Council. I find your Commission/Agency equally arrogant and disrespectful of the people you supposedly "serve" and were elected by.

Also, members of Planning & Zoning and Inland Wetlands continue to show their disdain and dismissal of the public in their refusal to use the microphones during meetings. Often it is not possible to hear what is being said. People watching on TV cannot hear; these are the people who paid to have this system installed. On at least two occasions I've taken the time to point this problem out. Within the last few months, I spoke to the Chair about it after a meeting. Subsequently, do not be surprised when you hear me shout out:

## Microphones - repeat what you said.

I request that Linda or Jessie provide a brief training session to all of you so you understand how to position and turn on the microphone so that it will operate properly.

Thank you.

Betty Wassmundt

July/August 2016

# Connecticut Wildlife

CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION  
BUREAU OF NATURAL RESOURCES  
DIVISIONS OF WILDLIFE, INLAND & MARINE FISHERIES, AND FORESTRY



# From the Director's Desk



The 150th anniversary of natural resource conservation in Connecticut has provided me the opportunity to recognize the hard work and dedication of the Division's Environmental Conservation Police Officers that I have the pleasure to work with every day. The Officers that work for our Division chose this profession to be outdoors proactively enforcing the fish and wildlife laws of our state. My father was a Conservation Officer for the state for 25 years and I celebrated my 30th anniversary with the Agency in February. In all those years, the core values of our officers – integrity, honesty, and public service – have not changed.

The responsibilities of our officers have changed over time. Since 1895, Conservation Officers primarily enforced fish and game laws, stocked fish and pheasants, worked with landowners on hunting leases, and assisted in the wood duck nest box program. Over the years, more and more law enforcement duties were added, such as in 1972 when boating enforcement became the Division's responsibility. In 1988, we took over the shellfish enforcement program and, in 1993, the Division became responsible for law enforcement and public safety in our state parks. After 9/11, our officers were called upon to perform homeland security details, primarily in the marine environment around Millstone Nuclear Power Station near New London.

While officers work hard to provide a safe and secure environment for our citizens to recreate on the waters of our state and in our parks, we have not lost sight of the important role we play in natural resource protection. Not only are officers still enforcing fish and wildlife laws, but they participate in over 120 public outreach events every year. These include teaching at Conservation Education/Firearms Safety and boating education classes, attending hunting and fishing shows, speaking at local Boy Scout meetings, and giving lectures at state universities. Officers have had to learn to respond safely to an increasing number of calls about non-native species or potentially dangerous animals, such as alligators. Our highly skilled chemical immobilization team is called upon regularly to handle the state's increasing black bear population and our K-9 unit has dogs specifically trained in fish and game detection. We work with our federal partners enforcing commercial marine fisheries laws and laws pertaining to endangered and protected species.

Every one of our officers understands the important role they play in ensuring that the fish and wildlife laws and regulations managed by other programs within DEEP are successful. Without a visible and effective enforcement presence, the populations of our state's wildlife would be in jeopardy. Officers are often the only contact the public has with a member of the Agency, so we strive to meet public expectations by providing consistent services of the highest quality and treating those we serve with dignity and respect. Every day, our officers work hard to fulfill the mission of the Division, which is to provide natural resource protection and public safety through education, outreach, and enforcement.

Colonel Kyle Overturf, State Environmental Conservation Police Division

## Cover:

For the past two years, the DEEP Wildlife Division has been involved with a cooperative project focused on the conservation and recovery of the rare Puritan tiger beetle (see page 4).

Photo by Paul J. Fusco

# Connecticut Wildlife

Published bimonthly by

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# A Misunderstood Turtle

Written by Brendan Zielinski, DEEP Wildlife Division

*1928: "At the Shade Swamp Sanctuary in Farmington, broods of young ducks hatched under natural conditions steadily decreased in numbers... the waters within the sanctuary were infested with black snapping turtles... As proof of efficiency of the trap net (a special device used to capture snapping turtles) and the abundance of these destructive reptiles, more than three thousand pounds of snapping turtles were caught during a period of two months in the summer of 1928. These turtles not only are destructive to ducks, but to the muskrats which constitute a very valuable asset of the sanctuary."*

The attitude that predators were the "bad guys" during the early 1900s is evident from this excerpt from the 1928 report of the Connecticut Board of Fisheries and Game. Snapping turtles were considered vermin and destroyed by sportsmen and conservationists alike. For over half a century, countless snapping turtles were trapped and destroyed throughout the state in an effort to "protect" game fish and ducklings in waterfowl breeding areas.

In Connecticut and elsewhere, snapping turtles had an inaccurate reputation for decimating game fish and waterfowl populations because scientific research indicates that this is rarely the case. A 1940s study in Connecticut found that not only fish, but also aquatic plants and crayfish, are dominant food items in a snapping turtle's diet. Other studies also have shown that snapping turtles do not eat significant amounts of game fish, and that mammalian nest predators and large fish kill far more waterfowl than do snapping turtles. In natural situations, snapping turtles have no significant impact on fish or waterfowl populations.

Throughout history, and partially due to misunderstanding, snapping turtles could be harvested without any limits or restrictions. However, state regulations passed in 2013 established specific protections for the harvest of snapping turtles by designating seasons, size and bag limits, gear restrictions, and other measures designed to ensure the long-term viability of Connecticut's population. Additionally, eggs cannot be taken and nests cannot be disturbed without DEEP authorization. In 2016, the regulations were tightened further from a possession and season limit of 30 turtles to

10, further sustaining the state's snapping turtle population.

In 2015, researchers from Arcadia University, Mystic Aquarium, National Geographic Society, and DEEP began a new study on snapping turtles using a CritterCam attached to a turtle's shell to record audio, video, depth, and temperature (see the Sept./Oct. 2015 issue of *Connecticut Wildlife*). The study hopes to answer questions about how underwater behaviors affect how often snapping turtles breathe, how long they stay at the surface, how long they dive, and how they interact with other animals. Researchers also are trying to determine how the turtles can alert us to the presence of pollution and contamination. Snapping turtles are more tolerant of human disturbance and contamination in the environment than many other aquatic species, and these long-lived omnivores may consume and accumulate large amounts of contamination throughout their lives. This study will provide a better understanding of the current types and amounts of contaminants in snapping turtles and also help biologists understand the biological effects of these contaminants in wildlife populations. Researchers also hope that snapping turtles can be an indicator species, alerting us to contaminants that may threaten humans or other members of the aquatic ecosystem. Information from these studies will be essential to ensuring that this iconic reptile remains part of Connecticut's wildlife heritage.

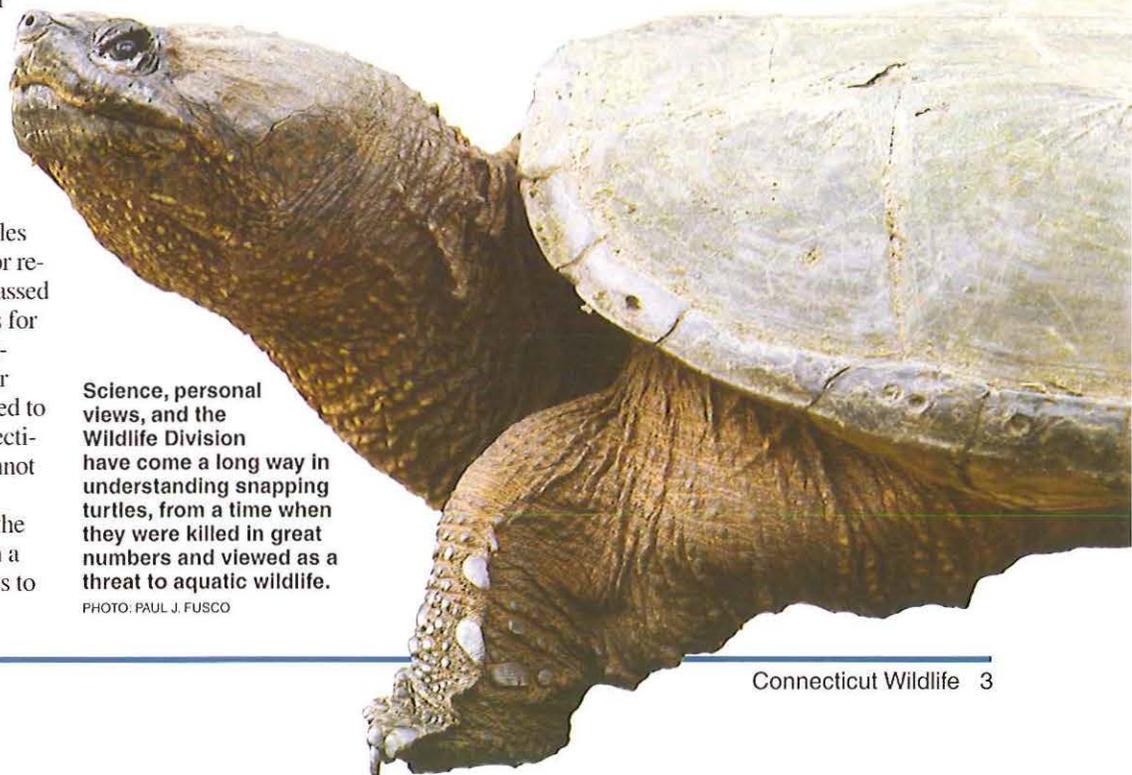
According to Wildlife Division biolo-



CT DEEP HISTORICAL ARCHIVES

gist Brian Hess, "Though they often do not get the attention they deserve, common snapping turtles are an important part of the aquatic ecosystem. Most eggs and hatchlings serve as food for birds, mammals, fish, frogs, and snakes. Those few that survive to adulthood grow into important herbivores, predators, and scavengers.

Science, personal views, and the Wildlife Division have come a long way in understanding this essential species, from a time when they were killed in great numbers and viewed as a threat to wildlife and the health of ecosystems. Today, people are more concerned about observing and protecting snapping turtles rather than killing them, even helping females cross roads during the breeding season.



**Science, personal views, and the Wildlife Division have come a long way in understanding snapping turtles, from a time when they were killed in great numbers and viewed as a threat to aquatic wildlife.**

PHOTO: PAUL J. FUSCO

# Saving the Puritan Tiger Beetle in Connecticut

Written by Laura Saucier, DEEP Wildlife Division; photography by Paul Fusco, DEEP Wildlife Division

Tiger beetles are a fascinating group of animals. There are over 100 different species of tiger beetles in North America and over 2,000 species worldwide. In their adult form, tiger beetles are hunters that chase down prey with their long legs, much like the cheetahs of the plains of Africa. They have impressive mandibles (jaws) for their small size. Tiger beetles are often the top invertebrate predator in the open habitats where they occur. Fifteen species of tiger beetles occur in Connecticut; eight are on Connecticut's Endangered, Threatened and Special Concern Species list due to perceived declines in their populations or habitats.

The Puritan tiger beetle (*Cicindela puritana*) occurs on sandy beaches in New England along the Connecticut River and in the Chesapeake Bay region of Maryland. Historically, *C. puritana* was documented at 11 distinct areas along the Connecticut River from New Hampshire to Connecticut, generally on beaches where large river bends result in regular deposition of sediments. Unfortunately, human-caused changes to the flow of the Connecticut River and surrounding land uses resulted in the extirpation (elimination) of Puritan tiger beetles from nine of those 11 sites by the early 1900s. Today, the New England population is comprised of the only two remaining sites in Hadley, Massachusetts, and Cromwell, Connecticut. The now small New England population is estimated



New England's Puritan tiger beetle population is estimated at just over 500 individuals located at two sites along the Connecticut River, one in Massachusetts and the other in Connecticut.

to have just over 500 individuals. *C. puritana* also is struggling in the Chesapeake Bay region, but populations are more robust (over 1,000 individuals) and spread out over more sites.

In August 1990, the U.S. Fish and Wildlife Service (USFWS) included the Puritan tiger beetle for protection under the federal Endangered Species Act as a threatened species. Connecticut included the beetle under our state Endangered Species Act, listing the species as endangered in 1992. The reasons cited for listing *C. puritana* are: 1) within New England, only two populations remain within the former range on the Connecticut River, and 2) the Chesapeake Bay populations are under great threat due to human-caused habitat alteration.

In New England, the decline of *C. puritana* is primarily the result of 17 dams built on the Connecticut River above Hartford for flood control and hydroelectric power. The beetle has evolved to live in a dynamic habitat, relying on natural river processes to deposit and erode sediments, keeping areas of shoreline sandy and relatively free of vegetation. Hydropower dams especially affect suitable habitat because they artificially maintain steady flows, and the river no longer experiences periods of high flooding or natural periods of low flow. In ad-



The beach-like terrain of this small stretch of sandy riverside habitat along the Connecticut River is the domain of the federally threatened and state endangered Puritan tiger beetle.

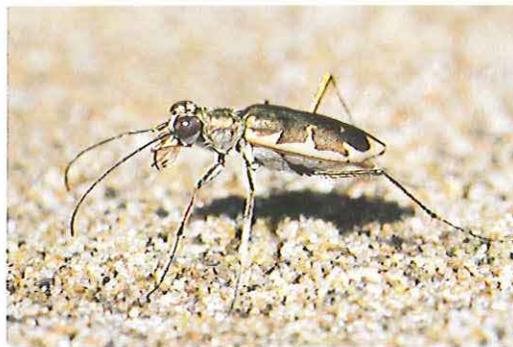
dition to damming, shoreline stabilization (building retaining walls along the shoreline, adding rip-rap to the river bank, etc.) and recreational activities, such as extended camping on these beaches and excessive wakes created by jet-skis and speed boats, have also been cited as exacerbating stressors.

A close look at the life cycle of *C. puritana* reveals why they are so sensitive to changes in the hydrology of the river. From July to August, larvae hatch from eggs buried in shallow sand and excavate vertical burrows a few inches deep in sand located somewhere between the high-tide line and sparse vegetation near the crest of the riverbank. The larvae feed by anchoring themselves in their burrow with specialized abdominal hooks and waiting for prey to pass by the burrow. The larvae will grab the prey when it walks by, pulling it into the burrow. After two to four weeks, the larvae molt from their first instar to the second instar stage and deepen their burrows up to two feet down. In October, they close their burrows for an overwintering period that lasts until April. The larvae emerge in April-May and feed for a couple of months before closing the burrows again until September when they molt into the third and final larval stage. In fall, they again close their burrows to overwinter until the next spring and, in late June, adult tiger beetles emerge from their pupal burrows to feed and mate. As an adult, *C. puritana* is an aggressive predator, often hunting down insects and other invertebrates with surprising speed and agility. By mid-August, two years after hatching from the egg-stage, the adults begin to die off.

### 2016 Efforts

For the past two years, the Wildlife Division has been working with the USFWS Region 5, Silvio O. Conte National Wildlife Refuge, tiger beetle experts, and academia to initiate recovery objectives in the USFWS Puritan Tiger Beetle Recovery Plan. Specifically, funding was secured to 1) reintroduce Puritan tiger beetles to sites within their historic range in Connecticut, and 2) initiate a captive rearing pilot program to determine if captive rearing is a viable tool for conserving this species.

This field season, third instar larvae were dug up and transplanted to two state-owned properties along the Connecticut River. The larvae were placed and monitored by tiger beetle experts to determine what percentage of the transplanted beetle larvae pupated into adults. Because this beetle requires two years to reach maturity, it will not be known until 2018 if these first transplants successfully mated and laid eggs. Researchers will dig and transplant larvae in



As part of the USFWS Puritan Tiger Beetle Recovery Plan, third instar larvae (right) were dug up (top photo) and transplanted to two state-owned properties along the Connecticut River. The larvae were placed and monitored by tiger beetle experts to determine what percentage of the transplanted beetle larvae pupated into adults (above). Also this field season, adult beetles of both sexes were captured and brought to Richard Cronin National Salmon Station located in Sunderland, Massachusetts, where a laboratory has been created to rear and house these beetles.



2017 to establish a second cohort at these same sites that will not mature until 2019. If funding is available, a second wave of transplants will be conducted beyond 2018.

Also this field season, adult beetles of both sexes were captured and brought to Richard Cronin National Salmon Station located in Sunderland, Massachusetts, where a laboratory has been created to rear and house these beetles. The captured individuals will be studied by tiger beetle experts and academics to try to answer some questions, such as details of larval development, habitat preferences for egg deposition, how many eggs each female lays, adult parasite loads, and more. Given the rarity of this insect, there is so much we still do not know. Efforts will shed some much needed light on the needs of this beetle, ultimately adding to our knowledge of tiger beetle biology and rare species conservation.

# The Way We Were: Wardens Then and Now

Written by Officer Elise Bouthillier, DEEP Environmental Conservation Police Division

Over the past 120 years, the State of Connecticut Environmental Conservation Police have gone through many changes. We began as Special Game Protectors under the supervision of the State Board of Fisheries and Game, and in 1913

Fisheries and Game and its responsibilities. DEP maintained two separate law enforcement job series: Conservation Officers and Environmental Protection Law Enforcement Officers (state park police). While the department underwent a massive shift, the

Patrol was done by car, boat, or on foot and with a minimum of, if any, specialized gear. Vehicles with lights, sirens, and radios were unheard of and boats were wooden and rarely motorized. These early Wardens covered a much more rural patrol than that

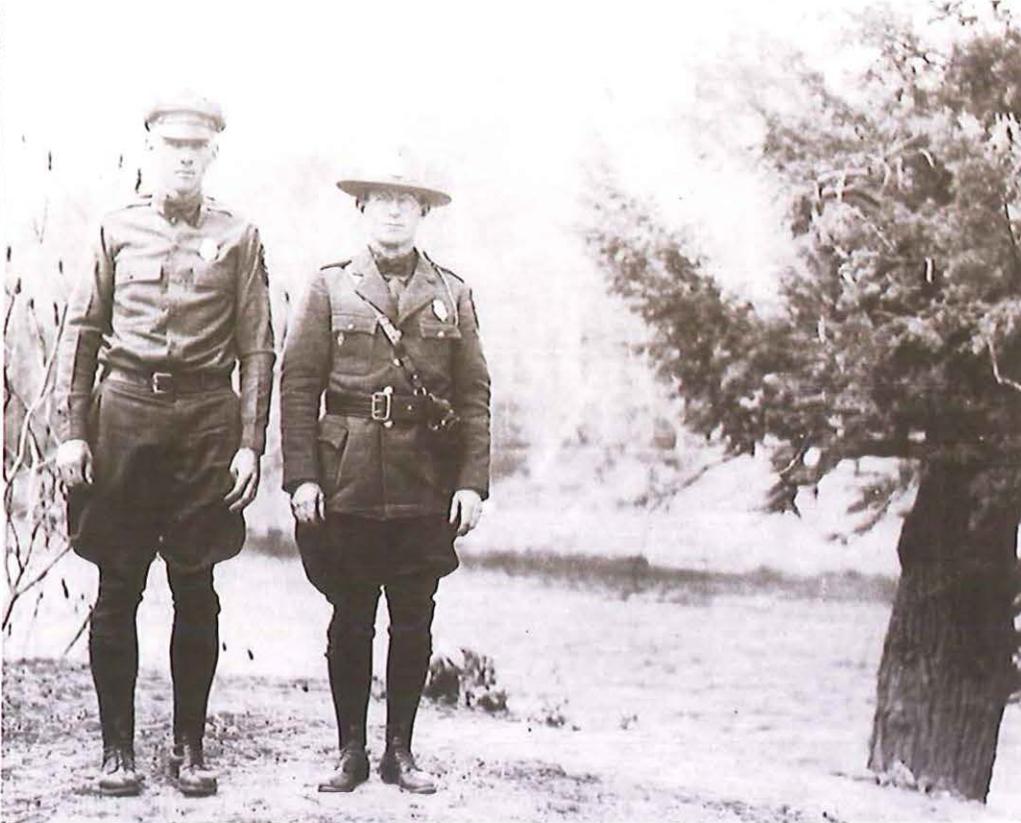
of modern officers and their duties focused on working with wildlife possibly more often than with people. They hiked to remote locations to band and stock pheasants; trapped and removed “nuisance wildlife,” such as snapping turtles and bobcats; and stocked trout from simple, non-motorized wooden boats. Not only was the technology of the day much more simplistic, but the attitudes of the public in regards to natural resources and police officers was a far cry from the environmental and public safety concerns of the modern era.

In 1993, a significant shift in the role and responsibilities of Game Wardens occurred – Conservation Officers and Environmental Protection Law Enforcement Officers were merged to become Conservation Enforcement Officers. In addition to the traditional enforcement of hunting, fishing, and trapping, Conservation Enforcement Officers were responsible for patrolling all DEP-owned properties and the inherent law enforcement

issues that came with them. This merge has proven to be a pivotal point in the history of the Environmental Conservation Police and has shaped the job into what it is today. This was the turning point at which the department began to adopt more modern policing techniques and the job description began to include more aspects of traditional police work as opposed to being singularly focused on fish and game.

This transition is not only reflected in the change of titles, Game Warden to the current Environmental Conservation Police Officer, but it can be physically seen in the outward appearance of our modern officers. Gone are the days of wool uniforms, shiny brass badges, and leather pitees. The modern Game Warden is outfitted in gore-tex and rip stop BDU (military slang for battle

COURTESY OF W. MYERS, CURATOR, CT CONSERVATION OFFICER'S ASSOCIATION ARCHIVES



Part-time Deputy Warden Holden (left) and Full-time Country Warden Seth Monroe (right) on the bank of the Farmington River, April 19, 1934. Note the black bow ties, “cross draw” style holster, and black shoulder patches, which were the first to be issued for Connecticut Game Wardens.

a more structured system of County Game Wardens and Deputy Wardens was put in place. That system remained for the next 40 years and our duties included the traditional enforcement of hunting, fishing, and trapping laws. These first Wardens stocked fish, pheasant, and even rabbits; educated sportsmen; and patrolled the state by whatever means necessary. In 1953, another name change was enacted, and the title of Game Warden was replaced with Conservation Officer. Regardless of the name change, our duties continued to encompass much of what one traditionally thinks of as the activities of a Game Warden, and business continued as usual.

In 1971, the Department of Environmental Protection (DEP) was created, effectively absorbing the State Board of

duties and job description of the Conservation Officers remained largely unchanged.

The uniform and gear of early Wardens reflected the requirements of the job, but also the different social mind set of the era. Uniforms consisted of green wool breeches and coats worn with white shirts and formal black ties. Leather boots with black leather pitees were standard issue footwear.

The very first Wardens were identified only by a single metal badge and hat pin, with shoulder patches being introduced in 1934. They wore simple black leather belts with cross chest bandoliers, and while some did carry firearms, they were not required to until 1974. Wardens were trained in firearms use, most often with the “Police Colt” .38 caliber revolver, which was carried in a reverse cross draw leather flapped holster.



**Environmental Conservation Police staff in 2016. Note the modern BDU style uniform, full duty belt, and green and gold shoulder and badge patches.**

PHOTO: T. RICARDI, U.S. FISH AND WILDLIFE SERVICE



A. BLACKWELL, DEEP ENCON POLICE

**A 1978 four door Plymouth Fury station wagon (left), which was the assigned patrol vehicle for Conservation Officer Randolph Dill in 1980. Note the dash emergency light and front marker plate. The current style of assigned patrol vehicle (right), a 2014 Chevrolet Silverado pickup truck, with light bar, double cab, and 4-wheel drive.**



COURTESY OF W. MYERS, CURATOR CT CONSERVATION OFFICER'S ASSOCIATION ARCHIVES

dress uniform) style uniforms, complete with Kevlar vests and weather resistant nylon duty belts, filled with a plethora of tools always close at hand. This drastic juxtaposition of dress style not only reflects the change in fashion morays over the last century, but also highlights just how greatly the job itself has transformed. As our title, uniform, and equipment evolve, so do our duties and responsibilities.

Today's Environmental Conservation Officer is practically overloaded with modern equipment and gear. We are outfitted in breathable tactical uniforms with an abundance of pockets capable of storing away pocket knives, compasses, magnesium fire starters, note pads, lobster gages, several cell phones, and a digital radio capable of transmitting signals across the state. Formal ties, stiff wool, and leather have

flexible nylon duty belts loaded down with almost every tool imaginable. The average duty belt can weigh upwards of 20 pounds and includes a standard issue service hand gun, extra ammunition, pepper spray, Taser, baton, and handcuffs. In addition, many officers carry extra gear as they see fit, most commonly emergency medical kits and a variety of outdoor gear, to include snowshoes or even skis. Additional equipment can also include life jackets, catch poles, waders, binoculars, spotting scopes, and layers of fleece, gore-tex, and cotton clothing suitable for New England's ever unpredictable climate. Standard issued patrol vehicles are equipped with lights, sirens, radios, and a full computer terminal capable of retrieving information almost instantly. This apparent overabundance of gear is not simply a result of better access to a wider

variety of resources, but more accurately a reflection of just how drastically the job has evolved. Officers now cover enormous areas of the state and are expected to respond to calls within minutes, not hours or days. Not only do officers continue to perform many of the historical duties of previous Wardens, such as stocking trout and pheasants, they also fulfill the role of traditional law enforcement. On any given day, an Environmental Conservation Police Officer might begin hiking in the woods checking deer hunters, transition into a search and rescue operation by land or on water, and finish by enforcing motor vehicle regulations in a state park or forest. We operate almost completely out of our vehicles and must be prepared for nearly any eventuality, including issuing paperwork, rescuing and transporting injured wildlife, and being constantly on alert for threats made against ourselves and the public we serve.

# Changes and Challenges: History of Bass Management in CT

Written by Bob Jacobs, DEEP Inland Fisheries Division

## *In the Beginning*

The Connecticut Fisheries Commissioners first stocked the two bass species, smallmouth and largemouth bass, sometime in the late 1800s during an era when the goal was to stock as many different kinds of fish as possible, both for sport and to eat. Soon after bass were introduced, it was apparent that they needed special protection. Market fishing (the practice of harvesting as many fish as possible of any size to sell) for bass and other species was commonplace in the 1800s. Thus in 1870, the first bass regulations were implemented starting with gear restrictions – fishing was limited to “hook-and-line” and soon followed by closed seasons to protect newly stocked fish. The first minimum size limit was instituted in 1901 (6 inches) and the first creel (harvest) limit followed in 1927 (10 fish per person per day). Bass regulations were periodically tweaked during the

early 1900s until 1953, when a 12-inch minimum length limit and a six-bass creel limit was implemented (this is still our current statewide regulation).

## *The Renaissance*

Thirty years later, due to the rising popularity of bass fishing and concerns that fishing quality was not “what it used to be,” the Inland Fisheries Division launched an intensive five-year (1980-84) study of a cross-section of Connecticut lakes to determine the status of our bass populations. It was discovered that bass growth, harvest, and recruitment (the numbers of fish that hatch and survive to catchable size) varied considerably among lakes and that the existing statewide regulation was not adequate to promote optimal bass growth in many waterbodies. It also was found that a higher minimum length limit should enhance fishing quality in some lakes, while

other lakes had too many small bass, a condition known as “stockpiling.”

Stockpiling occurs when there are too many fish in a lake and not enough food for the fish to grow to a large size. In these situations, the fish have less than optimal growth rates and remain small for their entire life (stunted), dying of natural causes before reaching a catchable size.

To reduce stockpiling, managers use a “slot length limit” regulation (allow anglers to harvest smaller fish) to thin out numbers of small fish and improve growth rates, while protecting the larger fish that are more desirable to anglers. An example of this is a “12-16 inch slot” where anglers may harvest bass under 12 inches or typically one or two over 16 inches, but must release any bass between 12 and 16 inches.

## *Into High Gear*

Connecticut bass research swung into



DEEP INLAND FISHERIES

Lake and pond electrofishing samples indicate that Connecticut's bass populations are healthier than ever. Yet many anglers complain that they are not catching as many large bass as they used to. The reason is simple – the fish are getting harder to catch. Research indicates that bass are capable of learning to avoid lures. However, recent studies have also shown that the fish have changed in a more fundamental way – that fishing itself has caused a change in the fish's biology and behavior (more to come in the next issue).



Bass are collectively the most popular gamefish in Connecticut, and the state's most ubiquitous fish species – with self-sustaining populations of one or both species found in almost every lake, pond, and larger river in the state. Besides being popular with anglers, bass are the primary predators in Connecticut lakes and ponds, thus playing a key role in keeping our fisheries in balance.

high gear after the Wallop-Bureau Act (1984) increased federal funding to states for the purpose of sport fish restoration. This new phase of bass study (1988-1994) had two components. The first was a statewide electrofishing survey of over 100 lakes, ponds, and large rivers to collect data on warmwater fish populations. The second was implementation of experimental, more conservative length limits in three lakes (12-16 inch slot limit in two lakes and a 16 inch minimum length limit in the third).

The result of these initial length limit experiments was that the number of bass (over 12 inches) increased by as much as 40% within five years of changing the regulation. These encouraging results led to the creation, in 2002, of 30 “Bass Management Lakes” where conservative length and creel limits tailored to each lake were implemented. Five years after the change in regulations on these 30 lakes (2007), data indicated some bass populations improved and some declined slightly, while others remained unchanged. The average result was – no effect. What happened?

### Present Challenges

Over the past 30 years, anglers have become increasingly interested in fishing

*A recent cooperative study conducted by UConn and the DEEP Inland Fisheries Division revealed that in our most heavily fished public lakes, on average, each catchable size bass is caught two to three times per year.*

for sport and much less so in harvesting bass. Nowadays, over 85% of bass anglers practice strict catch-and-release fishing. Typical annual bass exploitation rates (the proportion of a fish population that is harvested per year) declined from around 40% in the 1980s to below five percent at present. Once fish harvest rates become very low, traditional fisheries management strategies, such as length limits and creel limits, start to become irrelevant (i.e., protecting fish from harvest has little effect if anglers are not taking many

of them anyway). Thus, the significant change in bass angler attitudes over time greatly reduced the beneficial effects of the special Bass Management Lake regulations soon after they were implemented.

### Challenge for the Future

The advent of the “catch-and-release” era in Connecticut bass fisheries has created a new set of challenges for fisheries managers. Survival of caught and released bass is very high – generally less than five percent die as a result of being caught once. However, due to the cumulative effect of so much angling, modelling has indicated that catch-and-release related mortality is the greatest factor affecting our bass populations, even more than harvest. For this reason, to maintain quality bass fisheries, emphasis should be on practices that optimize fish survival (after being caught) and less on



Smallmouth Bass



Largemouth Bass

creating new fishing regulations. It has become obvious that new and creative ways of managing bass fisheries need to be developed. As we move forward, we encourage greater communication and collaboration with everyone who is interested in improving bass fishing for the next 150 years and beyond.

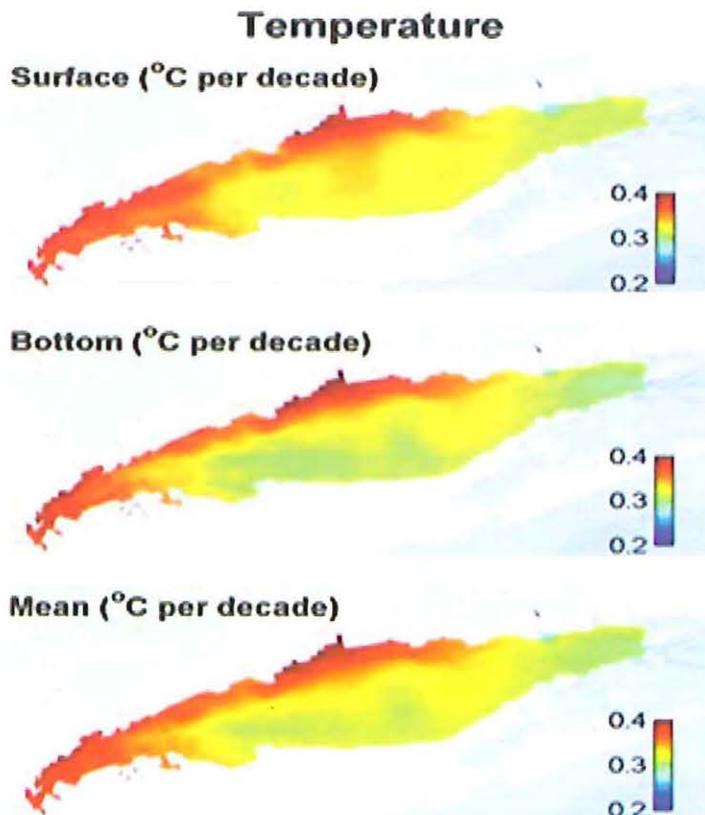
# Climate Change Here and Now in Long Island Sound

Written by Penny Howell, DEEP Marine Fisheries Division

DEEP Marine Fisheries Division staff just completed a collaboration with the Stevens Institute of Technology in New Jersey and the federal National Marine Fisheries Service to develop a high resolution model that tracked past changes and simulates potential future changes in the climate of the Long Island Sound ecosystem. The project was funded through both New York and Connecticut Sea Grants because the Sound is essentially left out of larger coast-wide climate models developed by the Intergovernmental Panel on Climate Change (IPCC), a concern for both states that share the Sound. This modeling exercise was novel in that it was structured around successfully “predicting” the past 35 years (1979-2013) in terms of water temperature, salinity, wind and tidal patterns, storm events, sewage and industrial water discharge, and several other variables for the entire Sound, New York Harbor, and the southern end of adjacent rivers. Once the model was deemed “skillful” at recreating the past, it was then used to predict what would happen if atmospheric carbon dioxide increased one percent each year for 20 years, essentially doubling current levels (an intermediate IPCC scenario).

Both direct observation and model results show an upward temperature trend. The Sound is warming at a rate of 0.3-0.4° Celsius per decade, which is much faster than the oceans of the world. Warming is most evident along the more shallow parts of the Connecticut coastline and western Narrows. The physical oceanographers at Stevens Institute working with this model were able to directly relate this warming trend to atmospheric events in the Pacific Ocean and Alaska which have strong influence over the path of the jet stream. These results showed that the Sound’s physical environment is influenced primarily by global forces in the Pacific, and only marginally by events in the Atlantic.

The next step was to assess the effect of these changes on the Sound’s marine populations. Physical data and fish abundance trends from the Connecticut DEEP Water Quality



Model results showing the average increase in water temperature from 1979-2013 throughout Long Island Sound. The greatest increase (red) is in shallower areas along the Connecticut coast and in the western Narrows.

Survey and Long Island Sound Trawl Survey were used to generate “Habitat Suitability Indices” for fish species common in the Sound. Species not targeted by either sport or commercial fishers were grouped into two temperature tolerance

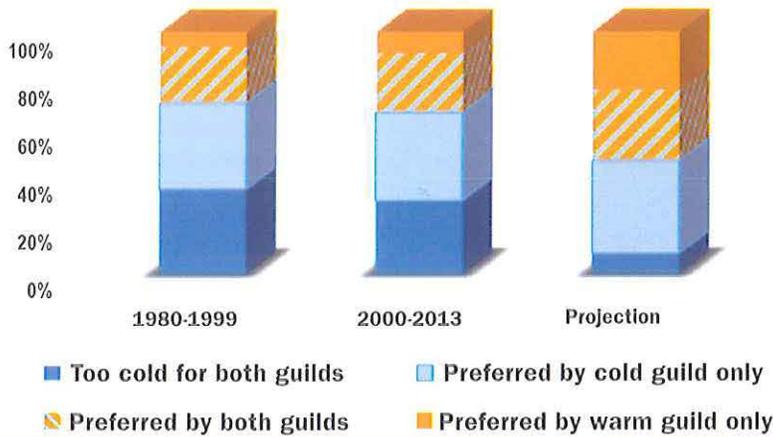
guilds, one preferring colder temperatures and one preferring warmer temperatures. Analysis of the historical data showed a significant upward trend in the frequency of occurrence of preferred temperatures for the warm guild over the past 35 years. In fact, the modelers showed that the abundance trend of warm tolerant species in the Sound in the last 35 years was very closely related to changes in an index of Pacific Ocean atmospheric events (called the Pacific Decadal Oscillation or PDO). There was no trend in the frequency of preferred temperatures for the

P. J. FUSCO



The lobster is the “poster child” for climate change. The species is very sensitive to temperature variation and has distinct temperature thresholds which dictate its behavior and survival.

### Fish Guilds: Percent Spring Area\*Days



This graph shows the percent of the Sound area totalled over spring (April-June) days within two historic time periods and a 20-year future projection where bottom water temperature is within the preferred range for a cold tolerant fish guild versus a warm tolerant fish guild. Although the total for both guilds increases, the occurrence of overlap and therefore competition between the two also increases.

cold guild, only a calendar shift forward in spring. The result has been an increase in the diversity of species captured in the Trawl Survey over the last decades with no consistent change in overall abundance.

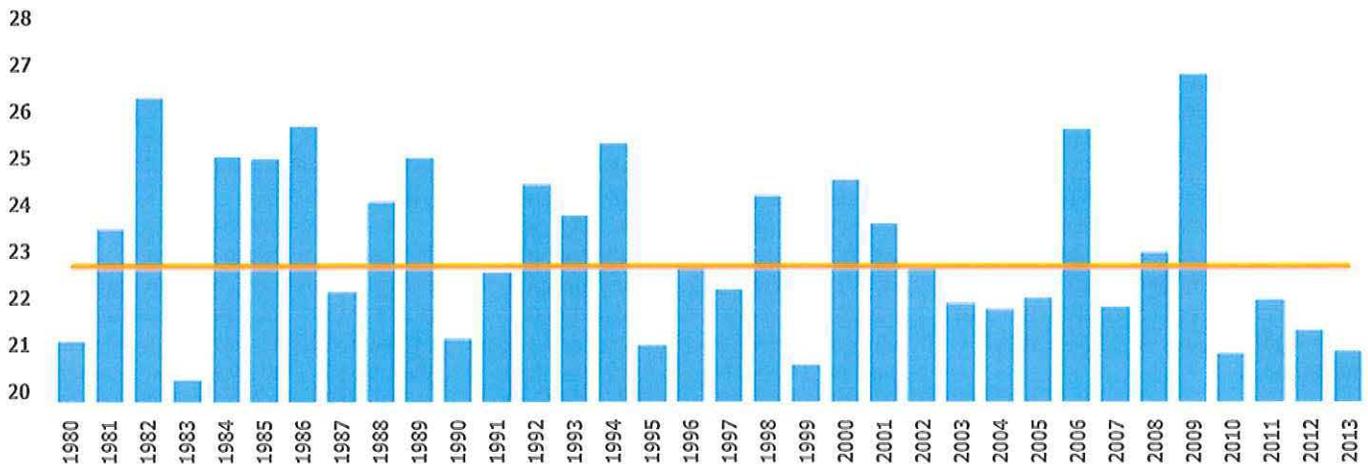
Projected future water temperatures, based on a doubling of atmospheric CO<sup>2</sup> over 20 years, showed that unsuitable temperatures for warm guild fish species will decrease to half the historic values. This change will continue to open the door to mid-Atlantic species, such as scup, black sea bass, and butterfish, allowing them to migrate sooner into the Sound in greater numbers to feed and reproduce. Competition between these fish and the Sound's iconic cold tolerate species, including winter flounder and rainbow smelt, will most likely increase and result in several winners and several losers.

Everybody's favorite invertebrate, the American lobster, also was included in this exercise because of its commercial value and the fact that the Sound's population experienced a dramatic die-off in 1999. Model results showed that the occurrence of its preferred temperature range in time and space has decreased, especially in 1999 and 2010-2012. Research prompted by the die-off revealed that lobsters have a fairly distinct upper limit to their physiological tolerance of warm temperatures. Model results showed that the occurrence of stressfully high temperatures above this threshold have increased since the mid-1990s and the future projection showed that the frequency of occurrence of stressful temperatures will nearly double. These results cast real doubt on the prospect of the lobster population rebuilding in the near future.

The results of this modeling exercise have several other management implications. As the "suitability window" shifts forward on the calendar for cold tolerant species, it creates problems with fishing season restrictions that were worked out between the states based on historic

harvest patterns that no longer hold true. The same can be said for the widening of the "suitability window" for warm tolerant species which should give local anglers and commercial harvesters greater opportunity to target newly abundant species. However, we are not the only predator in the ocean. Temperature and salinity changes will bring new predators into the Sound sooner and for longer seasons. For some species, these physical changes also could disrupt the critical timing between the hatching of young and their food sources. Together these changes result in lower survival of vulnerable life stages for some of our traditional favorite species. So, we will need to keep a close eye on this brave new world of changing climate which is now upon us.

### LOBSTER: Percent Area\*Days within Ideal Temperature Range



This graph shows the percent of the Sound area totalled over the days of each year where bottom water temperatures are within the preferred range for lobster. Only three years since 2002 have been above average (yellow line). The occurrence of preferred temperature in 1999, the year of the die-off, was particularly low. (Area\*Days is the product of area times days that fall into a category of temperature.)

# Common Loon - The Great Northern Diver

Article and photography by Paul Fusco, DEEP Wildlife Division

As day turns to night and darkness reveals a star-studded sky, the eerie call of a common loon is heard echoing across the still water of a quiet lake. Often described as wailing, yodeling, or tremolo, the active calling of the common loon is both enchanting and mystical. Common loons are esoteric in that they represent a sense of the north woods and true wildness that has escaped the perceptions of the common populace. Loons provide a connection to the outdoors that many people appreciate and admire.

Summertime loons are a rare sight in Connecticut. One or two may be present in some summers at large isolated inland lakes, or perhaps a non-breeder might spend the summer along the coast. Generally speaking, common loons are rarely found in our state as a breeding species.

At the size of a small goose, loons are large, powerful swimming birds. Their bodies are designed for swimming and propelling underwater, with strong legs that are set well to the back of the body, making walking on land difficult and awkward. Loons take flight by flapping their narrow wings while running along the surface of the water. It may take over 100 yards before they become airborne. In fact, most loons cannot take flight from land. Once airborne, flight is strong and direct. The birds have rapid wingbeats and a hunched posture as they hold their neck and head lower than the body. The large webbed feet trail behind, acting as rudders.

The most notable features of the summer plumage include an elegant black and white pattern on the back, dark green and white patterned neck collar, and a white underside. The head is dark green and the bill is black. In winter, the plumage is dark gray above and white below. When seen at a distance during winter, the birds may be difficult to separate from other loon species that are very rare in our area, which would include the yellow-billed and Pacific.

## Habitat

While loons are rarely found in Connecticut during summer, they are commonly seen outside of the breeding season. Large inland lakes and Long Island Sound are favored habitats and great



places to look for them during migration and in winter. At times, they may be seen in the company of red-throated loons, which are smaller.

Common loons require clear water to be able to see and pursue their food as they swim underwater. Because of their reliance on clean water, the presence of loons on a body of water is considered to be an indication of water quality. The diet consists primarily of small fish and crustaceans. In summer, other invertebrates, frogs, and salamanders are also on the menu. Prey is caught with their pointed, dagger-like bill.

## Behavior

During the breeding season, common loons have their greatest success nesting at large, deep lakes that offer quiet isolation from development and especially from power boats. Small islands of vegetation are often used as nest sites or resting places. Nests are built by piling dead vegetation into mounds at the water's edge. Loons only come out of the water to nest. The typical clutch size is two. In Connecticut, the most likely places for possible nesting are on access restricted water company properties, including Barkhamsted, Nepaug, and Colebrook Reservoirs in the northwestern part of the state.

Common loons are accomplished divers. They have the ability to remain un-

derwater for extended periods of 15 minutes or more and can cover long distances before having to resurface. In fact, some dives may reach depths of more than 200 feet.

To facilitate underwater swimming and diving, loons can control buoyancy by compressing their bodies and flattening their feathers to release air pockets, which makes them more streamlined and less buoyant. Loons also have denser bones than most other birds, reducing buoyancy for swimming and underwater diving.

Loons also have the physiological ability to change oxygen levels and blood flow to different parts of the body when making dives. They are able to maximize the use of oxygen in their blood to where it is needed most during a dive, such as to the nervous system and heart.

Oxygen flow to other body parts is reduced to anaerobic metabolism until the bird surfaces to breathe. This enables loons to make extensive and deep dives.

## Conservation

So few common loons occur in Connecticut during the breeding season that they are on the state's list of special concern species. Connecticut is on the southern edge of the common loon's breeding range. The birds are much more plentiful to our north in northern New England and Canada.

DEEP records indicate that there have been at least five confirmed occurrences of successful breeding since the 1950s. Most of those were in the northwestern part of the state. The most recent record is from 2015. Prior to the 1950s, data are spotty and incomplete with no other confirmed records.

In the Northeast region, common loon populations are subject to many pressures, including acid rain, mercury pollution, lead ingestion, and high levels of disturbance on nesting lakes. Despite these threats, the population is considered stable, thanks in large part to conservation measures, including lake management, nest monitoring, and public outreach. Loon conservationists must remain diligent to keep threats minimized and protect loons into the future.



While common loons are rarely encountered in Connecticut during the breeding season, they are fairly common in winter on large bodies of open water and in Long Island Sound.

## *The Triple Threat Facing Common Loons*

### **Lead Poisoning**

Lead poisoning occurs when loons pick up grit from lake bottoms to aid in digestion. Many loons pick up lead sinkers and jigs instead of stones, which end up slowly poisoning the birds. Lead sinkers and jigs cause fatal lead poisoning if ingested. All it takes is one lead sinker or jig to kill a loon or other water bird if it is swallowed.

Lead poisoning is the leading cause of mortality in adult common loons in Maine. Widespread public outreach in loon breeding areas helps to protect the birds.

The use of loon-friendly, lead-free fishing tackle, which is made of bismuth or plastic, and properly disposing of monofilament line will go a long way to help protect loons. Also, use biodegradable line whenever possible. These recommendations are good not only for loon nesting areas, but also for wintering areas, and will help protect other wildlife from needless perils as well.

### **Acid Rain**

Acid rain is primarily caused by fossil fuel combustion and vehicle and power plant emissions. Due to the west to east flow of our weather pattern, acid rain that is deposited in the Northeast originates from air pollution generated by coal-burning power plants in the Midwest.

Acid rain can be deposited by rain, snow, and fog. Sulfur dioxide and nitrogen oxide pollutants in the air combine with atmospheric moisture to create sulfuric acid and nitric acid. These acidic compounds change the chemistry of water and soils. Acidity also causes heavy metals to be unleashed into the environment by breaking down the chemical bonds keeping those metals in place. Once these contaminants get into the environment, the consequences are often deadly for fish in ponds and lakes. In addition, wildlife higher on the food chain, such as loons, may be poisoned.

### **Mercury Pollution**

Coal-fired power plants are the largest source of mercury pollution. Trace amounts of mercury found naturally in coal are released into the atmosphere when coal is burned to produce electricity. Once in the air, mercury returns to earth with rain and snow, or as dry particles that then end up in rivers, lakes, and coastal waters. Over time, mercury may settle in sediment on the bottom of water bodies. However, in acidic lakes, it becomes more water soluble and can be released back into the water from the sediment. Northeastern states and Maritime provinces of Canada have the worst mercury pollution in North America.

Because mercury accumulates in the aquatic food chain, top predators that eat a lot of fish, such as loons, are the first victims to show signs of mercury poisoning. Scientific studies conducted in the northeastern United States and Canadian Maritimes have shown that loons breeding in these areas are experiencing reproductive problems consistent with mercury poisoning.

Loons with high levels of mercury may suffer reproductive failure, where no young are able to survive. Being a neurotoxin, mercury affects the nervous system and can debilitate young loon chicks, leaving them with a lack of motor coordination and leading to death.

Loon populations from our region are considered seriously at risk from mercury pollution. In some areas, the recruitment of young birds is not high enough to sustain the population.



# Forest Fires and their Absence in Connecticut

Written by Emery Gluck, DEEP Division of Forestry

When you think of forest fires, Connecticut does not usually come to mind. But it wasn't too long ago that fires were fairly common. DEEP Forestry Division staff recently digitized fire maps of Pachaug State Forest from 1937 to 1968 into Arc Map Geographical Information System (GIS). Pachaug, which is Connecticut's largest state forest, is located along the Connecticut/Rhode Island border. The maps reveal that conflagrations (destructive fires) were frequent in at least that locale. An additional 5,000-acre forest fire was reported on May 4, 1930, which occurred prior to the years included in the mapping effort. If the 1930 fire was added, it would be more than double the largest mapped fire and paint an additional sizeable chunk of the map red.

From 1917 to 1922, an average of 49,000 acres or about three percent of the forest in Connecticut was reportedly burned annually. 1915 was a record year with 115,000 acres burned. For a frame of reference, the average size of a Connecticut town is just over 18,000 acres.

On one of the worst fire days recorded – May 4, 1930 – there were seven ongoing fires each burning over 1,000 acres. According to then State Forester Austin Hawes in his *History of Forestry in Connecticut*, “Two swept in from New York, one in Kent burning 1400 acres in Connecticut beside an estimated 6000 acres in New York; the other came into Salisbury, burning 4460 acres in Connecticut; 1950 acres in New York and 3300 acres in southwestern Massachusetts. In the center of the state in the Ten Curves section of Marlboro burned 2300 acres; while in the eastern section, one in Ledyard and Groton burned 1000 acres; one in Montville and Waterford 1200 acres; one in North Stonington 1170 acres; and one in Voluntown burned 5000 acres in Connecticut and 5500 acres in Rhode Island.”

Because there was a good chance that a forest was going to burn sooner or later, the fires probably influenced private landowners to cut their trees before they were burned and while the trees still had value. In those days, the great demand for wood and widespread fire encouraged extensive clear-cutting of young forests. The clearcutting and chestnut blight (chestnut trees accounted for an estimated one-quarter of the trees in the state) were adding massive amounts of brush and downed

wood that fueled the fires. Connecticut forests were repeatedly clearcut as wood and charcoal (along with hydropower) were the main sources of energy for the state's industries prior to the 1920s. An enormous amount of wood also was used for heating homes and buildings.

At the urging of the Connecticut Forestry Association (now Connecticut Forest and Park Association), the state legislature charged the State Forester in 1905 with suppression of all wildfires in the state. The State Forester also became the State Fire

Warden in charge of Deputy Wardens who hired patrolmen and fire warden crews. A network of 44 fire towers facilitated detection. Fires were located by triangulating from two or more towers. Use of most towers was discontinued in the 1960s and 1970s. Information about Connecticut's fire towers can be found at [www.firelookout.org/lookouts/ct/ct.htm](http://www.firelookout.org/lookouts/ct/ct.htm).

Fire was previously ingrained in the fabric of rural Connecticut, as well as the rest of the country. It was a common practice for Native Americans to clear land for agriculture and probably increase field habitat for deer.

Early historical accounts suggest that large swaths of open land occurred along the Connecticut coast and major rivers. The first 15 miles along the Quinnipiac River were reportedly a savanna (grassy with scattered trees). Prior to settlement, Hartford, Farmington, and at least 15 other Connecticut towns had open areas already cultivated or at least cleared by the Native Americans. The colonists sought out these fields for settlement because there was

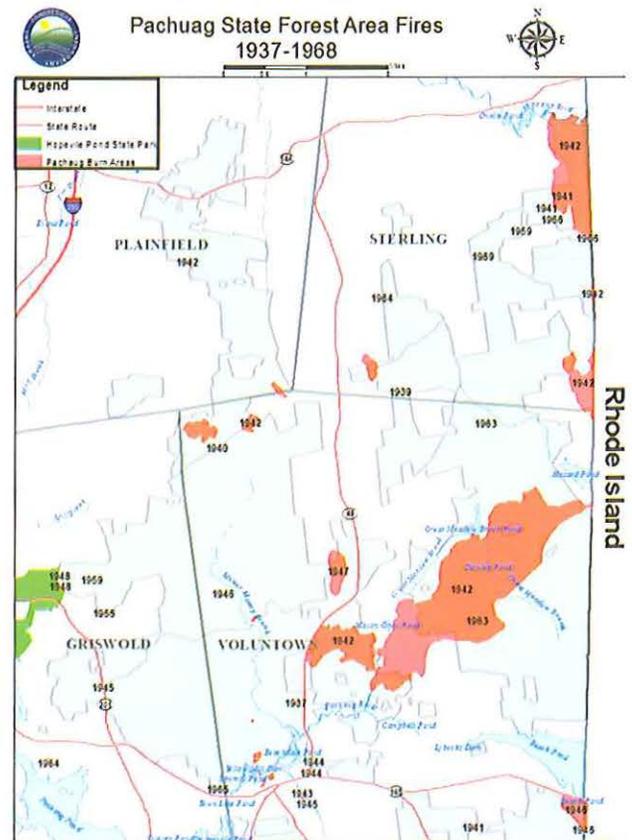
ready-made pasture for livestock and land available to cultivate immediately without the arduous task of removing trees. Many of these areas were abandoned as the Native American population was decimated by smallpox and other European diseases.

The forests just inland from the openings were reportedly park-like with well-spaced overstory trees and a grassy understory often punctuated by oak and chestnut sprouts. The fires knocked back the thick woody understory that is prevalent in today's forests. These conditions

*“Fire once to clear the brush. Fire twice to burn the trunks. And again to make a cindery bed.”*

*Jane Brox, Clearing Land*

made travel and the collection of acorns (an important food source for Native Americans) and firewood easier. They also encouraged berry production and provided good habitat for game animals. Some fires killed thin barked trees, thus thinning out the forest. Older oaks and chestnuts had thick bark that insulated them from low



and moderate intensity fires. The open understory provided enough light for acorns to germinate. If the fires ceased for a while, oak seedlings and sprouts could shoot up, possibly growing into the overstory through gaps in the canopy. Fires, combined with pest infestations or hurricanes, could kill significant groups of canopy trees, allowing a thicket of young oak and chestnut to take their place. Over time, a mosaic of different aged forests probably developed, along with a suite of different habitats.

The settlers “picked up the torch” as the Natives started to have a smaller role in using fire to change the habitat. In 1665, John Kilburne was employed to burn the woods from Wethersfield to Middletown to knock back the forest and facilitate land clearing. Farmers continued to burn their fields and woods to improve pasture for livestock. Firing the woods became so prolific that in 1713 Waterbury had to forbid burning for



This photo taken in Barkhamsted in 1917 shows how chestnut oaks sprouted from trunks of trees killed by a fire.

CONNECTICUT AGRICULTURAL EXPERIMENT STATION (2)

unusual for much more than 700 acres to burn annually now in Connecticut) and the fires are usually less intense; therefore, oaks and pitch pine are not sustaining themselves under current natural conditions. Thickets of shade-tolerant birch, beech, and maple

slowly die out or suddenly meet their demise after severe drought, hurricanes, or pest outbreaks. The slow loss of oak forests has been called an impending ecological crisis. Climate change should potentially be more conducive for oak. However, oak trees continue to lose ground in the southern and mid-Atlantic states, which Connecticut’s climate will purportedly soon be like as climate change progresses.

*“Forests are always waiting to overrun the fields.”*

*Wendell Berry, The Unsettling of America*

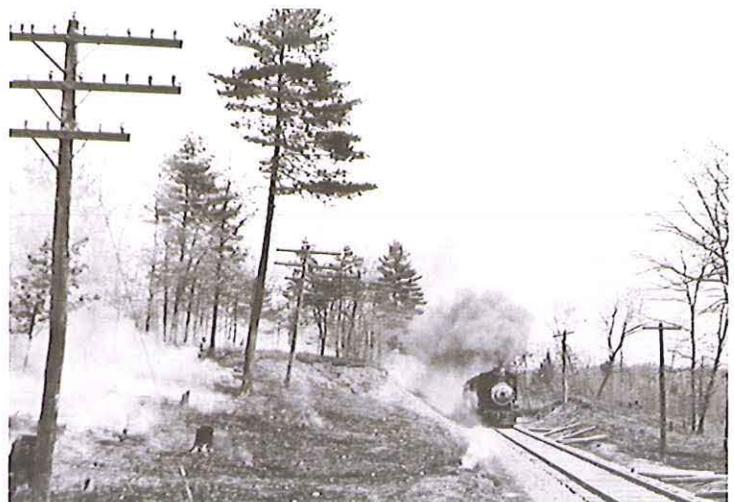
seven years to let young trees get a start. Later, sparks from trains and probably charcoal mounds became significant ignition sources. The vast amount of logging slash most likely created more intense and severe fires than usual.

Trees that coexist with fire had to develop survival mechanisms, like bark thickness, for their species to survive for thousands of years. Most native hardwoods often persevere after fire kills their stems and crowns, as they commonly re-sprout at their base. Oak and chestnut appear to be the most persistent sprouters after repeated fire. Oaks, pines, aspen, cherry, and red cedar also were able to seed in land cleared by fire and after fields were abandoned.

Land management practices of Native Americans and European settlers favored forests dominated by oak and chestnut with a significant pitch pine component. With the demise of chestnut due to the chestnut blight, oaks became the most important trees for wildlife as their acorns are the best plant-based source of protein.

Currently, fire burns only a tiny fraction of the forestland that it historically did (it is

have surged, crowding out shade-sensitive oak in the understory. In addition, much of the present harvesting on private land removes the best timber (often oak), leaving the less ecologically desirable species and smaller trees. This regressive practice (called high-grading), the lack of fire, and increased deer browsing speed up the transition from forests dominated by oaks to ones with less ecologically valuable birch, beech, and maple trees. Even without high-grading, the current trajectory of our forests is of great concern as the oaks and pitch pines



Sparks from trains were once a significant cause of fires in Connecticut, as seen in this photo (date unknown).

The interplay between fire and its absence historically laid the ground work for a continuum of diverse plant and animal communities. Some plant and animal communities thrive in recently disturbed forests, while others find their niche in undisturbed

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## Forest Fires

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areas. Young forests develop in the void left after older forests are destroyed by severe disturbances. Newly established forests provide important habitat for about 60 species of mammals and birds. Many of these are on Connecticut's Endangered, Threatened, and Special Concern Species List. The greatest biological diversity occurs in an upland forest when all successional stages of a forest (from newly established to old growth) are present in adequate amounts to support viable populations of all the species that depend upon the different stages of forest.

About 100 years ago, there was too much disturbance in Connecticut due to the numerous clearcuts and severe fires that left very few old forests. A forest inventory of Litchfield County conducted by the Connecticut Agricultural Experiment Station in 1909 revealed that 95% of the forest was less than 40 years old because of tree-cutting and recent farmland abandonment. Today, the opposite is true, with the landscape dominated by maturing forests and a lack of young forests due to the absence of recent severe disturbances.

Because fire and other disturbances have historically been an intrinsic part of establishing new forests and maintaining oak and pitch pine forests, DEEP's Division of Forestry is implementing forestry operations on state forests that include commercial tree harvests and occasionally

## Demand for Charcoal Changed Connecticut's Forests

Charcoal was usually made by piling 30 cords of wood in a dome shape about 30 feet across, and covering it with a layer of dirt so it could be burned with minimal oxygen, thus driving out the moisture and leaving a pure form carbon. The charcoal was needed to fuel Connecticut's 19 iron forges, as wood fires were not hot enough to smelt iron. At the peak of Connecticut's iron industry, an estimated 23 square miles of forests were clearcut annually to feed the furnaces. Railroads, the brass industry, and lime and brick kilns also used an immense amount of wood. Many trees were also cut for lumber, fences, shingles, and chemicals derived from wood.



Connecticut colliers on top of their charcoal mound in the early 1900s.

PHOTO: CONNECTICUT AGRICULTURAL EXPERIMENT STATION

prescribed fires as a proxy for wildfires. The removal of small trees mimics a low-severity fire. The harvest of overstory trees imitates natural disturbance, such as

severe fires, mortality from infestations, and blowdown from hurricanes and microbursts. Though most pre-settlement fires were human caused, Native American fire can be considered a natural disturbance as some ecologists classify aboriginal management activities as part of the natural disturbance regime.

It may be considered counter-intuitive, but sustaining oak and pitch pine forests under current conditions means that concentrations of under- and overstory trees (including oak) must periodically die. Most of the forestland in our state forests are maintained as maturing forest, but relatively small and frequent infusions of young forest are needed to maintain critical habitat and habitat diversity. The DEEP Forestry Division employs forest management as a tool, partly because it is the most economical way to sustain biological diversity in upland forests. The Division works with natural systems to promote and sustain all the different types of forests. It especially goes to bat for the "underdogs," those forest types on a downward trajectory that are not sustaining themselves under current natural conditions.

E. GLUCK, DEEP FORESTRY



Early Native Americans promoted park-like woodlands with lower intensity fires. After the DEEP Forestry Division implemented a shelterwood harvest and prescribed burn in Nehantic State Forest in East Lyme, native grasses seeded and grew on the forest floor.

## Recent Retirement: Paul Rothbart, District/Habitat Program

*Supervising Wildlife Biologist Paul Rothbart recently retired after more than 33 years with the Wildlife Division. Paul took with him a vast amount of knowledge and experience that will be impossible to replace, and his accomplishments and contributions have been numerous. This is Paul's opportunity to describe his legacy in his own words. The Wildlife Division thanks Paul for his years of dedicated service and we wish him well!*

### **Why did you pursue in a career in wildlife?**

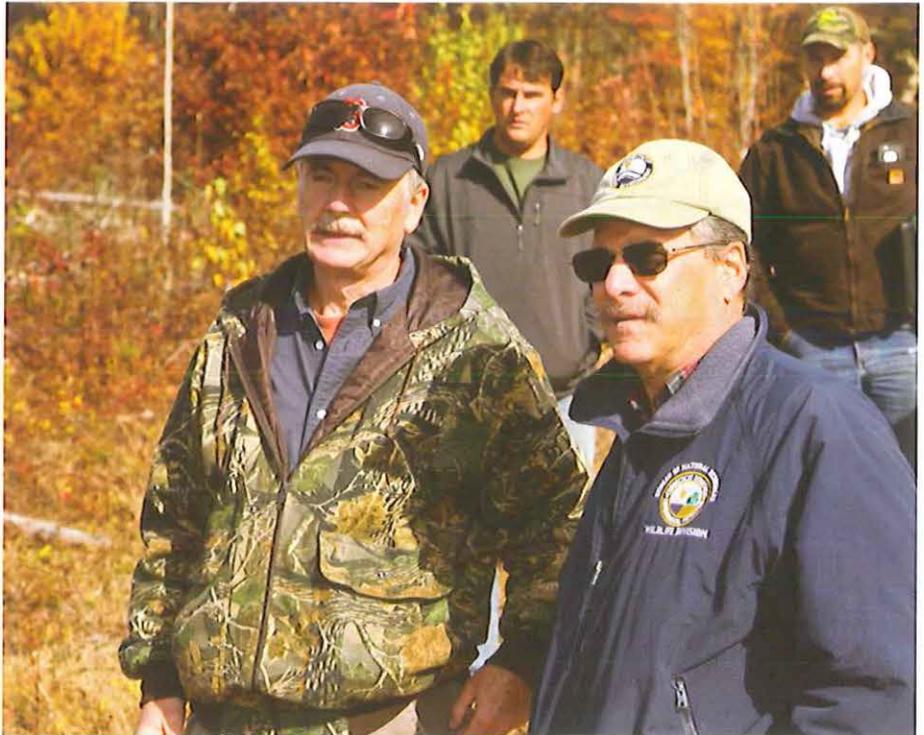
From an early age, I always had an interest in wildlife. Whether it was watching a nature show, or taking a trip to the zoo or a walk in a park, wild animals always piqued my interest. My time as an undergraduate at UConn, and later working on my master's degree at Louisiana State University, exposed me to a great variety of experiences, such as trapping alligators, studying wood ducks, surveying woodcock singing grounds, working deer check stations, and developing habitat management plans. Working with passionate, dedicated, knowledgeable, and widely experienced professors at both universities made it clear that a career in wildlife was the right path to pursue.

### **What year did you begin working for the Wildlife Division and what were the different positions that you held?**

Before working for the Wildlife Division, I was employed by the Bureau of Land Management in Nevada for four years working as a wildlife biologist. In July 1983, I took a position as the Western District Biologist for the Connecticut Wildlife Division. Four years later, I was promoted to Wildlife Supervisor to handle responsibilities within the Eastern District. Several years later, this position was modified to serve as the statewide District/Habitat Program Supervisor, the position I held until my retirement.

### **Briefly describe some of your job responsibilities at the Wildlife Division.**

My responsibilities varied tremendously, covering program administration, grant writing and subsequent status reports, staff supervision, technical assistance to public and private sectors, assuring our participation in regional conservation initiatives, and overseeing habitat and facility management needs of state wildlife management areas (WMAs). Tasks conducted under these responsibilities included writing federal assistance applications and performance reports; grant writing to secure additional funding opportunities; staff supervision and guidance; developing annual budgets; participating in field activities, such as grass and shrub plantings, development and maintenance of impoundments and water control structures, boundary marking, invasive plant management, woodcock surveys, and deer check stations; coordinating with the Forestry Division regarding WMA and State Forest timber management activities; developing long-



Supervising Wildlife Biologist Paul Rothbart (right) and former Wildlife Division Director Dale May (left) participating in a workshop on constructing brush piles for wildlife.



Paul Rothbart (right) in the earlier days of his career with the Wildlife Division removing a beaver dam from an impoundment at a state wildlife management area.

range management plans for state lands; collaborating with the U.S. Fish and Wildlife Service, Natural Resources Conservation Service, and the Wildlife Management Institute to optimize conservation efforts on a state and regional basis; and providing technical assistance to other state agencies and the private sector regarding nuisance wildlife control issues and habitat management goals and management techniques.

### **What were some of your major accomplishments?**

To me, the goal of the District/Habitat Program was to advocate and responsibly manage DEEP lands, principally the 32,000

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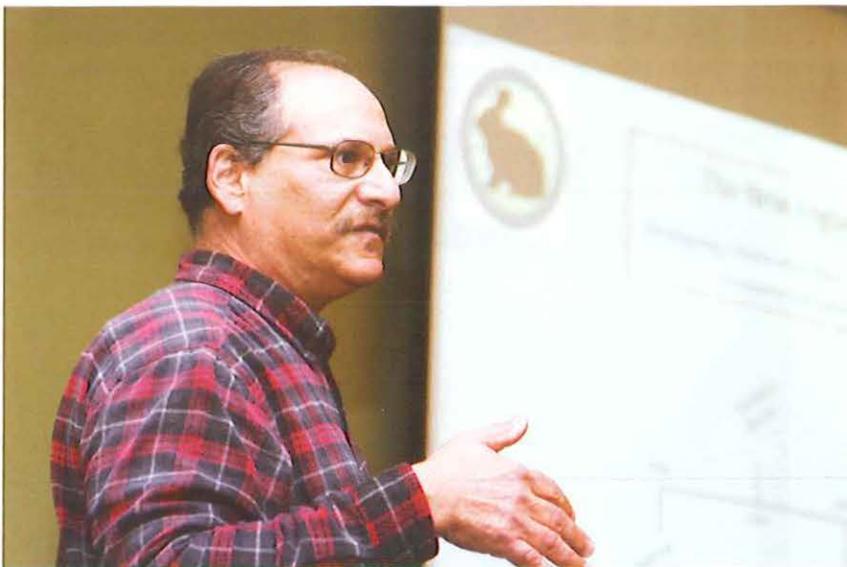
**Paul Rothbart**

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acres deemed as WMAs, to enhance wildlife resources and provide mutually compatible recreational opportunities. Over the decades, ongoing conservation initiatives provided distinct opportunities to emphasize specific habitat efforts. To this end, some of my major accom-



The New England Cottontail Initiative was one of the most significant projects that Paul Rothbart was involved in during his career. (Above) Paul describes an early successional habitat project during a workshop, and (left) places a sign at a habitat site undergoing restoration. (Below) Paul gave numerous presentations to private landowners, conservation groups, and fellow professionals about the efforts to create and restore habitat for New England cottontails on both state and private land in Connecticut.



plishments were related to the following four distinct programs:

**Improvement of WMAs** – During the late 1980s, the only funding available was through the Federal Aid in Wildlife Restoration Program. Federal funding was used to improve parking areas, gravel access roads, and signage at WMAs and other heavily-used DEEP properties.

**Inland Wetland Enhancements:** The Connecticut Migratory Bird Conservation Stamp Program provides funds for maintaining and enhancing inland impoundments (approximately 90 sites). Many of the impoundments were created in the 1950s and 1960s and had not received adequate maintenance in decades. Activities conducted during my tenure included installation of new water control structures, re-contouring dikes and spillways, controlling woody plants destabilizing dikes and invasive phragmites, installation of wood duck boxes, and signage. Sites ranged in size from three to 180 acres and now provide valuable habitat for wood

ducks, black ducks, herons, kingfishers, and many other wetland-dependent species. These efforts continue and, to date, over 3,100 acres of wetlands have been enhanced through this program.

**Wildlife Habitat Incentives Program (WHIP):**

In 1998, WHIP was established by the USDA's Natural Resources Conservation Service. This was the first conservation program developed under the wide-ranging "Farm Bill" that was truly dedicated to the wildlife resource. Wildlife biologists, including myself, serving on the 13 state Northeast Regional Habitat Committee and working with the Wildlife Management Institute were able to develop the program to best enhance wildlife resources on private and public lands throughout the region. Over the course of the next 10 years, WHIP provided the bulk of funding to conduct habitat management projects on DEEP wildlife areas. Projects included warm and cool season grass plantings, water control structure replacements, invasive plant control, and bat hibernacula protection. A total of 88 contracts were developed, providing \$1.8 million to manage 1,800 acres of wildlife habitat.

**New England Cottontail:** Once abundant throughout most of New England and eastern New York, the New England cottontail population had declined to the point where in 2006 it became a candidate for listing under the federal Endangered Species Act. To keep the New England cottontail from becoming a federally listed species, a regional initiative began in 2009 with state, federal, and non-governmental organizations collaborating on habitat projects, species and habitat monitoring and assessment, targeted landowner outreach, and captive breeding programs.

In September 2015, the Secretary of the Interior announced that due to these extraordinary on-the-ground efforts and unprecedented collaboration, the need for listing had been precluded. These efforts have resulted in hundreds of acres of young forest being created on state and private lands in key locations throughout Connecticut.

***What was your favorite project?***

Given the opportunity to impact a variety of habitats over the years, I really cannot say that one, be it grasslands, shrublands, wetlands, or forests, is my favorite. Because habitat is limited and becoming more scarce every day, I felt rewarded whenever I had a positive impact on any valuable wildlife site. A major component of seeing these projects through and one that I have always enjoyed and felt most rewarded by is the working relationships I established and maintained to be successful in accomplishing these activities. Other staff or agencies must bring expertise, and many times funding, to the table when carrying out habitat management projects, which can be expensive and influence a wide array of species. Habitat management is especially rewarding because you can see results in a relatively short timespan.

***What part of your job will you miss?***

The Wildlife Division and the Connecticut conservation community are truly a family. Division staff members have a commitment and passion for their jobs. After spending over 33 years at the Division, it is the people I have worked with and others in the conservation community that will be dearly missed.

***What part will you not miss?***

Being a supervisor can be a stressful and thankless position. Much time is spent worrying about timesheets, conducting appraisals, pointing out both good and bad performances, and assuring staff compliance with safety training. Although these activities are necessary, I often wished that my time could be spent more directly on wildlife issues.

***What are the three major issues currently facing the Wildlife Division?***

**Reduced Staff:** Responsibilities continue to increase while staff is diminishing at an unprecedented rate – the Division has truly reached a breaking point. Position vacancies need to be filled.

**Land Access:** Open lands continue to disappear. The downturn in the economy has kept this loss in check to some degree, but this appears to be changing as another burst in development is on the horizon. It is critical that land acquisition and lease efforts are maximized strategically. This will assure habitat for wildlife and also maintain areas for hunter access.

**Education and Outreach:** The Division must continue to provide education about the need for wildlife and habitat management, whether it is through forest harvests, controlling invasive plants with herbicides, opening areas to hunting, or regulating new types of hunting. There needs to be an understanding that many natural factors have been disrupted and species have reached levels of such dramatic concern that management actions are required.

***What is the most memorable event that happened during your time with the Wildlife Division?***

The most significant conservation program that I was involved with was the New England Cottontail Initiative. I served as the State's Technical Committee representative and was involved with much of the grant applications, conservation planning, outreach, and habitat implementation. It was extremely rewarding to be part



**Always the ultimate professional and a wealth of knowledge, Paul Rothbart still took some time out to show, not only his dedication to wildlife and habitat, but also a sense of humor.**

of the event held in September 2015 when the Secretary of the Interior announced that due to these extraordinary on-the-ground efforts and unprecedented collaboration, the need for listing had been precluded.

***What major changes have you seen since you first joined the Division?***

The major change is the dependence on computers and the internet. A large component of our communications, database management, and outreach is certainly provided via the web. I also observed the District Program expand from one of essentially maintaining WMAs to a more comprehensive group involved with all aspects of habitat management.

***Has anything remained the same?***

The dedication and passion of the staff has always been unquestionable. Although there are many obstacles within any large organization and occasionally faces change, staff always is willing to go above and beyond to see programs succeed.

***What advice do you have for your colleagues at the Wildlife Division?***

Work hard and enjoy every moment. We have all been lucky enough to find employment and be able to influence resources that we hold dear.

***What are your plans after retirement?***

Immediate plans are to do some long neglected house remodeling, work on improving my personal health routine, and enjoy some fishing and kayaking. Eventually I hope to stay involved with wildlife issues, particularly New England cottontail efforts.

***Any other thoughts you'd like to include?***

Just a reiteration of how fortunate I feel to have had a career in the wildlife field. It exceeded my wildest expectations regarding places I have seen, projects I have been involved with, people that I have collaborated with, and habitat management results that I hope will result in long-term benefits.



## Fall 2016 Junior Hunter Training Days

Certain days are set each year for licensed junior hunters (12 to 15 years of age) to hunt deer, turkeys, pheasants, and waterfowl when accompanied by a licensed adult hunter 18 years of age or older. The adult mentor may not carry a firearm and at all times must remain within physical contact in a position to provide direct supervision and instruction. These training days provide junior hunters with an opportunity to learn safe and effective hunting practices from experienced hunters. DEEP's Conservation Education/Firearms Safety Program also sponsors special youth pheasant hunts in cooperation with local sportsmen's clubs and organizations. Information about these events can be found at [www.ct.gov/deep/juniorhunter](http://www.ct.gov/deep/juniorhunter) or [www.Facebook.com/CTFishandWildlife](http://www.Facebook.com/CTFishandWildlife).

**Waterfowl – Saturday, October 1 and Saturday, November 5:** Participants must possess a valid small game junior hunting license and a 2016 Connecticut Migratory Bird Conservation Stamp (new this year). Previously, junior hunters were required to purchase the HIP permit, but not a Connecticut Migratory Bird Conservation Stamp. Both of those items have been combined as of July 1, 2016, into a single product. Therefore, junior hunters must now purchase the stamp, but can do so at half the regular price. The new, combined stamp regularly costs \$17.00; junior hunters will pay \$9.00. Adult mentors must possess a valid hunting license; however, they are not allowed to carry a firearm. Ducks, geese, mergansers and coots may be hunted.

Bag limits and shooting hours are the same as for the regular duck and goose hunting seasons.

**Pheasant – Saturday, October 8:** Youth participants must possess a current junior hunting license and a Resident Game Bird Stamp (new this year – details are still being finalized. Please monitor the DEEP website for more details: [www.ct.gov/deep/hunting](http://www.ct.gov/deep/hunting)). There may be exceptions if hunting on a private shooting preserve or a hunting club property with a Resident Game Bird Stamp exemption. Adult mentors must possess a valid hunting license; however, they are not allowed to carry a firearm.

**Deer – Saturday, November 5 through Saturday, November 12 (excluding Sunday):** Private Land – Licensed junior hunters must have a valid private land shotgun/rifle deer permit and written consent from landowner. Adult mentors must have a valid private land deer permit and written consent from the landowner. Harvested deer must be tagged and reported. State Land – Licensed junior hunters must have a state land shotgun deer permit (Lottery or No-Lottery). Adult



P. J. FUSCO

mentors must have a valid deer permit of any type. Deer hunting on Junior Hunter Training Days is permitted on any Lottery or No-Lottery Deer area, regardless of area designated on the permit, with the following exceptions: 1) Yale Forest, MDC Barkhamsted Reservoir-Barkhamsted East Block, MDC Barkhamsted Reservoir-Hartland East Block, MDC Nepaug Reservoir-Valentine Block, and MDC Nepaug Reservoir-Pine Hill Block are not open during Junior Hunter Training Days; and 2) Centennial Watershed State Forest and Bristol Water Company are only open to junior hunters and mentors who have both been awarded a permit for these areas.

## Urban Bird Treaty Cities: Hartford and New Haven

The Urban Bird Treaty program helps municipal governments conserve birds that migrate through or live, nest, or overwinter in their cities. Launched in 1999, the program is a unique, collaborative effort between the U.S. Fish and Wildlife Service (USFWS) and participating U.S. cities bringing together private citizens, federal, state, and municipal agencies, and non-governmental organizations. Cities can become effective sanctuaries for birds and other wildlife, with an environmentally aware citizenry dedicated to conserving and enhancing natural resources. Hartford was designated an Urban Bird Treaty City in 2012 and received a grant from the USFWS to improve migratory bird habitat within Hartford Parks, and to develop educational guidelines that describe bird habitat characteristics in detail, so that city staff, area non-profits, and citizens can participate in enhancing bird habitat throughout the city. New Haven was designated an Urban Bird Treaty City in May 2016 due to its Urban Oases Initiative,

which works with local communities and neighborhoods to make a difference for the environment and foster natural resource stewardship. Audubon Connecticut was awarded a grant from the National Fish and Wildlife Foundation and USFWS to support the Urban Oases efforts carried out in partnership with Common Ground High School, Urban Farm and Environmental Center, Yale Urban Resources Initiative, the City of New Haven Department of Parks, Recreation and Trees, Stewart B. McKinney National Wildlife Refuge, USFWS New England Coastal Program, Yale Peabody



American robin  
PHOTO: PAUL J. FUSCO

Museum, Menunkatuck Audubon Society, Southern Connecticut State University, New Haven Land Trust, New Haven Public Schools, and local neighborhood groups.

## Highly Successful Hamden Eagles Fledge Triplets

The bald eagle pair nesting on State Street in Hamden fledged three young this year, two females and one male. The typical clutch size for eagles in Connecticut is one or two, so successfully raising three chicks is no easy feat. It is testimony to the bounty of food available in the area. The nearby Quinnipiac River tidal marsh has been their main hunting territory.

The Hamden nest was built in 2012, and the pair laid its first eggs in 2013. The very large stick nest was built in a crotch of a sturdy cottonwood tree. Including the three chicks from this year, the eagle pair has fledged a total of seven young eagles from this nest. It is remarkable that they have had this much success in such a highly urbanized location.

Eagle watchers can get a fairly good look at the nest through the leaves and branches from an observation area on the west side of State Street. The nest site offers the eagles a commanding view of the marsh and surrounding habitat.

Many thanks to eagle volunteer, Mike Horn, who has been monitoring the nest and providing information to interested eagle viewers.

*Paul Fusco, DEEP Wildlife Division*



Bald eagle  
PHOTO: PAUL J. FUSCO

## Bald Eagle Nest Results, 2016

	2016	2011-2015 Five Year Avg.	2006-2010 Five Year Avg.	2001-2005 Five Year Avg.	1992-2000 Average
Total Nesting Territories	51	33.6	16.8	7.8	1.6
Successful Nests	34	24.8	11.6	4.8	1.0
Unsuccessful Nests	10	3.6	2.8	2.2	0.2
Territorial	4	4.4	2.4	0.8	0.3
Unknown	3	0.8	0.0	0.0	0.0
Chicks Produced	58	42.2	20.4	8.2	1.7

## Bald Eagle Nest Happenings

### Moving into a busy neighborhood:

Sometimes we are surprised by the locations that bald eagles choose for their nests. In January 2016, a pair of eagles began building a nest on top of a monk parakeet nest along one of the busiest streets in New Haven. The pair, an unbanded female and a banded male that hatched on the Connecticut River in 2011, did not lay eggs but continued to copulate, defend the territory, and construct the nest throughout spring and summer. This behavior is colloquially known as "housekeeping" and appears in the chart above as "territorial." While there were no young this year, we are preparing for the eagles to return and hopefully lay eggs in 2017.

### Thwarted by a winter storm:

Natural forces can be dangerous to eagle nests. Because the nesting season begins in February and extends into July, eagles can be exposed to cold, deep snow, gale-force winds, soaking rain, stifling humidity, and extreme heat. Lightning strikes can even be a threat to

their tall nesting trees. On February 24, 2016, a strong wind storm swept through the state with gusts up to 75 mph. A pair of bald eagles in Milford lost their nest and egg when the supporting limb snapped in the storm. Over the next few months, the eagles built a new nest nearby but did not lay any more eggs in 2016. This nest was counted as a "failed," but we have good reason to expect a better outcome next year.

### Success (with a little help):

When an adult eagle is flushed from the nest, it uses valuable energy and leaves the eggs or young exposed to the elements. Repeated disturbance can cause nest abandonment. Limiting human disturbance to nesting eagles helps minimize this threat. So, when necessary, sensitive areas are closed to public access. Such protection for the eagles nesting along the Windsor Locks Canal Trail has resulted in another successful year. The birds fledged one chick from their nest on June 24, 2016, and the south end of the trail reopened later that day. The pair has been

nesting along the trail since 2011, producing a total of five chicks from four successful years (2011, 2014, 2015, and 2016).

### Returning to a historic spot:

After the agricultural use of the organochlorine pesticide DDT was banned nationwide in 1972, bald eagle populations began to recover. A breeding pair of eagles returned to Connecticut in 1992, building their first nest in Barkhamsted. Since then, that first nesting territory had been continuously occupied until 2015, when eagles did not return and the territory was unused. While it is normal for eagle territories to move, appear, and disappear over time, we were sad to see this special spot vacant in 2015. That sadness was short-lived because in 2016, a pair of adults returned to this original nest and successfully raised two chicks. Over the past 24 years, this historic nest site has produced nearly seven percent of all eagle chicks in the state (28 chicks / 427 total).

*Brian Hess, DEEP Wildlife Division*

# Be a Good Witness – Report Illegal Activity on DEEP Lands

Article and photographs by Jerry Milne, DEEP Division of Forestry

Readers of this magazine value DEEP lands because they like to hunt, fish, observe wildlife, cut firewood, hike, mountain bike, kayak, or appreciate the outdoors for any number of reasons. Those of us who work for the DEEP Bureau of Natural Resources share those same passions. It is not just a job to us, it is a way of life!

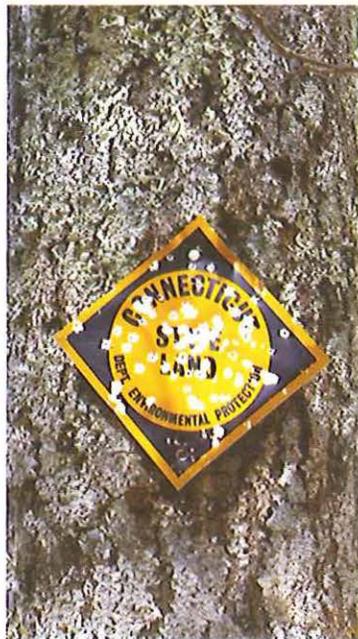
Unfortunately, judging from the many emails, phone calls, and even Facebook messages the Bureau receives from concerned people about damage to DEEP property, it appears that not everyone who lives in our state has a strong conservation ethic. The list of damage is endless: gates ripped out of the ground, signs shot up, picnic tables burned, roads torn up by four-wheel drive vehicles, dumped garbage, illegal trails, brush fires, and more.

It costs DEEP thousands of dollars to repair damage caused by vandals each year – and the situation is getting worse.

How can you keep our DEEP lands from being ruined? Be a good witness! If you see any illegal activity on DEEP land, call DEEP's 24-hour radio dispatch for EnCon Police immediately – 860-424-3333. Get a good description of the individual(s). Do not confront them, but remember what they look like and what they are wearing. Maybe you see a vehicle with a trailer unloading dirt bikes or ATVs to ride in a state forest – call with a description, including make, model, license plate, and color of the vehicles. Maybe you pass a truck filled with construction debris parked at a trailhead on a quiet state forest road. Write down the make, model, and color of the vehicle. Take a picture if you can do so safely. On the way back, if the truck is gone but there is a pile of roofing shingles, call and provide the dispatcher with the information.

Some people are afraid to report a violation because they do not want to give out their name. When you report illegal activity to DEEP Dispatch, you can remain anonymous. However, if you do not mind leaving your contact information, it might be helpful for EnCon Police to follow up.

Help DEEP keep our lands beautiful for generations to come by being a good witness! Thank you to the many residents who have contacted us and provided important information about violations.



# Conservation Calendar

## Connecticut Hunting & Fishing Days (two events this year!)

- Sept. 10 ..... **CT Hunting & Fishing Day at Franklin Wildlife Management Area**, in North Franklin (391 Route 32), from 10:00 AM - 4:00 PM. DEEP will be hosting its first Connecticut Hunting & Fishing Day at Franklin WMA. A featured activity is a live birds of prey program by A Place Called Hope, from Killingworth. The day features additional activities for all ages, including target shooting; hunting dog and water retriever demonstrations; archery; kid's crafts and activities; hunting and trapping tips; fishing demonstrations; and more! Equipment vendors, sporting clubs, fish and wildlife exhibits, and conservation organizations will also be present. And, it's all FREE! Visit [www.ct.gov/deep/HuntFishDay](http://www.ct.gov/deep/HuntFishDay) for more details and information about free parking and shuttle buses.
- Sept. 24 ..... **CT Hunting & Fishing Day at Sessions Woods Wildlife Management Area**, in Burlington (341 Millford Street), from 10:00 AM - 4:00 PM. DEEP will be hosting the 6th Connecticut Hunting & Fishing Day at Sessions Woods. A featured activity is a live birds of prey program and a raptor meet-and-greet by Master Class Falconer Lorrie Schumacher from Talons. The day features additional activities for all ages, including target shooting; hunting dog demonstrations; archery; kid's crafts and activities; hunting and trapping tips; fishing demonstrations; and more! Equipment vendors, sporting clubs, fish and wildlife exhibits, and conservation organizations will also be present. And, it's all FREE! Visit [www.ct.gov/deep/HuntFishDay](http://www.ct.gov/deep/HuntFishDay) for more details. Free parking and shuttle bus service will be available in Bristol at Depot Square across from Bristol City Hall (111 N. Main Street) and in Burlington at Lewis Mills High School.

## Programs at the Sessions Woods Conservation Education Center

Programs are a cooperative venture between the Wildlife Division and the Friends of Sessions Woods. Please pre-register by emailing [laura.rogers-castro@ct.gov](mailto:laura.rogers-castro@ct.gov) or calling 860-424-3011 (Mon.-Fri., 8:30 AM-4:30 PM). Programs are free unless noted. An adult must accompany children under 12 years old. No pets allowed! Sessions Woods is located at 341 Millford St. (Route 69) in Burlington.

- Sept. 10 ..... **Trail Hike**, 1:30 PM. Come to Sessions Woods for a guided trail hike led by Wildlife Division Outreach Program Assistant Kelly Cannon. This trek includes educational mini-lessons on different aspects of Connecticut's forests, research studies, management practices, ecology, as well as a children's scavenger hunt! The hike to the beaver marsh and back will be approximately two miles roundtrip.

## Hunting Season Dates

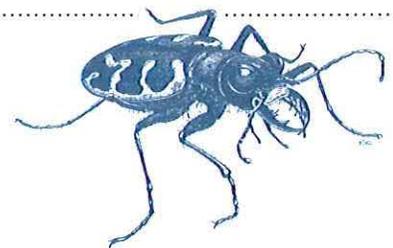
- Sept. 1-30 ..... Early September goose hunting season in the North Zone.  
Sept. 13-30 ..... Early September goose hunting season in the South Zone.  
Sept. 15 ..... Opening day of the archery deer and turkey hunting seasons.  
Oct. 1 AND Nov. 5... Junior Waterfowl Hunter Training Days (see page 20 for more information on Junior Hunter Training Days).  
Oct. 8 ..... Junior Pheasant Hunter Training Day.  
Nov. 5-12..... Junior Deer Hunter Training Days (except Sunday, Nov. 6).

Consult the 2016 Connecticut Hunting & Trapping Guide, 2016-2017 Connecticut Migratory Bird Hunting Guide, and the 2016 Connecticut Angler's Guide for specific season dates and details. Printed guides can be found at DEEP facilities, town halls, bait and tackle shops, and outdoor equipment stores. Guides also are available on the DEEP website ([www.ct.gov/deep/hunting](http://www.ct.gov/deep/hunting) or [www.ct.gov/deep/fishing](http://www.ct.gov/deep/fishing)). Go to [www.ct.gov/deep/sportsmenlicensing](http://www.ct.gov/deep/sportsmenlicensing) to purchase Connecticut hunting, trapping, and fishing licenses, as well as required deer, turkey, and migratory bird permits and stamps. The system accepts payment by VISA or MasterCard.

**Attention Deer Hunters: Look for the 2015 Connecticut Deer Program Summary on the DEEP website before the archery deer and turkey seasons open on September 15: [www.ct.gov/deep/hunting](http://www.ct.gov/deep/hunting).**



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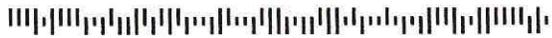
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# Connecticut Wildlife

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Connecticut's first forest fire law, which was established in 1905, made the State Forester the ex officio forest fire warden without additional salary. Upon his request, and with his approval, town selectmen appointed fire wardens. The work of these fire wardens was "to prevent and extinguish forest fires" in their respective towns. Wardens were paid 25 cents an hour while employed; and assistants at a price fixed by the towns, but not over 20 cents an hour. These Simsbury fire wardens battled a forest fire that was ignited by sparks from a train. (Information from *History of Forestry in Connecticut*, by former State Forester Austin Hawes written in 1952-1957).

Photo courtesy of the Connecticut Agricultural Experiment Station.

# The Habitat

A newsletter of the Connecticut Association of Conservation & Inland Wetlands Commissions, Inc.

Summer 2015 volume 27 number 3



## Journey to The Legal Horizon

by Attorney Janet Brooks

### Motions to Approve or Deny Wetlands Application: What to Include and Why

The editor of *The Habitat*, Tom ODell, has passed on a question from a reader for guidance on what wetlands and watercourses agencies should include in their motions to approve or deny applications. As members of wetlands agencies, you want to create strong decisions that will survive attack on appeal. Strong decisions result from proper procedure and robust deliberations. The motion is one step in the process.

#### *I. State the reason(s) for your decision*

You might think this is the obvious thing to do. The statute, in fact, directs you to do it: "In granting, denying or limiting any permit for a regulated activity the inland wetlands agency, or its agent<sup>1</sup>, shall consider the factors set forth in section 22a-41, and such agency, or its agent<sup>1</sup>, shall state upon the record the reason for its decision." Conn. General Statutes § 22a-42a (d) (1).

There are some municipal attorneys who disagree. There is case law that on appeal a judge may search the record of the agency proceedings to find evidence which supports the agency's action, denial, approval or imposition of conditions. The case law furthers limits the judge to

considering the reasons stated by the agency.<sup>2</sup> I have heard some of these attorneys claim that they would rather have no stated reasons, so the judge is free to search in every nook and cranny of the transcripts of the public hearing and the deliberations to scrounge up evidence to support the agency's decision.

I don't want to stand between you and your municipal attorney, who is, after all, your only representative in court defending your action, but when you fail to state your reasons, you ignore the plain meaning of the statute to "state upon the record the reason for [your] decision." For example, if after a spirited evening of questions and answers about the effectiveness of the proposed sedimentation and erosion controls by the applicant and concerns raised by experts for the neighbors, the agency entertains a motion to approve the application as proposed (no reasons disclosed.) Let's suppose there is no or very limited discussion. The agency votes to grant the application. The applicant leaves confident it was the strength of its application and supporting materials. The public is bewildered. Which was it – the strength of the applicant's expert or the weakness of the neighbor's  
*legal, continued on page 4*

## Save the Date: CACIWC Announces the Preliminary Agenda for Our 38th Annual Meeting & Environmental Conference — Saturday, November 14, 2015

CACIWC is pleased to recruit Dr. Michael Klemens as the keynote speaker of our 38th Annual Meeting & Environmental Conference. Educated in the United States and Europe, Dr. Klemens is a well-known conservation biologist and land-use planner who seeks to achieve a balance between ecosystem requirements and human needs. He plans to support our continued efforts to educate members on the impact of climate change on local environments

by reviewing new Connecticut-specific species population and habitat data. He will also promote better use of scientific data and discuss ways for commissions and their staff to increase collection of local information, while improving the resiliency of their communities to climate change.

*conference, continued on page 13*

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expert or both? An appeal is taken and the judge, having searched the record, manages to find enough to support the agency action. A D- grade is still a passing grade, but should you strive so low? With each application you have the opportunity to increase the confidence applicants and the public alike have in your efforts. You do this with transparency – by stating your reasons on the record. Consider the statement of your reasons a summary of your action.

## II. Start with the relevant factors for consideration

A boilerplate list of the factors for consideration in your regulations or the state statute is not called for. Not every application will call into question the environmental impact on a watercourse *plus* alternatives *plus* irreversible loss of the watercourse *plus* mitigation *plus* interference with safety or health *plus* future activities made inevitable by the application. There is no need to repeat verbatim lengthy factors for consideration where your conclusion is: “That is not presented by this application.” Focus on the factors which agency members or members of the public questioned. In fact, if your agency relies on a factor which was not voiced by anyone during the proceeding, you may have deprived the applicant of fundamental fairness – the opportunity to know the basis of your decision and a timely opportunity to respond.

It’s my impression that agencies do not consider alternatives enough, that is, chew them over, articulate them and ask the applicants of the process they engaged in before settling on the design presented in the application. Often I hear from agency members that alternatives are not part of their analysis because a public hearing wasn’t held or the reason for holding a public hearing was that it was in the “public interest.” Let’s clarify the law on alternatives. Succinctly put, alternatives are to be considered in each application. Why? It is the second stated factor for consideration<sup>3</sup>, right after the environmental impact of the proposed activity on wetlands and/or watercourses. Consideration of impacts and alternatives should be among your most frequently undertaken considerations, common to all applications.

Members are correct that there are additional findings that must be made if a public hearing was held based on a finding that the proposed activity may have a significant impact on wetlands or watercourses.<sup>4</sup> In that event, a permit may not be issued unless the agency finds that a feasible and prudent alternative does not exist.

## III. State which expert(s) you found credible

On appeal a judge will defer to your decisions on who was credible. The law is a bit tricky on experts. When there are multiple experts, the agency is free to believe one and disbelieve another. On the other hand, if there is only *one* expert, a lay agency (with no expert members) acts without substantial evidence, i.e. illegally, in disregarding the sole expert evidence before it. Are you required to state which experts you found credible? No. It will be inferred from your action. But you can guide the quality of future experts by signaling the importance you placed on (fill in the blank): the expert’s years of experience designing similar systems, the expert’s lack of specific knowledge of on-site conditions, the expert’s evasiveness/thoroughness when answering questions, the expert’s reliance on generalized concerns and not specific ones etc.

## IV. Specific findings in specific situations

Feasible and prudent alternative: As mentioned in Section II above, your agency is required to make a specific finding that there is no feasible or prudent alternative *if* you conducted a public hearing because you voted that the activities may have a significant impact. Conversely, if your agency is voting to deny an application because a feasible and prudent alternative *may* exist – which is a proper basis for denial – you “shall propose on the record in writing the types of alternatives which the applicant may investigate.”<sup>5</sup>

Environmental intervenor(s): if an environmental intervenor participated in the proceeding, whether a public hearing was held or not, the agency has one or two additional findings to make. Step 1: The initial finding is to determine whether the intervenor has established that the proposed activity is reasonably

legal, continued on page 5



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likely to unreasonably pollute, impair or destroy wetlands or watercourses. If the answer is no, the agency's job under the Connecticut Environmental Protection Act (CEPA) is done. If the answer is yes, proceed to Step 2: If there is "a feasible and prudent alternative consistent with the reasonable requirements of the public health, safety and welfare"<sup>6</sup> the permit must be denied. It is not necessary to have a separate motion to make the CEPA findings, but there's nothing wrong with that procedure. However, the state Supreme Court has ruled that if an agency is denying a permit based on CEPA considerations and findings, those findings *must* be referred to in the general motion which denied the permit and not solely in a motion about CEPA findings.<sup>7</sup>

Denial of activity in upland review area based on impact to plants or animals: In response to the state Supreme Court's 2003 ruling holding wildlife not within the jurisdiction of wetlands agencies, the legislature amended the wetlands act to allow denial or conditions for impact to plants or animal for activities conducted in upland review areas. In § 22a-41 (d) an agency is not authorized to deny or condition a permit for such impact "unless such activity will likely impact or affect the physical characteristics of such wetlands or watercourses." Strictly speaking, this needn't be a formal "finding." However, putting it on your list of findings to be incorporated in a motion will encourage you to discuss this on the record and question all experts about this, which, in turn, increases the likelihood of a judge finding there is substantial evidence to support your decision.

Denial of permit based on actual adverse impact: There have been numerous permit denials that have been overturned by the Appellate Court and the Supreme Court. Is the problem that agencies are failing to make the finding in their motions to disapprove in an otherwise strong record which supports their decision? No. The record is inadequate to support the finding. The word "actual" is not my invention. It comes from a Supreme Court decision: The wetlands agency "made no specific finding of any actual adverse impact to any wetlands or watercourses."<sup>8</sup> By putting this finding on your to-do list for denials, including the word "actual," it will prompt your agency to engage in the questioning of experts and applicants to support your deliberations and denials.

Having a list of topics for findings to be inserted in your motions will assist you in framing the questions, the

discussions and your deliberations. At the same time everyone, the applicant, the public and all agency members, will have a clear picture of how your agency acted.

*Janet P. Brooks practices law in East Berlin. You can read her blog at: [www.ctwetlandslaw.com](http://www.ctwetlandslaw.com) and access prior training materials and articles at: [www.attorneyjanetbrooks.com](http://www.attorneyjanetbrooks.com).*

#### Endnotes

<sup>1</sup> The "agent" refers to those activities approved by an agent when the activity does not occur in a wetland or watercourse and would result in no greater than a minimal impact on any wetland or watercourse as set out in C.G.S. § 22a-42a (c) (2).

<sup>2</sup> *Gibbons v. Historic District Commission*, 285 Conn. 755, 767 -72 (2008)

<sup>3</sup> C.G.S. § 22a-41 (a) (2)

<sup>4</sup> C.G.S. § 22a-41 (b)

<sup>5</sup> C.G.S. § 22a-41 (b) (2)

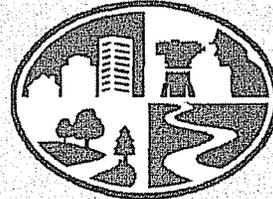
<sup>6</sup> C.G.S. § 22a-19 (b)

<sup>7</sup> *River Bend Associates, Inc. v. Conservation & Inland Wetlands Commission*, 269 Conn. 57, 83-85 (2004)

<sup>8</sup> *River Bend Associates, Inc. v. Conservation & Inland Wetlands Commission*, 269 Conn. 57, 77 (2004) ↴

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# The Habitat

A newsletter of the Connecticut Association of  
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Winter 2016 volume 28 number 1



## Journey to The Legal Horizon by Attorney Janet Brooks

*How to conduct deliberations: What you can learn from a trial court decision overturning a wetlands agency denial which didn't state any reasons*

In the summer issue I discussed what should be included in a wetlands motion to approve or deny an application. I addressed the policy and statutory reasons for disclosing the agency's reasons in the motion. In the intervening months one agency has found out through litigation (the hard way) that failing to disclose a reason for denial didn't increase its chance of being upheld on appeal.<sup>1</sup> When an agency fails to state its reasons on the record, the trial judge is required to search the entire record for evidence that could support the denial to determine whether the evidence is substantial. An agency action based on substantial evidence will be upheld. My previous article focused on what to include in the motion. I now think it is worthwhile to back up a step and examine how to conduct deliberations which lead to a motion to deny with stated reasons that will withstand legal scrutiny.

This article will examine what the trial court did to determine whether there was substantial evidence in the record in *Dichello v. Inland Wetland Commission*, Superior Court, judicial district of New Haven, Docket No. CV 13 6040474 (October 16, 2015).<sup>2</sup> I generally do not report on trial court cases because trial court decisions are not binding on anyone except the parties to the case; they do not establish binding legal precedent; and laypeople are prone erroneously to place equal value on trial court decisions as on higher Appellate and Supreme Court decisions. The *Dichello* case does not involve a well-known natural resource site, like the coastal forest or The Preserve; nor is it a project of large scale (a modest single-family home with 3 bedrooms, septic system, garage and grading in the uplands with a 600-foot driveway, 200 feet of which traverses wetlands.) The value in examining the decision is to learn how to deliberate from the process

that Judge Corradino, an experienced land use judge, engaged in.

At the outset the judge dispensed with procedural claims and, in pages 32–76 of the decision, focused on the substantive arguments made by the aggrieved applicant that there wasn't substantial evidence to support the denial. This is a lengthy decision. Why? It takes time to consider all of the evidence in an application that went to public hearing over multiple nights. And that's what the judge did. He began by setting out the legal standards to be adhered to: 1) search the record for evidence to support the commission's decision, 2) concerns and potential impacts do not constitute substantial evidence, 3) there must be likely adverse impact to wetlands/water-courses for a valid denial, and 4) if the agency disbelieved one expert over another the record must point to evidence that undermined the expert's credibility or ultimate conclusions. *At the beginning of deliberations it may be useful for your chair to state reasons 2–4 out loud to help focus the discussion.*

Judge Corradino reviewed the policy stated in the wetlands act and recognized throughout the case law:  
*legal, continued on page 8*

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*"An opinion expressed by an expert raising a concern or an increased risk or a potential harm or any variant will not be substantial evidence on which you can rely."*

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## What's Substantial Evidence For Inland Wetlands and Watercourse Commissions? *by Mark Branse, Esq., Branse & Willis, LLC*

### MUST HAVE A LINK BETWEEN THE ACTIVITY AND HARM TO THE WETLANDS/WATERCOURSE ON THE SITE; MORE THAN MERE SPECULATION

- In an inland wetlands decision there must be substantial evidence that an adverse impact on wetlands or watercourses will result from the proposed regulated activities and the agency's decision must be supported by "more than a possibility of adverse impact." *River Bend Associates v. Conservation and Inland Wetland Comm'n*, 269 Conn. 57, 69 (2004).
- "[A]n impact on the wetlands that is speculative or not adverse is insufficient grounds for denial of a wetlands application." *River Bend* at 79 n.28.
- "[The Supreme Court's] prior case law [does] not authorize the denial of a wetlands application due to uncertainty as to the impact of a proposed activity on wetlands and watercourses." *River Bend* at 79 n.28.

- "The substantial evidence test is not met by a general statement by an expert that 'some type' of adverse impact is likely to result from the proposed regulated activities." *Three Levels Corp. v. Conservation Comm'n*, 148 Conn. App. 91 (2014).

### GENERAL ENVIRONMENTAL IMPACT IS NOT SUBSTANTIAL EVIDENCE OF ADVERSE IMPACT TO THE WETLANDS/WATERCOURSES

- "Evidence of general environmental impacts, mere speculation, or general concerns do not qualify as substantial evidence." *River Bend* at 71.
- "[A] finding of potential generalized impacts is insufficient to support a denial of an application for a permit to conduct a regulated activity. The commission must make a determination that the activity will have a likely adverse impact on the wetlands and watercourses and that finding must be supported by substantial evidence in the record." *Cornacchia v. Environmental Protection Commission*, 109 Conn. App. 346, 356, 951 A.2d 704 (2008).

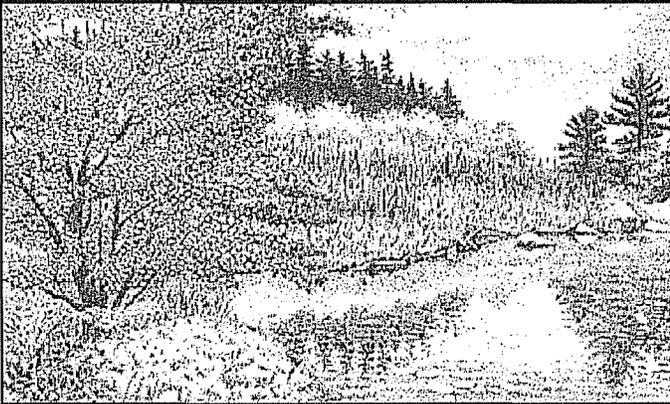
### THE CREDIBILITY OF WITNESS IS WITHIN THE SOLE PROVINCE OF THE COMMISSION, BUT---

- "While...an administrative agency is not required to believe any of the witnesses, including expert witnesses... it must not disregard the only expert evidence available on the issue when the *evidence, continued on page 5*

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evidence, continued from page 4

commission members lack their own expertise or knowledge.” *Tanner v. Conservation Comm’n*, 15 Conn. App. 336, 341 (1988).

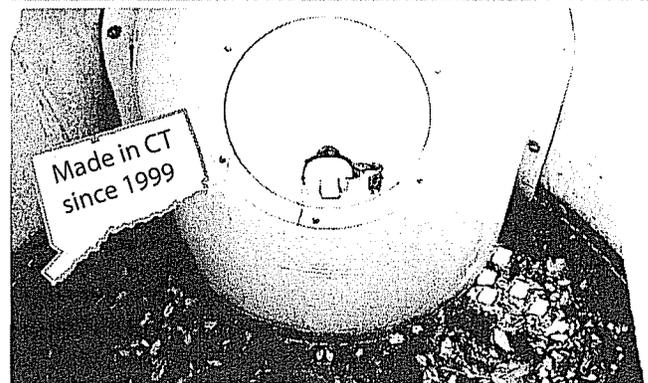
- [I]n the absence of countervailing expert testimony, where the commissioners themselves do not possess relevant technical expertise, a commission may not draw inferences which undermine an expert’s site specific opinion. *United Jewish Center v. Brookfield*, 78 Conn. App. 49, 60 (2003).
- “[A] lay commission acts without substantial evidence, and arbitrarily, when it relies on its own knowledge and experience concerning technically complex issues...in disregard of contrary expert testimony...” *Feinson v. Conservation Comm’n*, 180 Conn. 421, 429 (1980).

**NO SUBSTANTIAL EVIDENCE WHERE:**

- Testimony that a detention basin *could* fail but NO EVIDENCE of what would happen if it failed. *Estate of Machowski v. Inland Wetlands Comm’n*, 137 Conn. App. 830, 840 (2012) (“[e]vidence regarding *potential* impacts to wetlands *in the event* of a failure of the detention basin does not in itself amount to substantial evidence.” (emphasis in original)).
- Evidence that some sediment and siltation would enter the wetlands or watercourse, but NO EVIDENCE that the amount would harm the wetlands or watercourse. *AvalonBay v. Inland Wetlands and Watercourse Comm’n*, 130 Conn. App. 69, 78 (2011) (“the [commission] could not simply assume that the entry of sediment and siltation would adversely affect the wetlands and watercourse without evidence that it would in fact do so.”).
- Evidence that during construction trucks would cross bridge over wetlands + statement by vice chair that “it doesn’t take a rocket scientist to figure out that sometimes cars drop oil, and salts get into the wetlands and all kind of things happen” because vice-chair did not hold herself out as a qualified pollution expert and her concerns were merely speculative. *Lord Family of Windsor LLC v. Inland Wetlands and Watercourses Comm’n*, 103 Conn. App. 354, 363-64 (2007).

- Evidence of a project’s density but NO EVIDENCE that the density will cause an adverse impact. *Toll Bros. v. Inland Wetland’s Comm’n*, 101 Conn. App. 597 (2007) (“any connection between the project’s density and a likely impact on the wetlands is merely speculative”).
- Evidence that elements (nitrogen, copper & zinc) would disperse into the wetlands, but NO EVIDENCE that any specific harm would therefore occur. *River Bend Associates v. Conservation and Inland Wetlands Comm’n*, 269 Conn. 57, 81 (2004).

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the protection and preservation of wetlands and water-courses is balanced with the interests of property owners to use their land by providing an orderly process to balance the economic desires with environmental ones. He reviewed the statutory section regarding alternatives and noted that an alternative that causes “less or no environmental impact” on the wetlands means that some impact may occur and a wetlands permit can be issued. *These statements may also be useful to consider each time you deliberate on an application.*

His job was to examine the record to find substantial evidence to support a denial. Examination of the reduction of the footprint of the house and/or eliminating the garage circled back to the question: did any expert establish that the size of the house or the garage constituted a significant impact on the wetlands? Less impact isn’t a sufficient reason to deny the application if the application isn’t likely to cause an adverse impact. The judge noted that one lay commission member talked about reducing the footprint of the house and eliminating the garage, but the experts, whether for the town, the applicant or an expert member of the public, did not.

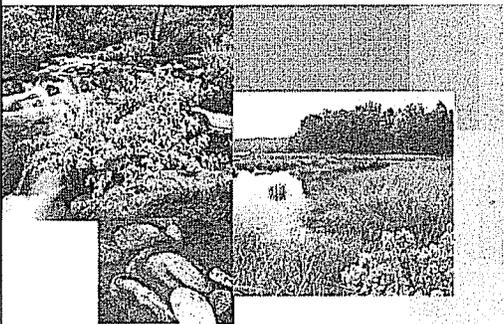
The judge went through the public comments and noted when a commenter used an incorrect standard: one expert said the wetlands would not be free from “any” impact. The judge concluded, based on the relevant case law and the evidence in the record there was no basis to conclude the construction of the house, garage and septic system as proposed would have a “significant let alone a particularly adverse effect” on the wetlands.

The issue of the driveway posed a different analysis. The judge did the calculations of the area of the driveway which would be constructed in the wetlands: 0.1 acre. He concluded that was a de minimis impact to the 1.08 acres of wetlands onsite. A commission member asked the town’s hired expert, a soil scientist, if raising the driveway with a bridge would reduce the impact to the wetlands. The soil scientist stated it would reduce the impact but didn’t know about the feasibility of building a bridge on the site. The expert ecologist from the public also endorsed the consideration of a raised structure. The judge noted that none of them (commission member, ecologist, soil scientist) was an engineer – the only type of expert who could opine within his expertise whether the bridge would have less impact. *Are the experts in your applications issuing opinions on subjects they are qualified to address? Ask them the bases for their opinions.*

In searching the record, the judge determined that the only expert on this issue, the applicant’s engineer, noted that to raise the driveway, larger and heavier equipment is needed as well as a wider driveway to accommodate such equipment. To “minimize” the impact from the driveway, a bridge would result in a larger impact, larger clearing and larger driveway. The judge concluded that that a bridge instead of a

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10-foot wide driveway for a modest house was “unreasonable on its face.”

Because this application includes destruction of wetland area (for the construction of the driveway) the commission needed to consider mitigation measures as required by statute and further explained by the Supreme Court: “mitigation measures are an integral component in the process of approving a permit that seeks to destroy wetlands.”<sup>3</sup> The judge set out the applicant’s detailed proposed mitigation: identification and removal of invasive species, use of rain gardens, and planting plan, among other things. The commission’s expert had two paragraphs in his report on mitigation. He wished to see a step-by-step plan for the plantings. The judge found the applicant’s methodology sufficient. Further refinements could occur through the imposition of conditions to the permit. The ecologist/member of the public sole comment was that the restored and enhanced area should be doubled in size. His comment reflects the size of mitigation used in another town. The judge pointed out the lack of factual basis to correlate a need for double the area based on adverse impact to the wetland. In conclusion, the judge reversed the denial and remanded (sent back) the application to the commission to issue the permit with appropriate conditions, if needed.

Does your commission need to sift through every piece of documentation and testimony as the judge was required to do when an agency fails to state its reasons on the record? No, to begin, you can focus on those factors for consideration called into play in a specific application. But, for every piece of evidence which addresses a factor, discuss: 1) whether the opinion came from an expert, 2) was within the

expert’s expertise (engineers can’t express opinions about viability of habitats; ecologists can’t design drainage systems or bridges) and 3) addressed an adverse impact to the wetland or watercourse. An opinion expressed by an expert raising a *concern* or an *increased risk* or a *potential harm* or any variant will not be substantial evidence on which you can rely. When you develop a steady habit of reviewing what kind of expert expressed an opinion regarding actual adverse impact, your motions for denial become more resilient to court appeals.

*(Endnotes)*

<sup>1</sup> Some municipal attorneys have argued that if an agency states no reason they (the lawyers) are free to search the record for any reason that could be the basis for the agency action.

<sup>2</sup> I thank CACIWC for making the court decision available on its website for ease of public access.

<sup>3</sup> *Branhaven Plaza, LLC v. Inlands Wetlands Commission*, 251 Conn. 269, 285 (1999).

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