AGENDA

Mansfield Conservation Commission
Wednesday, January 21, 2009
Audrey P. Beck Building
CONFERENCE ROOM B
7:30 PM

1. **Call to Order**
2. **Roll Call**
3. **Opportunity for Public Comment**
4. **Minutes**
   a. December 17, 2008
5. **New Business**
   a. IWA Referrals:
      - W1419 - Chernushek, 473 Middle Turnpike (violation hearing regarding this site has been continued to 2/5/09)
      - W1421-Clark-Hanks Hill/Farrell Rds- 4 Lot Subdivision
   b. Update memo from Director of Planning
   c. Draft Environmental Impact Statement, North Hillside Road Ext. Public Hearing Thursday, January 29, 2009
   d. Natchaug Basin project (agenda-handouts from 1/13/09 meeting
   e. Other
6. **Continuing Business**
   a. CL&P "Interstate Reliability Project"- (see 1/14/09 update memo from Director of Planning)
   b. Proposed UConn Composting Facility
   c. Proposed Town Council Sustainability Committee
   d. Ponde Place Environmental Review Team study-(see 1/14/09 update memo from Director of Planning)
   e. Proposed Telecommunication Tower in Southern Mansfield on Rte. 32
   f. Other
7. **Communications**
   a. Minutes
      - Open Space (12/16/08)
      - PZC (12/15/08 and 1/5/09)
      - IWA (1/5/09)
   b. 12/18/08 Presentation Sheets: Willimantic River Study
   c. CT Wildlife (November 2008)
   d. Habitat (Fall 2008)
   e. Other Correspondence
8. **Other**
9. **Future Agendas**
10. **Adjournment**

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Town of Mansfield
CONSERVATION COMMISSION
Meeting of 17 December 2008
Conference B, Beck Building
DRAFT MINUTES

Members present: Robert Dahn, Peter Drzewiecki, Quentin Kessel, Scott Lehmann, John Silander, Joan Stevenson. *Members absent*: Frank Trainor. *Others present:* Grant Meitzler (Wetlands Agent).

1. The meeting was **called to order** at 7:33p by Chair Quentin Kessel.

2. The draft **minutes of the 19 November 08 meeting** were approved as written.

3. Planning Director's update. The Commission was pleased to find that its packet for this meeting contained a memo ("Update on miscellaneous issues", dated 12/10/08) from Director of Planning Greg Padick that nicely summarized the status of various matters of interest. It hopes that Greg will be able to provide similar updates for the Commission on a regular basis.

4. IWA business.

a. Lehmann participated in the **IWA field trip** on 12/10; his report is attached.

b. W1420 (White Oak Condo Assn., White Oak & Mansfield City Rds.) The proposal is summarized in Lehmann's report. After some discussion, the Commission agreed unanimously on the following **motion** (Lehmann, Drzwiecki), which is the last sentence of that report: "With standard erosion controls during installation, impact on wetlands during construction should be minimal, and the completed project as a whole should protect downslope wetlands by eliminating a source of nutrients from the condominiums' failing septic systems."

The Commission also revisited the sanitary easement in Dunhamtown Forest for the project's leaching field and unanimously agreed to the following **motion** (Silander, Drzwiecki): "The Commission urges the PZC to require that clearing of forestland for the project's leaching field and associated access roads be minimized, so as to conserve, to the greatest extent possible, the integrity of the forest."

c. W1419 (Chernusek, Middle Tpk.) Mr. Chernusek has been clearing part of his property to accommodate 2 horses, though he does not have a wetlands permit to do so. Meitzler indicated that the now-cleared area is approximately one acre, 3/4 of which is wetland. The Commission deferred comment until such time as the IWA asks for it.

5. Cellco cellphone tower off Rt.32. Cellco is applying to the Connecticut Siting Council for permission to build a cellphone tower in one of two locations in SW Mansfield on Rt. 32: Mansfield Drive-In or the Highland Ridge Golf Range. The Town has no jurisdiction, but may comment to the Siting Council; a public hearing in the Town is required. The Commission would like an opportunity to comment, preferably after seeing the NEPA Checklist (to assess environmental impacts) that the applicant preparing.

6. CL&P Interstate Reliability Project. The Town's letter to the Connecticut Siting Council on CL&P's proposal to clear more of its right-of-way through Mansfield to accommodate another set of transmission lines incorporated some of the Commission's comments. In addition, letters were sent by many individual citizens whose properties would be impacted by the project.

7. The meeting was **adjourned at 8:40p**. Next meeting: Wednesday, 21 Jan 09, 7:30p.

Scott Lehmann, Secretary
29 December 08

Attachment: Report on the 12/10/08 IWA field trip.

W1419 (Chernusek, Middle Tpk). Mr. Chuernusek had been deforesting and re-grading part of his property to create a pasture for his 2 horses when he received a cease and desist order from the Town: the work was in and around wetlands, and Mr. Chernusek did not have a wetlands permit (he has taken refuge in ignorance, claiming he did not know one was required). The affected area contains a watercourse that drops from Rt. 44 to wetlands to the north. Trees have been cleared and stumps removed along several hundred feet of this watercourse and up the sides of its valley, and some fill has been brought in. It was definitely not a pretty sight when we saw it in the rain on Wednesday. Water was flowing in the stream bed (or what is now the stream bed) and the bare slopes down to it were too muddy most field-trip participants to negotiate. Some siltation was evident in the stream at the lower end of the cleared area. A silt barrier had been placed below (as required by the cease and desist order), but it was too wet to get down to it to see whether any prior siltation had occurred. I would not be surprised if the barrier failed in Thursday night's deluge.

This incomplete project is now having a significant impact on wetlands. Were Mr. Chernusek's pasture to be completed, there would probably be a continuing impact on the wetland to the north from overgrazing and horse manure, though it is hard for me to judge in advance how significant it would be.

Section 3.3(A) of the Town wetlands regulations is a "farm exemption" that permits "grazing, farming, nurseries, gardening and harvesting of crops and farm ponds of three acres or less essential to the farming operation" in or near wetlands. However, 2 horses do not constitute a farm, and even so Sec. 3.3(A)(4) specifically excludes "clear cutting of timber except for expansion of agricultural cropland." Section 3.3(D) permits uses "incidental to the enjoyment and maintenance of residential property ... but shall not include removal or depositing of significant amounts of material from or into a wetland or watercourse, or diversion or alteration of a watercourse."

W1420 (White Oak Condos, White Oak Rd). This is the portion of the White Oak septic project that falls under wetland regulations. Sewage from the three rows of condominium units will flow by gravity to two pump stations to the west, from where it will be pumped up to a line buried under White Oak Rd and thence to the leaching field the Town has generously allowed the Condo Assn. to construct on Town land in Dunhamtown Forest. The lines from the units to the pumping stations and back up to White Oak Rd will be located as far as possible from wetlands; two pump stations are specified to avoid the wetlands crossing that would be required if only one station were used. The line along White Oak Rd will cross a narrow neck of wetland crossed by the road. With standard erosion controls during installation, impact on wetlands during construction should be minimal, and the completed project as a whole should protect down-slope wetlands by eliminating a source of nutrients from the condominiums' failing septic systems.

Scott Lehmann, 12/15/08

W1419

2

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 1419
Fee Paid 12-04-08 $60
Official Date of Receipt 1/05/09

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 Henry Michael Chernushek

Mailing Address 473 Middle Turnpike

Mansfield CT Zip 06268

Telephone-Home 860-487-4328 Telephone-Business 860 208 2915

Title and Brief Description of Project

Level an area for horse riding and a garden

Location of Project 473 Middle Turnpike

Intended Start Date Aug 15, 2008

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

Name

Mailing Address

Zip

Telephone-Home Telephone-Business

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

Signature Henry Michael Chernushek date 12/4/08

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

We cut trees and removed stumps. We want to level a hill for a riding area for our horse and have a garden. I'm still trying to make suitable arrangements with a contractor to remove the sand and gravel

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

0.23 Acres

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

On site materials

a) include ***type*** of material used as fill or to be excavated Sand and Gravel

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

Total of about ~~3000~~ 1500 yards - 100 yards in Wetlands

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.)

Hilly

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 other alternatives to make a flat riding area without going into more wetlands

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 12.04.2008 GM

3) Zone Classification RAR-90 GM

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) List the names and addresses of abutting property owners

Name Address

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.

2) 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.

3) The Statewide Reporting Form (attached) 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.)*

Part L - Filing Fee

Submit the appropriate filing fee. (Consult Wetlands Agent for the fee schedule available in the Mansfield Inland Wetlands and Watercourses Regulations.)

____ $385. _____ $110. ____ $60. ____ $25. $155.00

Note: The Agency may require you to provide additional information about the regulated area which is the subject of the application, 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.

The undersigned applicant hereby consents 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 granted by the Agency.

Henry Michael Cherniwchuk 12/04/08

Applicant's Signature Date

File: W1419 December 4, 2008

Chernusek
473 Middle Turnpike
Storrs, Conn. 06268

Areas of concern for assistance in preparing your application.

Stump disposal - There are state regulations that allow burial of ten stumps on a site. Any more requires a Dept. of Environmental Protection Landfill permit. There is no restriction on the number of stumps that can be stockpiled above ground from the DEP but they can't be dumped in wetlands as they are now. Your application and plan need to show where the stumps will ultimately be placed. The Town's landfill takes stumps for a charge of $30.00 each.

Limit of Work - Is more tree clearing planned or is the present treeline the limit of your planned work area. If more clearing is planned the areas should be shown. Is more clearing for pasture area planned ? If so, the locations of the pastures and fencing should be included.

Open gravel surfaces - How are the open gravel surfaces to be finished off ? Is topsoil from the work so far stockpiled on site or is new topsoil to be brought in ? If material is to be brought in what is the volume involved ? Around the 50'x 150' arena zone you have shown there will be fairly high slopes. Safety fencing is required if the slopes are steeper than 2:1. There are regulations administered by the Zoning Commission that require a sand & gravel permit if more than 100 cubic yards of soil are brought into the site or taken from the site.

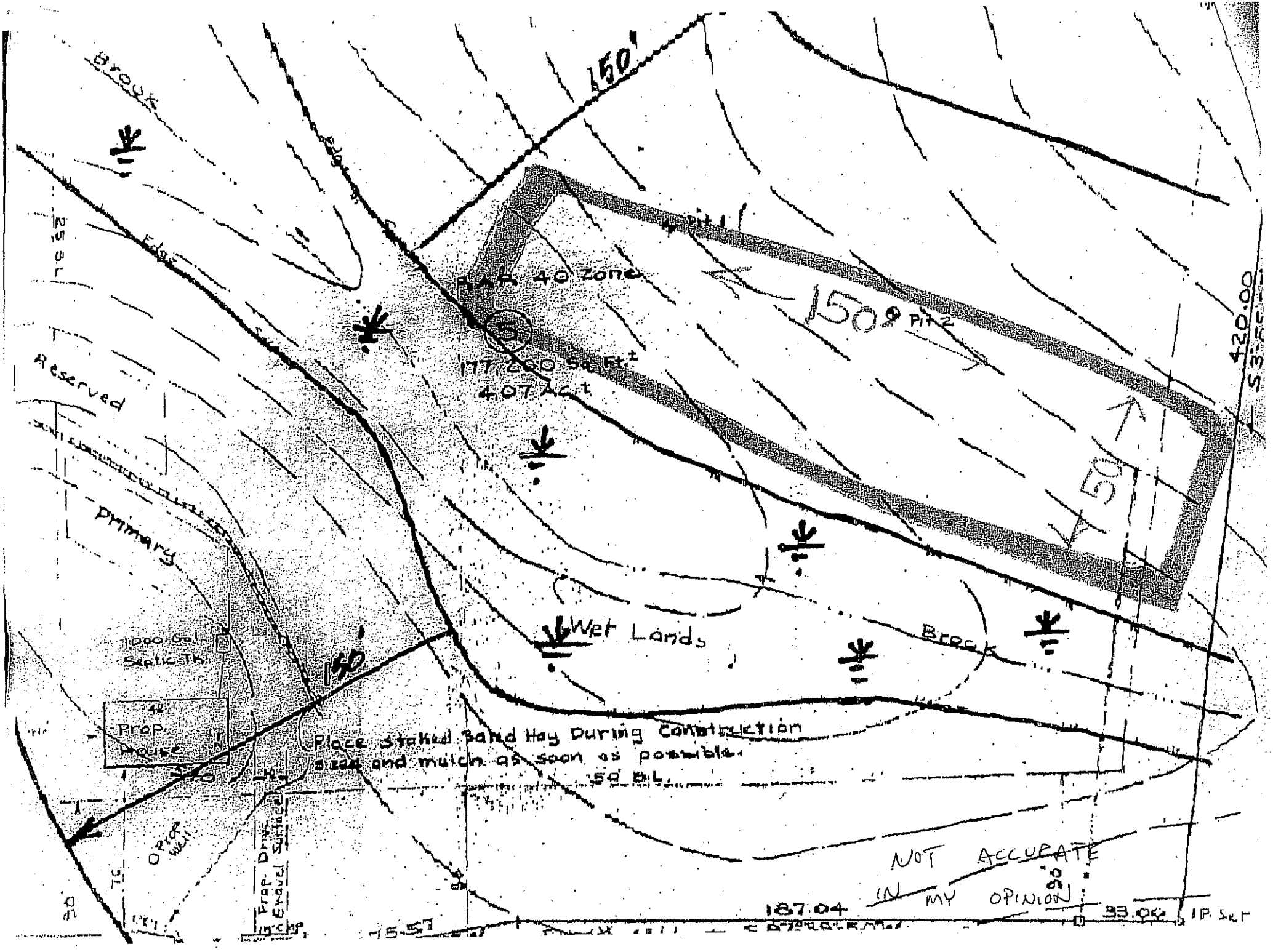
Garden area - You should show the garden area mentioned in your previous letter to the wetlands agency and indicate volumes of material and areas involved.

Barn construction - If a barn is planned for the horses in the future you may want to include that in this application now.

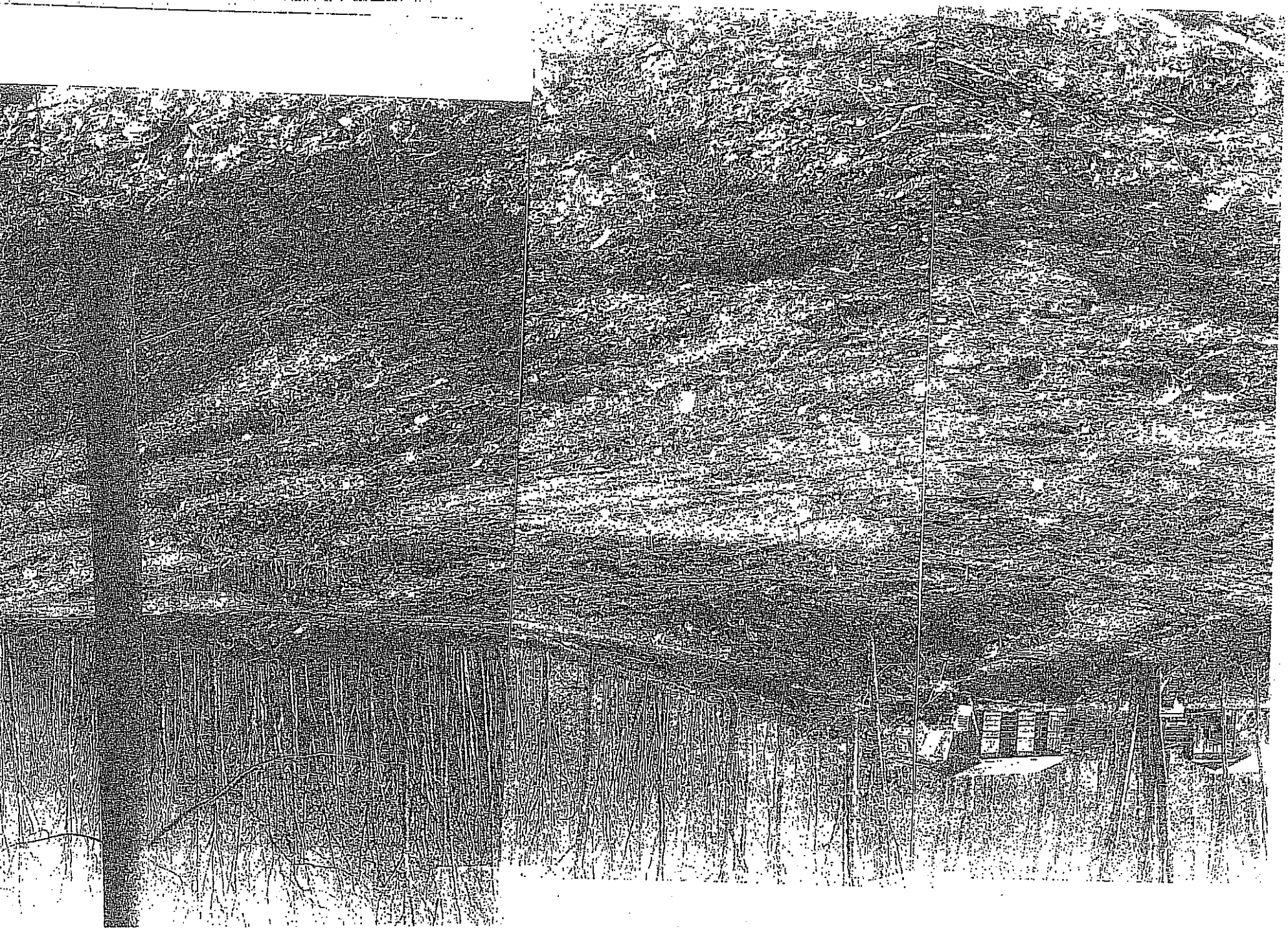
This should give you a pretty good idea of the nature of the discussion and questions the wetlands agency will have.

Grant

It would be best to try and answer as much of these as you can in a letter.


Brook
150'
Pit 1
Park 40 zone
150' Pit 2
177,200 Sq. Ft.±
4.07 Ac.±
Reserved
Primary
1000 Gal Septic Th.
Prop. House
Wet Lands
Brook
Place Staked Sand Hay During Construction
Seed and mulch as soon as possible.
50' B.L.
Prop. Drive Surface
Open Well
NOT ACCURATE
IN MY OPINION
187.04
93.00
420.00

8002-21-11



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Sweet Charity Farm
Jo Ann andMichael Chernushek
473 Middle Turnpike
Mansfield, CT 06268
860-487-4328

Inland Wetland Agency
Ref# 91 7108 2133 3934 5228 4412

This is in response to your letter I picked up on Nov. 26,2008.

On Mother,s Day this year we bought 2 horses. I levelled the hill behind the house and bought a two-stall horse barn. The building permit# is 07=08-763.

The area in question was all trees with a brook. This originally was a farm and had wood roads where they used to ride motor vehicles. To cross the brook they put down logs to drive over. All I did was to replace the logs with plastic pipe and cover them over with gravel.

We had friends who use wood for their heat cut down the trees and take the wood. I bought a payloader to haul the wood out and I rented a bulldozer to push the stumps to the rear and front of the piece on the east side of the brook. The topsoil on the west side of the brook is to be used for a garden. The area we want to level is approximately 50 feet by 150 feet.

The east side is a hill with rocks.sand and gravel. All we want to do is either have the material removed or level it so we can have a level riding area.

We came to Mansfield because it's an agricultural town and we were told we could have two horses here. I like the town because I went to E.O. Smith High School.

I did not change the course of the brook. Beneath the topsoil is a layer of stone. As I was pushing an oak stump, several gray birch stumps also came out because the roots were intertwined. The next morning I looked out and the area was filled with water.

75 feet behind the back row of stumps is a silt fence. The water is running free and clean and is not restricted in any way.

All we want to do is to have a garden and a level place to ride our horses. We did not intend to break any rules.

I can show you other wood roads and brook crossings that were already there if you like.

HENRY MICHAEL CHERNUSHEK

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 Sheila A. Clark

Mailing Address 9 Farrell Road

Storrs, CT Zip 06268

Telephone-Home 429-8985 Telephone-Business _____

Title and Brief Description of Project
Clark Estates Subdivision of 25.16 acres into 4 lots to construct single family dwellings.

Location of Project North side of Hanks Hill Road & West side of Farrell Road

Intended Start Date April 2009

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

Name same

Mailing Address _____

Zip _____

Telephone-Home _____ Telephone-Business _____

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

Signature Sheila G. Clark date 12-15-2008

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

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

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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

See attached Project Description.

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

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

a) include ***type*** of material used as fill or to be excavated
b) include ***volume*** of material to be filled or excavated

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).

Part D - Site Description

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

Clark Estates. - Hanks Hill Road & Farrell Road - Inland Wetland Application

Part C & D - Project description

Subject property is located on the northerly side of Hanks Hill road and the westerly side of Farrell Road containing in total 25.16 acres. Proposed lots 1 & 2 are located in the northeasterly corner of the subject property abutting on Farrell Road. The proposed development of these two lots would take place within the existing fields. Lot #3 would consist of 22.68 acres with no proposed activity. Lot #4 is located in the southwesterly corner of the subject property along northerly side of Hanks Hill Road. This lot is located in the wooded section of the property and would require clearing approximately one half acre. The majority of the subject property contains slopes less than 10 percent. There is a small area (approximately one half acre) adjacent to the wetlands located at the westerly end of the subject property that contains slopes exceeding 15 percent.

There is no proposed activity within wetland soils associated with this application. The wetland soils limits were delineated by a certified soil scientist.

The proposed activity within the upland review area is as follows:

Lot #1: Site Grading - 120 feet at its closest point
Foundation Drain - 90 feet at its closest point
Primary Septic Area - 123 feet at its closest point

Lot #2: House - 124 feet at its closest point
Site Grading - 70 feet at its closest point
Foundation Drain - 30 feet at its closest point
Primary Septic Area - 85 feet at its closest point

Lot #4: Site Grading - 85 feet at its closest point
Foundation Drain - 78 feet at its closest point
Primary Septic Area - 96 feet at its closest point
Reserve Septic Area - 70 feet at its closest point

The proposed development will disturb approximately 1.50 acres of upland soils around the proposed house sites. The installation of the proposed septic systems will require in total approximately 400 cubic yards of sand fill. Approximately 350 cubic yards of gravel fill will be required for the construction of the proposed driveways.

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 alternatives required wetland crossings and did not meet our goals of limiting impacts to wetlands.

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 October 30, 2008

3) Zone Classification RAR 90

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) List the names and addresses of abutting property owners

Name Address

See attached sheet.

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.

2) 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

CLARK ESTATES SUBDIVISION
(Sheila A. Clark, 9 Farrell Road, Storrs, CT 06268)
HANKS HILL ROAD & FARRELL ROAD, STORRS
DATUM JOB# 207002
IWC ABUTTERS LIST

MAP 16, BLOCK 41

Parcel 3 William & Ruth Moynihan 37 Farrell Road Storrs, CT 06268	
Parcel 4 Julie K. White 121 Hanks Hill Road Storrs, CT 06268	
Parcel 5 Brett W. Eagleson 85 Independence Way Middlefield, CT 06455	
Parcel 6 Thornton McGlamery & Lenore Grunko 95 Hanks Hill Road Storrs, CT 06268	
Parcel 7 (owner) Sheila A. Clark 9 Farrell Road Storrs, CT 06268	
Parcel 7-1 Regional District School #19 EOS Athletic Fields 1235 Storrs Road Storrs, CT 06268	
Parcel 20-1 Joshua's Tract Conservation & Historic Trust, Inc. P.O. Box 4 Mansfield Center, CT 06250	
Parcel 23 Alice Raphaelson 119 Timber Drive Storrs, CT 06268	

the Inland Wetlands Agency of the adjoining town, by certified mail, return receipt requested.

3) The Statewide Reporting Form (attached) 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

Submit the appropriate filing fee. (Consult Wetlands Agent for the fee schedule available in the Mansfield Inland Wetlands and Watercourses Regulations.)

____ $365. _____ $110. ____ $60. ____ $25.

Note: The Agency may require you to provide additional information about the regulated area which is the subject of the application, 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.

The undersigned applicant hereby consents 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 granted by the Agency.

Shirley A Clark 12-15-2008

Applicant's Signature Date

Project Description Guidelines for Part C – page 3

1. Explain exactly what work you propose to do and how close it will be to a wetland or watercourse.
2. 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?
3. Does the area of activity drain toward the wetland?
4. Are there alternatives that you considered but eliminated for specific reasons?
5. Describe briefly the construction methods. What kind of heavy equipment will be used? When will the work be done?
6. How are you protecting the wetlands and watercourses against disturbance that will result from construction?
7. 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 – page 4

The following 10 details are required for every application:

1. Applicant's name
2. Date and revision date, if applicable.
3. North arrow and scale of map.
4. Abutting road with road name shown on it.
5. Property lines --if a large property, at least those lines within 200' of the proposed work.
6. Wetland and watercourse locations (including those off your property) within 150' of your proposal--draw a line showing the part of the project that is the closest distance to wetlands and indicate distance in feet.
7. Existing buildings, driveways, well, septic and physical features.
8. Proposed work in detail, including all areas of construction, grading/regrading, excavation, filling. Include stockpiling and staging area locations if applicable. The exact location must be shown of all areas that will be disturbed.
9. Show roof and footing drains by drawing locations.
10. Show location of Erosion & Sedimentation controls (silt fence or hay bale protections) together with any other measures that will protect the wetland/watercourse areas.

Include any available information that may assist the Agency in understanding your proposal.

YOUR PERMIT, WHEN GRANTED, IS VALID FOR 5 YEARS; ONCE STARTED, WORK MUST BE FINISHED WITHIN THE SPECIFIC TIME PERIOD AS SPECIFIED IN THE APPROVAL MOTION UNLESS OTHERWISE APPROVED. SPECIFIC WRITTEN REQUESTS MUST BE MADE FOR EXTENSIONS OR RENEWALS (See Section 7.9) rev. 12/21/98

Please complete attached list identifying professional preparers involved in the proposed application/activity.

LICENSED ENGINEER Gerald Hardisty, P.E. State CT License # 15974

FIRM CES Engineering Telephone # 742-0364

ADDRESS 203 Boston Hill Road, Andover, CT 06232

LICENSED SURVEYOR Edward Pelletier, L.S. State CT License # 14203

FIRM Datum Engineering & Surveying, LLC Telephone # 456-1357

ADDRESS 132 Conantville Road, Mansfield Center, CT 06250

SOIL SCIENTIST Richard Zulick, R.S. State CT License # _____

FIRM _____ Telephone # 429-1918

ADDRESS 400 Nott Highway, Ashford, CT 06278

OTHER PROFESSIONAL PREPARERS

NAME _____ State _____

FIRM _____ Telephone # _____

ADDRESS _____

TO BE COMPLETED BY COMMISSION

Date of Receipt of Application _____

Site Walk Scheduled _____

Public Hearing Scheduled _____

Fee Amount _____ Date Paid _____

Decision _____ Date _____

Inland Water Resources Division
Department of Environmental Protection
79 Elm Street, 3rd Floor
Hartford, CT 06106-5127
www.ct.gov/dep

GIS CODE #:
For DEP Use Only

Statewide Inland Wetlands & Watercourses Activity Reporting Form

*Complete, print, **sign**, and mail this form in accordance with the instructions on pages 2 and 3.*

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

1. DATE ACTION WAS TAKEN (use drop-down box): Year Month
2. ACTION TAKEN (use drop-down box):
3. WAS A PUBLIC HEARING HELD? (select one only) ☐ Yes ☐ No
4. NAME OF AGENCY OFFICIAL VERIFYING AND COMPLETING THIS FORM:

   (print): (signature) _____

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

5. TOWN IN WHICH THE ACTION IS OCCURRING: **Storrs/Mansfield**

   Does this project cross municipal boundaries? (select one only) ☐ Yes ☒ No

   If Yes, list the other town(s) in which the action is occurring:

6. LOCATION: USGS Quad Map Name (see hyperlink): **Spring Hill**

   Quad Number (see hyperlink): **41**

   Subregional Drainage Basin Number (see hyperlink):

7. NAME OF APPLICANT, VIOLATOR OR PETITIONER: **Sheila A. Clark**
8. NAME & ADDRESS/LOCATION OF PROJECT SITE: **Clark Estates Subdivision**
   Hanks Hill Road & 9 Farrell Road
   Storrs, CT 06268

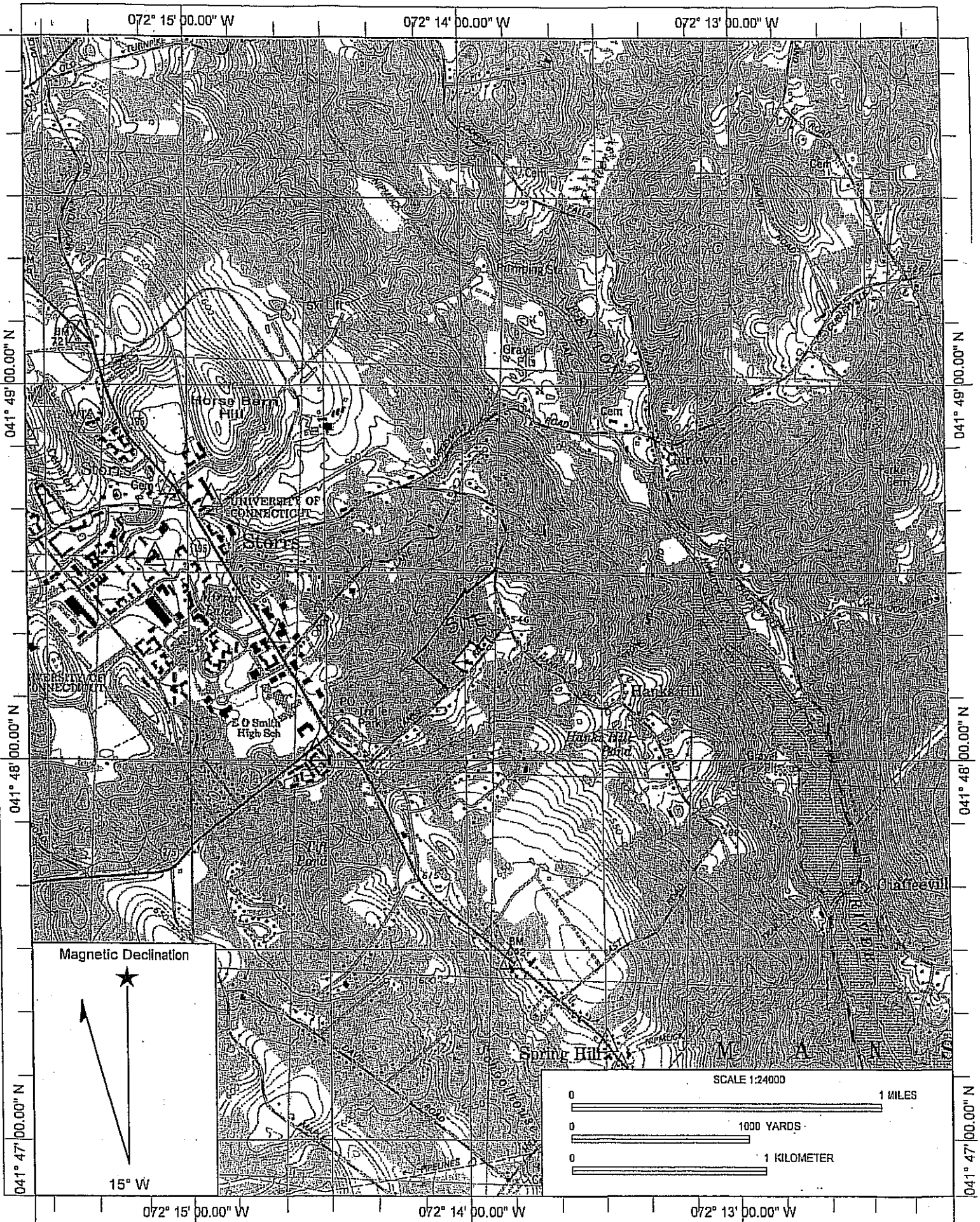
   Briefly describe the action/project/activity: ☐ Temporary ☒ Permanent
   4 lot subdivision of 25.16 acres to construct single family dwellings.

9. ACTIVITY *PURPOSE* CODE (Use drop-down box): B
10. ACTIVITY *TYPE* CODE(S) (Use drop-down box) 12 , 14 , ,
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 REVIEW AREA ALTERED [must be provided in acres]: **1.5** acres
13. AREA OF WETLANDS AND / OR WATERCOURSES RESTORED, ENHANCED OR CREATED: **0** acres
    [must be provided in acres]

PART III: To Be Completed By The DEP

DATE RECEIVED: DATE RETURNED TO DEP:

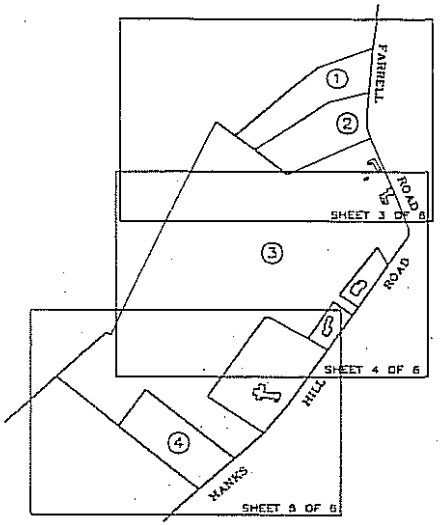
FORM COMPLETED: ☐ YES ☐ NO FORM CORRECTED / COMPLETED: ☐ YES ☐ NO



Name: SPRING HILL
Date: 12/10/2008
Scale: 1 inch equals 2000 feet

Location: 041° 48' 23.57" N 072° 13' 53.31" W NAD27
Caption: Clark Estates
Hanks Hill _Farrell Roads

PAGE
BREAK



INDEX MAP

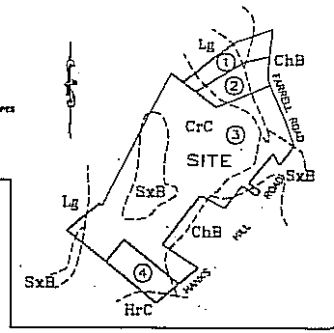
SITE DEVELOPMENT PLAN

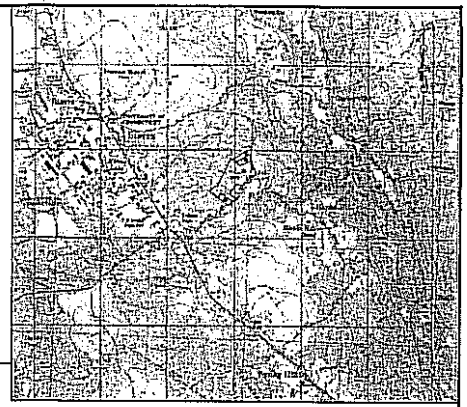
SOIL MAP

SCALE : 1" = 400'

SOILS LEGEND

SYMBOL	DESCRIPTION
ChB	CHARLTON STONY FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES
CrC	CHARLTON-HOLLIS FINE SANDY LOAMS, VERY ROCKY, 3 TO 15 PERCENT SLOPES
HrC	HOLLIS VERY ROCKY FINE SANDY LOAM, 3 TO 15 PERCENT SLOPES
Lg	LEICESTER-RIDGEBURY-WHITMAN VERY STONY COMPLEX
SxB	SUTTON EXTREMELY STONY FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES





LOCATION MAP

SCALE: 1" = 1000'±

SUBDIVISION

ENTITLED

CLARK ESTATES

HANKS HILL ROAD AND FARRELL ROAD
STORRS, CONNECTICUT

OWNER & SUBDIVIDER

SHEILA A. CLARK
9 FARRELL ROAD
STORRS, CONNECTICUT 06268
OCTOBER 30, 2006

APPROVED BY THE TOWN OF MANSFIELD INLAND WETLAND AGENCY

CHAIRMAN DATE

APPROVED BY THE MANSFIELD PLANNING AND ZONING COMMISSION

CHAIRMAN DATE

APPROVED BY THE DIRECTOR OF HEALTH

DIRECTOR DATE

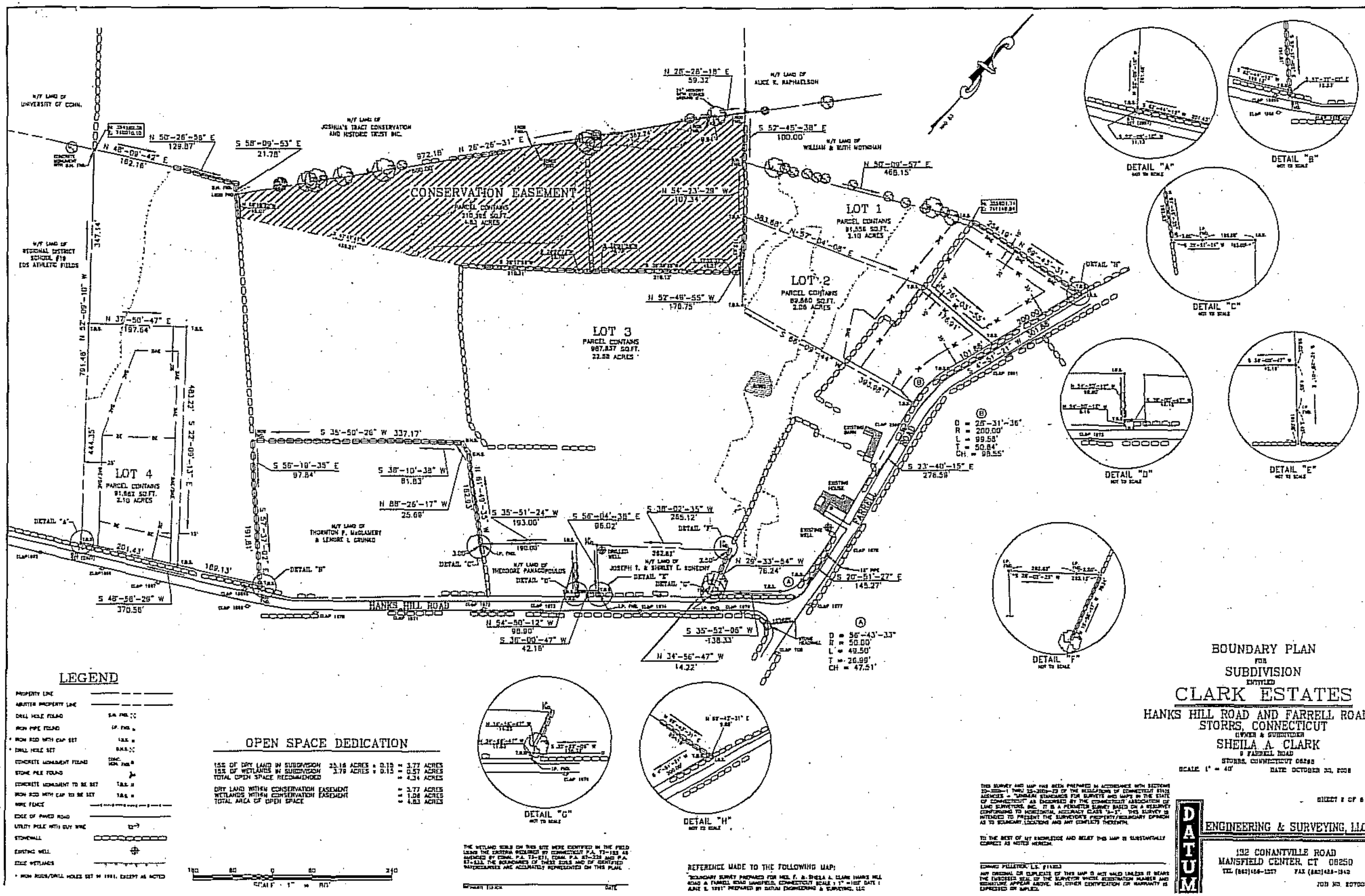
APPROVED BY THE DIRECTOR OF PUBLIC WORKS

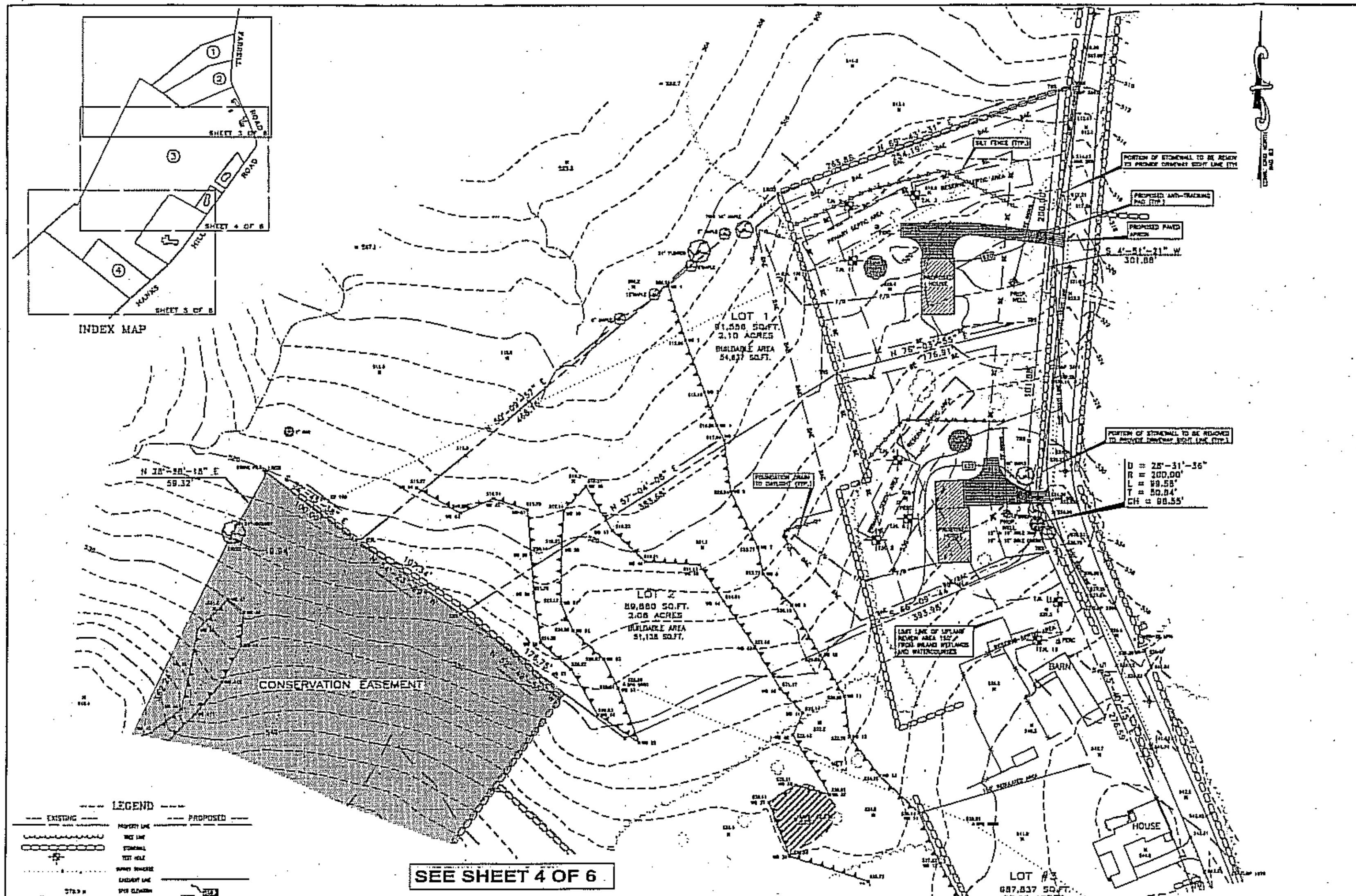
DIRECTOR DATE

INDEX TO SHEETS

DATUM ENGINEERING & SURVEYING, LLC
132 CONANTVILLE ROAD
MANSFIELD CENTER, CONNECTICUT 06250

JOB NO. 207002
SHEET 1 OF 6


BOUNDARY PLAN
FOR
SUBDIVISION
ENTITLED
CLARK ESTATES
HANKS HILL ROAD AND FARRELL ROAD
STORRS, CONNECTICUT
OWNER & SUBDIVIDER
SHEILA A. CLARK
9 FARRELL ROAD
STORRS, CONNECTICUT 06268
SCALE: 1" = 40'
DATE: OCTOBER 30, 2008
SHEET 2 OF 6
DATUM
ENGINEERING & SURVEYING, LLC
132 CONANTVILLE ROAD
MANSFIELD CENTER, CT 06250
LOT 1
PARCEL CONTAINS
91,556 SQ.FT.
2.10 ACRES
LOT 2
PARCEL CONTAINS
89,660 SQ.FT.
2.06 ACRES
LOT 3
PARCEL CONTAINS
987,837 SQ.FT.
22.68 ACRES
LOT 4
PARCEL CONTAINS
91,662 SQ.FT.
2.10 ACRES
CONSERVATION EASEMENT
HANKS HILL ROAD
FARRELL ROAD
N/F LAND OF UNIVERSITY OF CONN.
N/F LAND OF JOSHUA'S TRACT CONSERVATION AND HISTORIC TRUST INC.
N/F LAND OF ALICE K. RAPHAELSON
N/F LAND OF WILLIAM & RUTH MOTHNAH
N/F LAND OF REGIONAL DISTRICT SCHOOL #19 EOS ATHLETIC FIELDS
N/F LAND OF THORNTON P. MACLAMERY & LENORE L. GRUNKO
N/F LAND OF THEODORE PANAGOPOULOS
N/F LAND OF JOSEPH T. & SHIRLEY E. KONECNY
DETAIL "A"
DETAIL "B"
DETAIL "C"
DETAIL "D"
DETAIL "E"
DETAIL "F"
DETAIL "G"
DETAIL "H"
LEGEND
OPEN SPACE DEDICATION
15% OF DRY LAND IN SUBDIVISION 25.16 ACRES x 0.15 = 3.77 ACRES
15% OF WETLANDS IN SUBDIVISION 3.79 ACRES x 0.15 = 0.57 ACRES
TOTAL OPEN SPACE RECOMMENDED = 4.34 ACRES
DRY LAND WITHIN CONSERVATION EASEMENT = 3.77 ACRES
WETLANDS WITHIN CONSERVATION EASEMENT = 1.06 ACRES
TOTAL AREA OF OPEN SPACE = 4.83 ACRES
REFERENCE MADE TO THE FOLLOWING MAP:



SEE SHEET 4 OF 6

LEGEND

EXISTING — PROPOSED

PROPERTY LINE, TREE LINE, STONEWALL, TEST HOLE, SURVEY BENCHMARK, EASEMENT LINE, SPOT ELEVATION, CONTOUR, WELL, LIMIT OF WETLANDS, PERCOLATION TEST, FOUNDATION DRAIN, CATCH BASIN, STORM DRAINAGE PIPE, GRADE TO DRAIN, SILT FENCE, DEVELOPMENT AREA ENVELOPE, BUILDING AREA ENVELOPE, UNDERGROUND UTILITIES, BUILDING & DEVELOPMENT AREA ENVELOPE

SCALE 1" = 40'

SIZING SUBSURFACE DISPOSAL SYSTEMS (FOUR BEDROOMS)								
LOT NO.	SLOPE (%)	RESTRICTIVE LAYER (INCHES)	HYDRAULIC FACTOR	FLOW FACTOR	PERCOLATION FACTOR	REQUIRED MLSS (L.F.)	REQUIRED AREA (SQ.FT.)	TRENCHES PROVIDED (L.F.)
1	5.8%	26	34	2.0	1.5	125	560	3 AT 102
2	8.2%	26	33	2.0	1.0	90	573	3 AT 74
3	5.8%	23	30	1.0	1.5	32	373	3 AT 53.3

APPROVED BY THE TOWN OF MANSFIELD INLAND WETLAND AGENCY

CHAIRMAN — DATE

APPROVED BY THE MANSFIELD PLANNING AND ZONING COMMISSION

CHAIRMAN — DATE

APPROVED BY THE DIRECTOR OF HEALTH

DIRECTOR — DATE

APPROVED BY THE DIRECTOR OF PUBLIC WORKS

DIRECTOR — DATE

THE WETLAND SOILS ON THIS SITE WERE IDENTIFIED IN THE FIELD USING THE CRITERIA REQUIRED BY CONNECTICUT P.A. 73-155 AS AMENDED BY CONN. P.A. 73-571, CONN. P.A. 87-338 AND P.A. 87-533. THE BOUNDARIES OF THESE SOILS AND OF IDENTIFIED WATERCOURSES ARE ACCURATELY REPRESENTED ON THIS PLAN.

RICHARD [illegible] — DATE

PROFESSIONAL ENGINEER AS LICENSED BY THE STATE OF CONNECTICUT DEPARTMENT OF CONSUMER PROTECTION.

GERALD HARDESTY, P.E. #15874

THIS SURVEY AND MAP HAS BEEN PREPARED IN ACCORDANCE WITH SECTIONS 20-300b-1 THRU 20-300b-20 OF THE REGULATIONS OF CONNECTICUT STATE AGENCIES – "MINIMUM STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ENDORSED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. IT IS AN IMPROVEMENT LOCATION SURVEY BASED ON A DEPENDENT RESURVEY CONFORMING TO HORIZONTAL ACCURACY CLASS A-2 AND TOPOGRAPHIC SURVEY ACCURACY CLASS T-2. THIS SURVEY AND MAP IS INTENDED TO BE USED FOR DETERMINATION OF COMPLIANCE WITH APPLICABLE MUNICIPAL OR STATUTORY REQUIREMENTS WITH RESPECT TO PROPOSED IMPROVEMENTS AS DEPICTED HEREON.

TO THE BEST OF MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

EDWARD A. PELLETIER, L.S. #14223

ANY ORIGINAL OR DUPLICATE OF THIS MAP IS NOT VALID UNLESS IT BEARS THE EMBOSSED SEAL OF THE SURVEYOR WHOSE REGISTRATION NUMBER AND SIGNATURE [illegible]

SPECIAL NOTES:

1.) THE DEPICTED SEPTIC SYSTEMS ARE SIZED FOR FOUR BEDROOM DWELLINGS. NO STRUCTURES SHALL BE LOCATED ON PRIMARY AND RESERVE SEPTIC AREAS.

2.) SOLAR ACCESS: PROPOSED HOUSES HAVE BEEN DEPICTED TO MAXIMIZE SOLAR HEAT GAIN AND MINIMIZING SOLAR HEAT LOSS AS SPECIFIED IN SECTION 6.8 OF THE TOWN OF MANSFIELD SUBDIVISION REGULATIONS.

3.) ALL PROPOSED LOTS CONTAIN 40,000 SQUARE FEET OF SUITABLE LAND FOR BUILDING AS DEFINED IN ARTICLE VIII, SECTION B.8 OF THE MANSFIELD ZONING REGULATIONS.

4.) ALL STUMP BURIAL HOLES ON INDIVIDUAL LOTS SHALL COMPLY WITH THE STATE OF CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION SOLID WASTE REGULATIONS.

5.) UNDERGROUND UTILITIES

A. ALL WIRED UTILITY LINES SERVING STRUCTURES ON NEW LOTS SHALL BE INSTALLED UNDERGROUND. UTILITY LINES SHALL BE INSTALLED IN A SUITABLE CONDUIT SYSTEM UNLESS THE RESPONSIBLE UTILITY COMPANY DETERMINES THAT DIRECT BURIAL IS MORE APPROPRIATE;

B. UPON APPROVAL BY THE RESPONSIBLE UTILITY COMPANY, PLANS SHALL BE SUBMITTED TO DEPICT THE LOCATION OF ALL UNDERGROUND UTILITY EASEMENT AREAS;

C. ALL UNDER PAVEMENT CONDUITS SHALL BE INSTALLED PRIOR TO THE PAVING OF ANY STREETS OR DRIVEWAYS.

6.) PURSUANT TO SUBDIVISION REGULATION PROVISIONS, (PARTICULARLY SECTIONS 7.4a, 7.5, AND 7.61 AND ZONING REGULATION PROVISIONS (PARTICULARLY ARTICLE VIII, SECTION B.5 AND B.8) THIS ACTION SPECIFICALLY APPROVES PROPOSED LOT AREAS AND THE DEPICTED BUILDING ENVELOPES, INCLUDING SETBACK WAIVERS FOR LOTS 1, 2, AND 3. UNLESS THE COMMISSION SPECIFICALLY AUTHORIZES REVISIONS, THE DEPICTED BUILDING ENVELOPES SHALL SERVE AS THE SETBACK LINES FOR ALL FUTURE STRUCTURES AND SITE IMPROVEMENTS, PURSUANT TO ARTICLE VIII OF THE ZONING REGULATIONS.

7.) PORTIONS OF THE DEPICTED BUILDING ENVELOPES ARE WITHIN AREAS REGULATED BY THE INLAND WETLAND AGENCY. ANY LAND DISTURBANCES WITHIN THESE AREAS THAT ARE NOT INCLUDED ON THE PLANS APPROVED BY THE INLAND WETLAND AGENCY MAY REQUIRE SUBSEQUENT APPROVAL BY THE AGENCY.

8.) ALL LOTS REQUIRE THE REMOVAL OR FILLING OF LESS THAN 500 CUBIC YARDS OF MATERIAL FOR THE CONSTRUCTION OF THE PROPOSED HOUSE AND DRIVEWAY AND LESS THAN 500 CUBIC YARDS FOR THE SEPTIC FILL.

9.) A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF CONNECTICUT SHALL DESIGN ON-SITE SUBSURFACE DISPOSAL SYSTEMS FOR ALL LOTS IN THIS SUBDIVISION.

10.) FOUNDATION DRAIN OUTLETS WITHIN 25 FEET OF PROPOSED SEPTIC SYSTEMS SHALL BE CONSTRUCTED OF SOLID PVC ASTM D 1785/ ASTM D 2665 (OR EQUAL) WITH RUBBER GASKET JOINTS.

11.) PROPERTY LINE TO SERVE AS DEVELOPMENT AREA ENVELOPE LINE (DAE) EXCEPT WHERE DENOTED OTHERWISE ON LOTS.

12.) PROPOSED DRIVEWAYS AS DEPICTED HEREON TO HAVE A MINIMUM SIGHT DISTANCE OF 300 FEET.

13.) NO PART OF THIS SUBDIVISION INCLUDES A FLOOD ZONE PER "NATIONAL FLOOD INSURANCE PROGRAM FIRM FLOOD INSURANCE RATE MAP TOWN OF MANSFIELD, CONNECTICUT TOLLAND COUNTY PANEL 3 OF 33 COMMUNITY-PANEL NUMBER 090128 0003 C EFFECTIVE DATE: JANUARY 2, 1981 FEDERAL EMERGENCY MANAGEMENT AGENCY FEDERAL INSURANCE ADMINISTRATION"

SITE DEVELOPMENT PLAN
FOR
SUBDIVISION
ENTITLED
CLARK ESTATES

HANKS HILL ROAD AND FARRELL ROAD
STORRS, CONNECTICUT

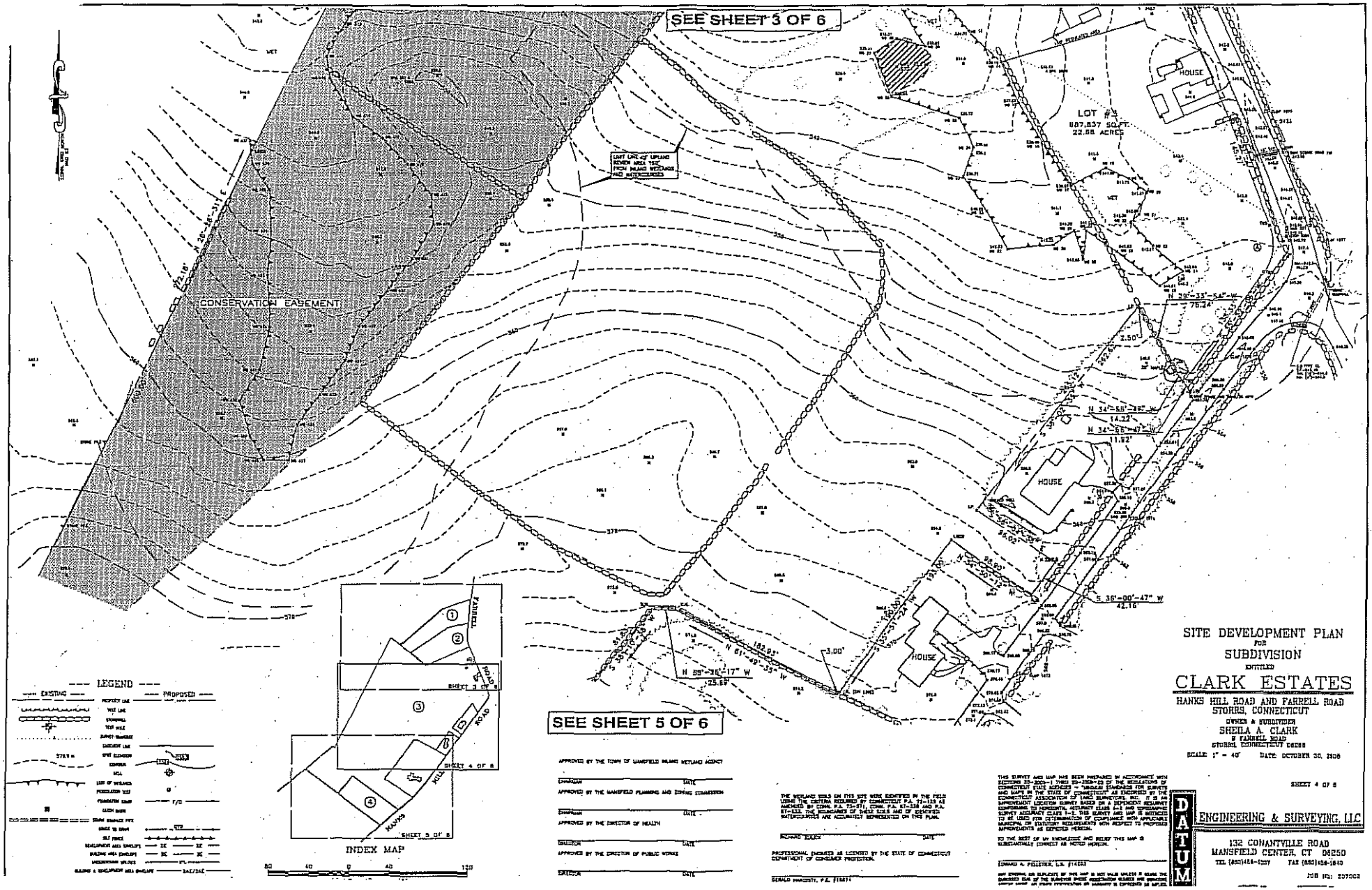
OWNER & SUBDIVIDER
SHEILA A. CLARK
9 FARRELL ROAD
STORRS, CONNECTICUT 06268

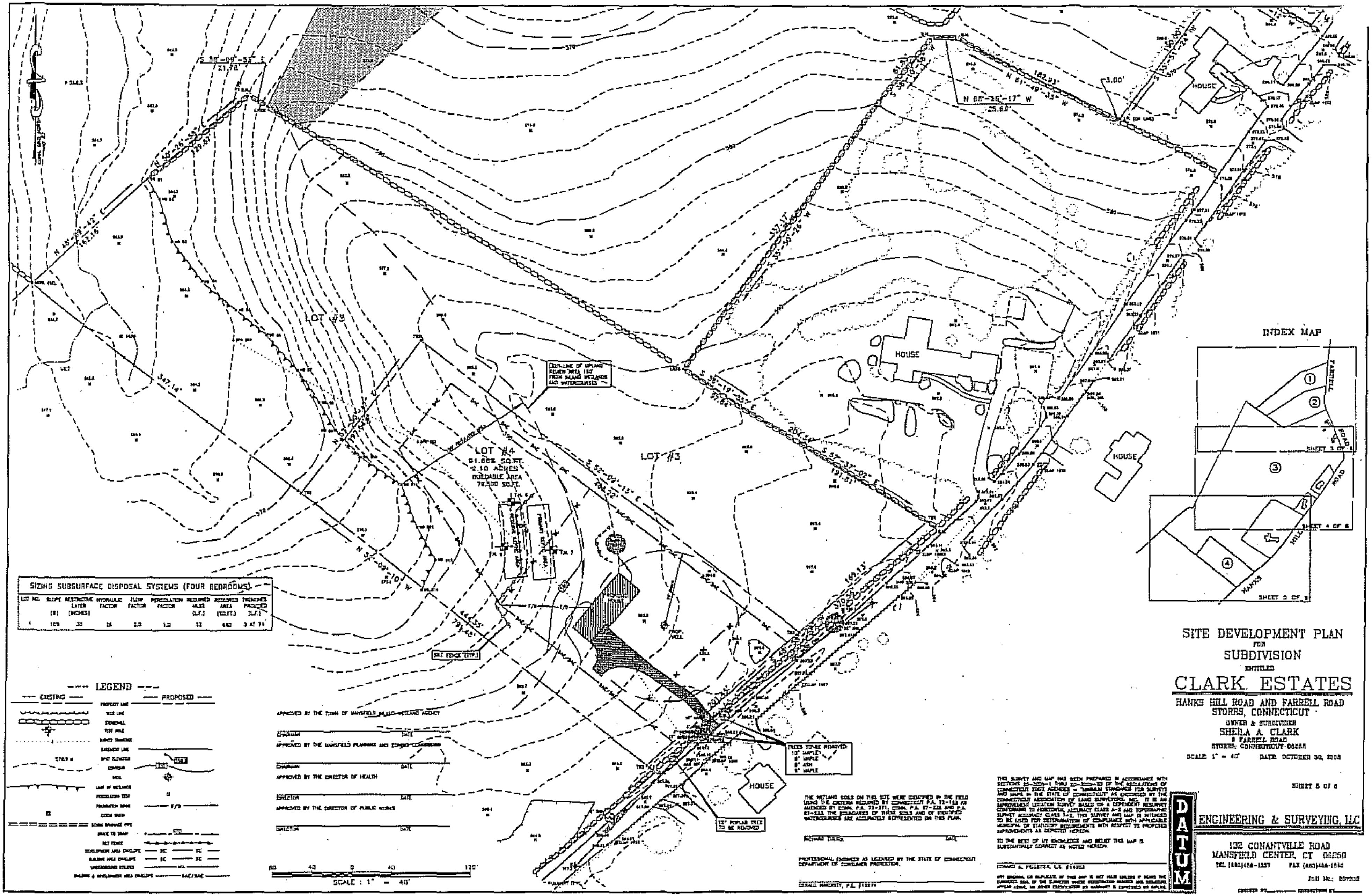
SCALE 1" = 40' DATE: OCTOBER 30, 2006

SHEET 3 OF 6

DATUM ENGINEERING & SURVEYING, LLC
132 CONANTVILLE ROAD
MANSFIELD CENTER, CT 06250
TEL (860)456-1357 FAX (860)456-1510

JOB NO.: 207022


SEE SHEET 3 OF 6
LOT #1
807,837 SQ.FT.
22.58 ACRES
HOUSE
CONSERVATION EASEMENT
LIMIT LINE OF UPLAND REVIEW AREA TEST FROM INLAND WETLANDS AND WATERCOURSES
N 28°-36'-31" E
192.18'
N 29°-33'-54" W
76.24'
2.50'
N 34°-58'-38" W
14.22'
N 34°-58'-47" W
11.92'
S 36°-00'-47" W
42.16'
3.00'
N 61°-49'-15" W
192.91'
N 89°-35'-17" W
25.89'
SEE SHEET 5 OF 6
LEGEND
EXISTING
PROPOSED
PROPERTY LINE
WETLAND LINE
STONEWALL
TREE LINE
SURVEY TRAVERSE
EASEMENT LINE
SPOT ELEVATION
CONTOUR
WELL
LIMIT OF WETLANDS
PERCOLATION TEST
FOUNDATION DRAIN
CATCH BASIN
STORM DRAINAGE PIPE
GRADE TO DRAIN
SILT FENCE
DEVELOPMENT AREA ENVELOPE
BUILDING AREA ENVELOPE
PEDESTRIAN WALKWAY
BUILDING & DEVELOPMENT AREA ENVELOPE
INDEX MAP
FARRELL
HANKS HILL ROAD
SHEET 3 OF 6
SHEET 4 OF 6
SHEET 5 OF 6
80 40 0 40 120
APPROVED BY THE TOWN OF MANSFIELD INLAND WETLAND AGENCY
CHAIRMAN DATE
APPROVED BY THE MANSFIELD PLANNING AND ZONING COMMISSION
CHAIRMAN DATE
APPROVED BY THE DIRECTOR OF HEALTH
DIRECTOR DATE
APPROVED BY THE DIRECTOR OF PUBLIC WORKS
DIRECTOR DATE
THE WETLAND SOILS ON THIS SITE WERE IDENTIFIED IN THE FIELD USING THE CRITERIA REQUIRED BY CONNECTICUT P.A. 73-138 AS AMENDED BY CONN. P.A. 73-511, CONN. P.A. 87-338 AND P.A. 87-535. THE BOUNDARIES OF THESE SOILS HAS BEEN IDENTIFIED WATERCOURSES ARE ACCURATELY REPRESENTED ON THIS PLAN.
RICHARD SOILES DATE
PROFESSIONAL ENGINEER AS LICENSED BY THE STATE OF CONNECTICUT DEPARTMENT OF CONSUMER PROTECTION.
GERALD FAROOTTE, P.E. #16871
THIS SURVEY AND MAP HAS BEEN PREPARED IN ACCORDANCE WITH SECTIONS 20-300b-1 THRU 20-300b-20 OF THE REGULATIONS OF CONNECTICUT STATE AGENCIES - "MINIMUM STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ENDORSED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. "A TOPOGRAPHIC IMPROVEMENT LOCATION SURVEY BASED ON A DIFFERENTIAL RESURVEY CONFORMING TO HORIZONTAL ACCURACY CLASS A-2 AND TOPOGRAPHIC SURVEY ACCURACY CLASS T-2. THIS SURVEY AND MAP IS INTENDED TO BE USED FOR DETERMINATION OF COMPLIANCE WITH APPLICABLE MUNICIPAL OR STATUTORY REQUIREMENTS WITH RESPECT TO PROPOSED IMPROVEMENTS AS DEPICTED HEREON.
TO THE BEST OF MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.
EDWARD A. FELLSTEDT, L.S. #14251
ANY COPYING OR REPRODUCTION OF THIS MAP IS NOT VALID UNLESS IT BEARS THE EMBOSSED SEAL OF THE SURVEYOR WHOSE SIGNATURE APPEARS HEREON.
SITE DEVELOPMENT PLAN
FOR
SUBDIVISION
ENTITLED
CLARK ESTATES
HANKS HILL ROAD AND FARRELL ROAD
STORRS, CONNECTICUT
OWNER & SUBDIVIDER
SHEILA A. CLARK
8 FARRELL ROAD
STORRS, CONNECTICUT 06268
SCALE: 1" = 40' DATE: OCTOBER 30, 2006
SHEET 4 OF 6
DATUM
ENGINEERING & SURVEYING, LLC
132 CONANTVILLE ROAD
MANSFIELD CENTER, CT 06250
TEL (860)456-1257 FAX (860)456-1640
JOB NO: 207002


LOT #3
LOT #4
91,662 SQ.FT.
2.10 ACRES
LOT #3
HOUSE
HOUSE
HOUSE
HOUSE
INDEX MAP
SIZING SUBSURFACE DISPOSAL SYSTEMS (FOUR BEDROOMS)
LEGEND
EXISTING
PROPOSED
SCALE : 1" = 40'
SITE DEVELOPMENT PLAN
FOR
SUBDIVISION
ENTITLED
CLARK ESTATES
HANKS HILL ROAD AND FARRELL ROAD
STORRS, CONNECTICUT
OWNER & SUBDIVIDER
SHEILA A. CLARK
SHEET 5 OF 6
DATUM
ENGINEERING & SURVEYING, LLC
132 CONANTVILLE ROAD
MANSFIELD CENTER, CT 06250

TEST HOLE DATA
OBSERVED BY: JEFFREY CATLETT
AUGUST 14, 2008

TEST HOLE 1
0-7" TOPSOIL
7-21" BROWN FINE SANDY LOAM
21-87" TAN COARSE SAND
NO LEDGE
MOTTLING AT 33"
SEEPAGE AT 85"
ROOTS OPEN

TEST HOLE 2
0-8" TOPSOIL
8-37" BROWN FINE SANDY LOAM
37-80" COMPACT GRAY COARSE SAND
NO LEDGE
MOTTLING AT 37"
SEEPAGE AT 77"
ROOTS OPEN

TEST HOLE 3
0-8" TOPSOIL
8-26" BROWN FINE SANDY LOAM
26-88" MODERATELY COMPACT TAN COARSE SAND
BIG BOULDER IN HOLE
NO LEDGE
MOTTLING AT 26"
NO SEEPAGE
ROOTS OPEN

TEST HOLE 4
0-8" TOPSOIL
8-30" BROWN FINE SANDY LOAM
30-61" COMPACT GRAY COARSE SAND
57-83" MOTTLED HARD PAN
NO LEDGE
MOTTLING AT 30"
SEEPAGE AT 80"
ROOTS OPEN

TEST HOLE 5
0-8" TOPSOIL
8-28" BROWN FINE SANDY LOAM
28-72" COMPACT GRAY COARSE SAND
NO LEDGE
MOTTLING AT 25"
SEEPAGE AT 71"
ROOTS OPEN

TEST HOLE 6
0-6" TOPSOIL
6-31" BROWN FINE SANDY LOAM
31-72" COMPACT TAN COARSE SAND
NO LEDGE
MOTTLING AT 31"
SEEPAGE AT 69"
ROOTS OPEN

TEST HOLE 7
0-7" TOPSOIL
7-38" BROWN FINE SANDY LOAM
38-62" MODERATELY COMPACT GRAY COARSE SAND
MOTTLING AT 38"
NO LEDGE
NO SEEPAGE
ROOTS AT 31"

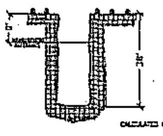
TEST HOLE 8
0-8" TOPSOIL
8-31" BROWN FINE SANDY LOAM
31-82" MODERATELY COMPACT GRAY COARSE SAND
NO LEDGE
MOTTLING AT 31"
NO SEEPAGE
ROOTS AT 30"

TEST HOLE 9
0-8" TOPSOIL
8-34" BROWN FINE SANDY LOAM
34-78" MODERATELY COMPACT GRAY COARSE SAND
NO LEDGE
MOTTLING AT 34"
NO SEEPAGE
ROOTS AT 22"

TEST HOLE 10
0-8" TOPSOIL
8-33" BROWN FINE SANDY LOAM
33-77" MODERATELY COMPACT GRAY COARSE SAND
NO LEDGE
MOTTLING AT 33"
SEEPAGE AT 55"
ROOTS OPEN

TEST HOLE 11
0-8" TOPSOIL
8-28" BROWN FINE SANDY LOAM
28-71" MODERATELY COMPACT GRAY COARSE SAND
NO LEDGE
MOTTLING AT 28"
NO SEEPAGE
ROOTS OPEN

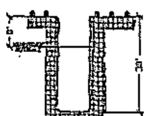
PERC. A (TH 1)
CONDUCTED BY JEFFREY CATLETT
PRESOAKED AT 10:40 A.M. AUGUST 14, 2008



TIME	READING
12:48	18"
12:58	19 1/8"
1:03	21 1/4"
1:08	21 7/8"
1:13	22 3/8"
1:18	23 1/2"
1:23	24 1/2"
1:29	25"
1:34	25 3/8"
1:39	25 3/4"
1:44	26 3/4"

CALCULATED PERCOLATION RATE 10.1 - 20 MIN/IN

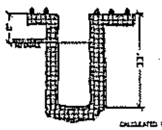
PERC. B (TH 6)
CONDUCTED BY JEFFREY CATLETT
PRESOAKED AT 10:30 A.M. AUGUST 14, 2008



TIME	READING
12:59	12 3/4"
12:55	16"
1:01	19 3/4"
1:05	21 1/8"
1:11	23"
1:16	24 1/8"
1:21	24 7/8"
1:26	25 7/8"
1:31	27"
1:36	28 1/2"
1:41	29 1/2"

CALCULATED PERCOLATION RATE 1 - 5 MIN/IN

PERC. C (HOUSE)
CONDUCTED BY JEFFREY CATLETT
PRESOAKED AT 11:40 A.M. AUGUST 14, 2008



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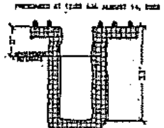
2:07	27 1/4"
2:12	25"
2:17	25 3/4"
2:22	26 1/2"
2:27	28 1/4"
1:41	28 1/2"

CALCULATED PERCOLATION RATE 1 - 10 MIN/IN

PERC. D (TH 9)
CONDUCTED BY JEFFREY CATLETT
PRESOAKED AT 12:20 A.M. AUGUST 14, 2008



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3:10	14 1/4"
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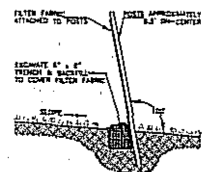
3:25	18 1/4"
3:30	19 1/8"
3:35	20 1/8"
3:40	21 1/8"
3:45	22 1/8"
3:50	23 1/8"

CALCULATED PERCOLATION RATE 1 - 5 MIN/IN



SILT FENCE DETAIL
NOT TO SCALE

I. EROSION AND SEDIMENTATION CONTROL

THIS CONSTRUCTION PLAN PROPOSES EROSION CONTROL MEASURES WHICH WILL PERFORM ONE OR MORE OF THE FOLLOWING FUNCTIONS: MINIMIZE SOIL EXPOSURE, CONTROL RUNOFF, AND SHIELD AND BIND THE SOILS. PROPER EROSION MANAGEMENT WILL MINIMIZE THE EROSION.

WATER GENERATED EROSION IS A SERIOUS PROBLEM WHEN NATURAL VEGETATION IS REMOVED OR ALTERED. FOR THIS REASON, A RECOMMENDATION FOR MINIMAL SITE DISTURBANCE TO EXISTING VEGETATION AND SOIL IS PROPOSED. MINIMAL SOIL EXPOSURE NOT ONLY ENTAILS DEMARCATING SITE DISTURBANCE LIMITS, BUT ALSO INVOLVES THE STAGING OF GRADING AND SUBSEQUENT REVEGETATION OF DISTURBED AREAS SO THAT THE LEAST AMOUNT OF SOIL SURFACE IS EXPOSED AT ANY ONE TIME.

RUNOFF SHALL BE CONTROLLED BY INTERCEPTION, DIVERSION AND SAFE DISPOSAL OF PRECIPITATION. RUNOFF SHALL ALSO BE CONTROLLED BY THE STAGING OF CONSTRUCTION ACTIVITY AND THE PRESERVATION OF NATURAL VEGETATION WHENEVER POSSIBLE. THE BINDING OF SOIL PARTICLES TO MAKE THEM LESS SUSCEPTIBLE TO REMOVAL BY RAIN SPLASH OR RUNOFF IS SUGGESTED BY THE USE OF NATURAL AND PHYSICAL "BINDERS" (MULCHES AND FABRICS) WHERE APPLICABLE.

TO PREVENT SEDIMENT FROM LEAVING THE SITE, CURBED SURFACE RUNOFF SHALL BE DIVERTED TO PASS THROUGH "SILT FENCING". SUCH DIVERSIONS SHALL BE CREATED BY PLACING SILT FENCING DOWN GRADIENT OF SOIL DISTURBING ACTIVITIES. THIS FLOW WILL BE DISPERSED OVER A WIDE AREA AND FILTERED BY THE FABRIC. THE FENCE SHALL FOLLOW THE EXISTING CONTOURS WITH THE ENDS OF THE FENCE TURNED UPHILL TO PREVENT END CUTTING.

DUST CONTROL, IF DETERMINED TO BE REQUIRED DURING INSPECTIONS, SHALL BE ACHIEVED BY THE APPLICATION OF WATER. THE EXPOSED SOIL SURFACE SHOULD BE MOISTENED PERIODICALLY WITH ADEQUATE WATER TO CONTROL DUST.

ALL EROSION AND SEDIMENT CONTROLS WILL BE INSPECTED BY THE ENGINEER OR ENVIRONMENTAL SUPERVISOR ON A DAILY BASIS DURING CONSTRUCTION UNTIL ALL DISTURBED AREAS ARE REVEGETATED OR OTHERWISE STABILIZED. ANY CORRECTIVE MEASURES TO MITIGATE ENVIRONMENTAL CONCERNS WILL BE ENACTED AT THAT TIME.

EXCAVATION WHICH MUST BE DEWATERED WILL BE PUMPED INTO AN ACTIVE DRAINAGE SYSTEM OR INTO A SEDIMENT BASIN. DEBRIS AND OTHER WASTE RESULTING FROM EQUIPMENT MAINTENANCE AND CONSTRUCTION SHALL NOT BE DISCARDED ON SITE.

IN THE EVENT OF CONFLICT BETWEEN THESE PLANS AND OTHER REGULATIONS, THE MORE STRINGENT SHALL APPLY.

THE INLAND WETLAND AGENT MAY AUTHORIZE MODIFICATIONS TO THE APPROVED EROSION CONTROLS AS NEEDED TO MINIMIZE EROSION AND SEDIMENTATION.

II. HOUSE SITE DEVELOPMENT

THE FOLLOWING PROCEDURES FOR THE CONSTRUCTION OF THE HOUSE IS RECOMMENDED:

1. SURVEYOR SHALL STAKE THE LOCATION OF SILT FENCING SHOWN ON THE SITE DEVELOPMENT PLAN THAT IS TO BE INSTALLED IN CONJUNCTION WITH THE HOUSE CONSTRUCTION. SILT FENCE SHALL BE INSTALLED BEFORE ANY CONSTRUCTION ACTIVITY BEGINS.

2. SURVEYOR SHALL FLAG THE LIMITS OF DISTURBANCE ON THE SITE. ALL BRUSH AND TREES SHOWN TO BE REMOVED SHALL BE CUT AND CHIPPED. CHIPS SHALL BE STORED IN NON-GRADED AREAS ADJACENT TO THE SILT FENCE FOR FUTURE USE AS MULCH.

3. CONTRACTOR SHALL PROCEED WITH STUMPING THE SITE. STUMPS SHALL EITHER BE REMOVED FROM THE SITE OR BURIED ON SITE IN COMPLIANCE WITH THE STATE OF CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION SOLID WASTE REGULATIONS.

4. TOPSOIL FROM THE AREA OF THE PROPOSED HOUSE SHALL BE STRIPPED & STOCKPILED WITHIN THE AREA SHOWN. THE STOCKPILE SHALL BE ADEQUATELY RINGED ON THE DOWN GRADIENT SIDE WITH SILT FENCE.

5. ANY STOCKPILING OF BUILDING MATERIALS SHALL ALSO BE CONFINED TO THE CLEARED AREA. SIMILARLY, VEHICULAR MOVEMENT SHALL BE DIRECTED TO ESTABLISHED PARKING AREAS.

6. ONCE THE PROPOSED STRUCTURE IS ENCLOSED, ALL EFFORTS SHALL BE MADE TO COMPLETE ON-SITE IMPROVEMENTS. THEREAFTER, ALL BARE SOIL AREAS SURROUNDING THE BUILDING SHALL BE FINE GRADED AND STABILIZED IN ACCORDANCE WITH THE "GENERAL NOTES".

III. COMMON DRIVEWAY CONSTRUCTION SEQUENCE

1. SURVEYOR SHALL STAKE THE LOCATION OF THE PROPOSED SILT FENCE AS SHOWN ON THE SITE PLAN. SILT FENCE SHALL BE INSTALLED BEFORE ANY CONSTRUCTION ACTIVITY BEGINS ON THE SITE.

2. SURVEYOR SHALL FLAG THE LIMITS OF DISTURBANCE TO INSTALL THE COMMON DRIVEWAY. ALL BRUSH AND TREES SHOWN TO BE REMOVED SHALL BE CUT AND CHIPPED. CHIPS SHALL BE STORED IN NON-GRADED AREAS ADJACENT TO THE SILT FENCE FOR FUTURE USE AS MULCH.

3. SURVEYOR SHALL STAKE THE LOCATION AND PROPOSED ELEVATIONS OF THE COMMON DRIVEWAY.

4. CONTRACTOR SHALL PROCEED WITH THE INSTALLATION OF THE INITIAL 100' OF DRIVEWAY. LOAM SHALL BE STRIPPED AND STOCKPILED OUTSIDE THE WETLANDS (SHOWN ON THE SITE PLAN AS LOAM STOCKPILE AREA).

5. CONTRACTOR SHALL INSTALL THE ANTI-TRACKING PAD AT THE ROAD INTERSECTION.

6. CONTRACTOR SHALL PROCEED TO INSTALL THE BALANCE OF THE COMMON DRIVEWAY. IMMEDIATELY FOLLOWING THE PLACEMENT OF BASE GRAVEL ALONG THE DRIVEWAY, ALL DRIVEWAY SHOULDERS SHALL BE LOAMED, SEEDED AND MULCHED AS DIRECTED UNDER "GENERAL NOTES."

7. EROSION CONTROL BLANKETS SHALL BE USED TO STABILIZE DRIVEWAY SHOULDERS WITHIN 50 FEET OF THE PROPOSED 24" RCP.

IV. GENERAL NOTES

A. SEED BED PREPARATION: FINE GRADE AND RAKE SOIL SURFACE TO REMOVE STONES LARGER THAN 2" DIAMETER. INSTALL NEEDED EROSION CONTROL DEVICES SUCH AS SURFACE WATER DIVERSIONS. APPLY LIMESTONE AT A MINIMUM RATE OF 2 TONS PER ACRE OR 90 LBS PER 1000 SQUARE FEET.
FERTILIZE WITH 10-10-10 AT A RATE OF 300 LBS. PER ACRE OR 7.5 LBS. PER 1000 SQUARE FEET. WORK LIME AND FERTILIZER INTO SOIL UNIFORMLY TO A DEPTH OF 4" WITH A DISK, SPRINGTOOTH HARROW OR OTHER SUITABLE EQUIPMENT FOLLOWING THE CONTOUR LINES.

B. SEED APPLICATION: APPLY GRASS SEED MIXTURE BY HAND, CYCLONE SEEDER OR HYDROSEEDER. INCREASE SEED MIXTURE BY 10 PERCENT IF HYDROSEEDING. LIGHTLY DRAG OR ROLL THE SEEDED SURFACE TO COVER SEED. SEED SHALL CONSIST OF A MIXTURE OF KENTUCKY BLUEGRASS (0.45 LBS/1000 SQ.FT.), CREEPING RED FESCUE (0.45 LBS/1000 SQ.FT.) AND PERENNIAL RYEGRASS (0.10 LBS/1000 SQ.FT.). SEEDING OF PERMANENT GRASS SEED SHALL BE DONE BETWEEN APRIL 15 THROUGH JUNE 15 AND AUGUST 15 THROUGH SEPTEMBER 15. IN THE EVENT SEEDING CANNOT BE COMPLETED DURING THE ABOVE DATES, A TEMPORARY GRASS SEED CONSISTING OF 1.0 LBS./1000 SQ.FT. OF ANNUAL RYE GRASS SHALL BE APPLIED. MOISTURE CONDITIONS SHALL BE SUPPLEMENTED FOR TEMPORARY SEEDING BETWEEN JUNE 15 AND AUGUST 15.

C. MULCHING: IMMEDIATELY FOLLOWING SEEDING, MULCH THE SEEDED SURFACE, WITH STRAW OR HAY AT A RATE OF 1.5 TO 2 TONS PER ACRE. WHERE SLOPES EXCEED 15 PERCENT, SPREAD MULCH BY HAND OR MULCH BLOWER. PUNCH MULCH INTO SOIL SURFACE WITH TRACK MACHINE OR DISK HARROW SET STRAIGHT UP. MULCH MATERIAL SHOULD BE "FIT" INTO SOIL SURFACE APPROXIMATELY 2-3 INCHES.

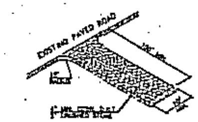
V. PLAN IMPLEMENTATION

A DAILY INSPECTION OF THE SITE SHALL BE PERFORMED TO ENSURE COMPLIANCE WITH THE SEDIMENT & EROSION CONTROL PLAN, AND A WEEKLY SEDIMENT & EROSION MONITORING REPORT SUBMITTED TO THE TOWN OF MANSFIELD ZONING AGENT AND INLAND WETLAND AGENT. DURING CONSTRUCTION IT SHALL BE THE RESPONSIBILITY OF PATRICK CLARK ([illegible]) TO ENSURE THE IMPLEMENTATION OF THIS SEDIMENT & EROSION CONTROL PLAN. THIS RESPONSIBILITY INCLUDES INSTALLATION AND MAINTENANCE OF CONTROL MEASURES, INFORMING ALL PARTIES ENGAGED ON THE SITE OF THE OBJECTIVES OF THIS PLAN, NOTIFYING THE WETLAND AGENT OR HIS DESIGNATE OF ANY TRANSFER OF THIS RESPONSIBILITY AND FOR CONVEYING A COPY OF THE SEDIMENT & EROSION CONTROL PLAN IF AND WHEN TITLE OF THE [illegible] IS TRANSFERRED.

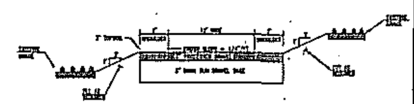
ANY MATERIAL REMOVED FROM SITE AND DEPOSITED IN MANSFIELD MUST BE IN FULL COMPLIANCE WITH APPLICABLE ZONING AND INLAND WETLAND REQUIREMENTS.

EDWARD POLLITZER, L.S. [illegible]

ANTICIPATED START DATE: APRIL 2009. COMPLETION DATE: OCT 2009.



ANTI-TRACKING PAD DETAIL
NOT TO SCALE



DRIVEWAY DETAIL
NOT TO SCALE

APPROVED BY THE TOWN OF MANSFIELD INLAND WETLAND AGENCY

CHAIRMAN DATE

APPROVED BY THE MANSFIELD PLANNING AND ZONING COMMISSION

CHAIRMAN DATE

APPROVED BY THE DIRECTOR OF HEALTH

DIRECTOR DATE

APPROVED BY THE DIRECTOR OF PUBLIC WORKS

DIRECTOR DATE

NOTES AND DETAILS
FOR
SUBDIVISION
ENTITLED
CLARK ESTATES
HANKS HILL ROAD AND FARRELL ROAD
STORRS, CONNECTICUT
OWNER & SUBDIVIDER
SHEILA A. CLARK
8 FARRELL ROAD
STORRS, CONNECTICUT 06268

NO SCALE DATE: OCTOBER 30, 2008

SHEET 8 OF 8

DATUM
ENGINEERING & SURVEYING, LLC
132 CONANTVILLE ROAD
MANSFIELD CENTER, CT 06250
TEL (860)456-1257

JOB NO.: 207002

TOWN OF MANSFIELD
OFFICE OF PLANNING AND DEVELOPMENT

GREGORY J. PADICK, DIRECTOR OF PLANNING

Memo to: Mansfield Conservation Commission
From: Gregory Padick, Director of Planning
Date: 1/14/09
Re: Update on Miscellaneous Issues

1. **CL&P Interstate Reliability Project**
   The Windham Regional Council of Governments (WINCOG) has scheduled a special meeting for January 21st to review the CL&P Interstate Reliability Project and Mansfield's request that WINCOG support Mansfield's position opposing this project. CL&P has not yet filed its application with the CT. Siting Council.

2. **UConn Compost Facility**
   Since the 11/19/08 open house on this project, a number of letters of concern were submitted and responded to by UConn representatives (copies attached). It is anticipated that UConn will continue to pursue 2009 construction of the planned facility east of Route 32 and north of Route 44 but new monitoring and reporting management plans will be adopted.

3. **Town Council Sustainability Committee**
   At the Town Council's 1/12/09 meeting the attached resolution establishing a new Sustainability Committee was adopted. The resolution includes a committee position for a citizen to represent environmental protection.

4. **Ponde Place Project**
   The Environmental Review Team visited the Ponde Place site off of Hunting Lodge Road in December. A report with the team's findings and recommendations is expected in late January or early February.

5. **IWA Violation Notice-Chernushek property, 473 Middle Turnpike.**
   Action regarding this violation notice has been tabled pending review of an application submitted by Mr. Chernushek. The issue is complicated due to statutory exemption provisions for agricultural activities. A legal opinion from Mansfield's Town Attorney has been requested.

6. **Proposed Telecommunication Tower in Southern Mansfield**
   As indicated in an attached memo I prepared, no significant environmental or neighborhood impacts are expected. I have recommended that the Town not forward any comments until finalized plans and reports are prepared and submitted to the CT. Siting Council.

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TOWN OF MANSFIELD
OFFICE OF PLANNING AND DEVELOPMENT

GREGORY J. PADICK, DIRECTOR OF PLANNING

Memo to: Mansfield Planning and Zoning Commission, Town Council, Conservation Commission
From: Gregory Padick, Director of Planning
Date: 1/15/09
Re: December 2008 Draft Environmental Impact Study- North Hillside Road Ext.

Copies of the executive summary of a December 2008 Draft Environmental Impact Study (EIS) for the North Hillside Road Extension project have been distributed to the Town Council, the Planning and Zoning Commission and the Conservation Commission. This summary provides detailed information about the proposed extension of North Hillside Road from the UConn Storrs Campus to Route 44 and the associated development of UConn's North Campus. A public hearing on the draft EIS has been scheduled for January 29, 2009. Any Town comments must be submitted on or before February 13, 2009.

I have reviewed the draft EIS and have the following comments:

- The subject EIS was prepared due to a commitment of federal funds for roadway construction. The same basic project has been the subject of two previous Connecticut Environmental Impact Evaluations (EIE) and has been found acceptable with respect to anticipated impacts. The same basic project was approved by Mansfield's Planning and Zoning Commission and Inland Wetlands Agency in association with the former Connecticut Technology Park project.

- The subject project consists of a 32 foot wide roadway with designated bicycle lanes and a separate bituminous walkway. It will connect the existing segment of N. Hillside Road Extension to Route 44 at an intersection across from the driveway to Mansfield Professional Park. The roadway will provide access to approximately five (5) new development sites between the existing Charter Oak Apartments on Route 44. The project also would extend UConn water, sewer and other utilities to the development sites. A new signalized intersection with turning lanes is proposed at the intersection with Route 44.

- Table ES-1 (page ES-18 to ES-21) provides many specific mitigation measures that will be incorporated into the project design and the development of North Campus.

- Section ES-5 (page ES-17 and 18) list numerous permits that need to be obtained. The subsequent permit process will allow comments on specific construction plans.

- The subject project is a significant transportation and economic development project for the University of Connecticut and the Town of Mansfield. It promotes many goals and objectives of local, regional and state land use plans. The roadway is considered the highest priority road improvement project in Mansfield.

Summary/Recommendation

My review indicates that the subject draft EIS is thorough and comprehensively addresses all potential environmental impacts. Accordingly, it is recommended that subject to any review comments from Town Council, PZC or Conservation Commission members and any public hearing testimony, that Mansfield representatives support the findings of the EIS. It is suggested that a letter of Town support be considered following the 1/29/09 public hearing (PZC's 2/2/09 meeting and the Town Council's 2/9/09 meeting).

PAGE
BREAK

Draft Environmental Impact Statement
North Hillside Road Extension

FHWA-CT-EIS-08-01-D

Mansfield, Connecticut

December 2008

U.S. Department of Transportation
Federal Highway Administration
Connecticut Department of Transportation
University of Connecticut

Cooperating Agencies:
U.S. Army Corps of Engineers

Participating Agencies:
Connecticut Department of Environmental Protection
Connecticut Department of Public Health

Submitted Pursuant to 42 U.S.C. 4332 (2)(c)

EXECUTIVE SUMMARY

ES.1 Project Description and Location

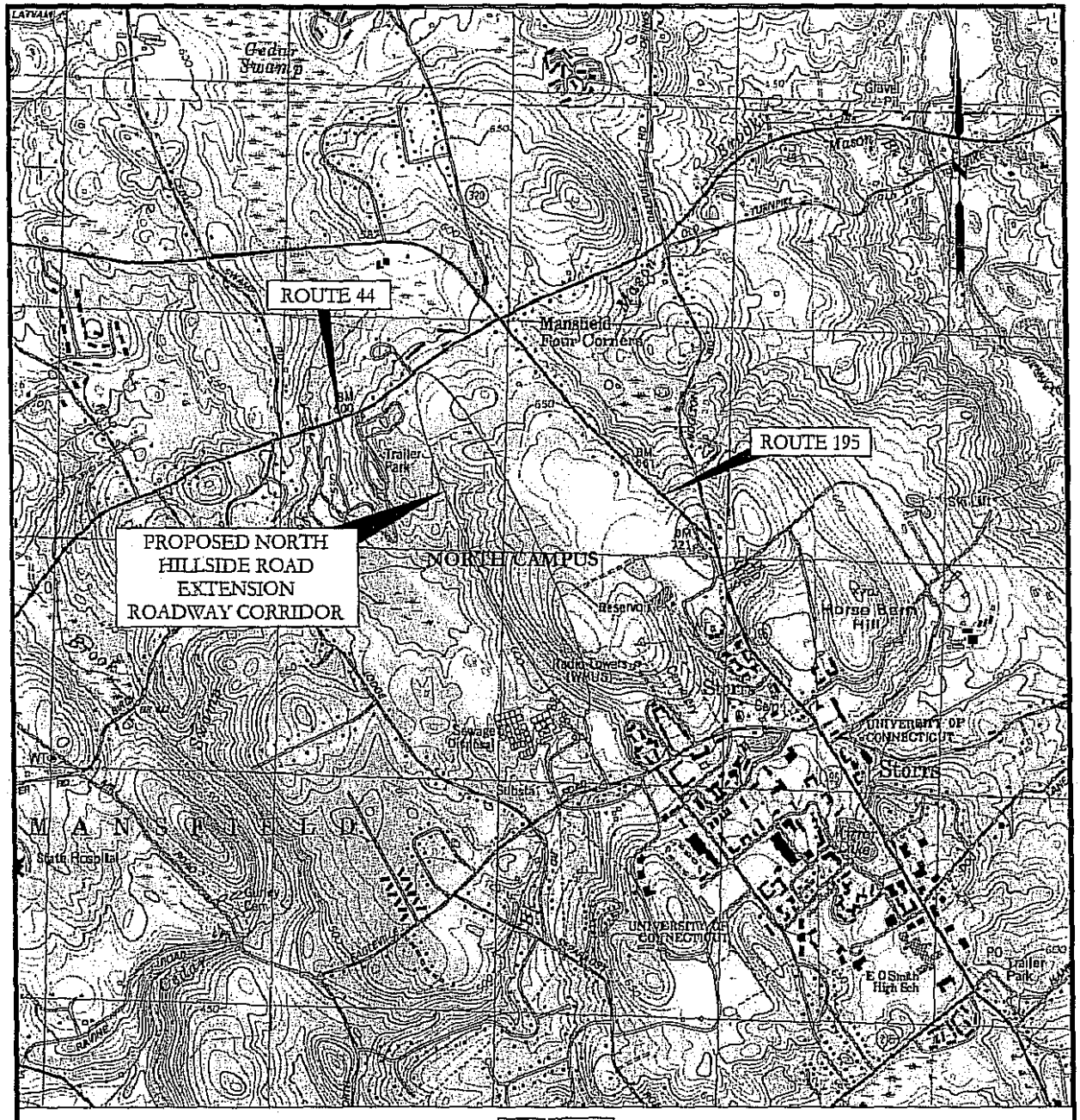
The Federal Highway Administration (FHWA), in cooperation with the University of Connecticut (UConn), is preparing this Draft Environmental Impact Statement (DEIS) for the extension of North Hillside Road on the UConn Storrs campus from its current terminus northward to U.S. Route 44 in the town of Mansfield, Connecticut (Figure ES-1 and Figure ES-2). The proposed project will construct an approximately 3,400-foot, 2-lane, 32 feet wide road through a portion of land adjacent to the Storrs core academic campus known as the "North Campus." The project will provide an alternative entrance to the University, relieve traffic on surrounding roads, and facilitate the development of the North Campus. In addition to FHWA and UConn, the Connecticut Department of Transportation (ConnDOT) is also a Joint Lead Agency as defined in 23 CFR §771.109. ConnDOT is administering the approximately $6 million that was appropriated by the Federal government for the construction of the North Hillside Road Extension. (Note that new utilities are not eligible for federal-aid participation.)

ES.1.1 Background

This DEIS is the fourth environmental review document to address the construction of a roadway from North Eagleville Road to U.S. Route 44. The construction of a roadway from North Eagleville Road (State Route 430) to U.S. Route 44 has been contemplated since the 1970s, when the area of land known as the North Campus was considered for the development of a research and technology park (Frederic R. Harris, 1994). In 1987, the construction of an approximately 3,800 linear foot North Hillside Road was reviewed in an Environmental Impact Report (EIE) prepared pursuant to the Connecticut Environmental Policy Act (CEPA). After approval of the EIE, the State began construction of the existing North Hillside Road, which was completed in summer 1989. After a change in developer, a CEPA EIE for *Actions Associated with a Research and Technology Park* was released in May 1994. In the 1994 EIE six alternative site layouts with slightly different roadway alignments and parcel configurations, were initially considered, and then two configurations, called Option A and Option B were analyzed in detail in the 1994 EIE. Although a preferred alternative for the alignment was not explicitly identified in the EIE, following approval of the document, the Connecticut Department of Transportation began design for the Option B road alignment. UCEPI was unsuccessful at developing the research project and design plans for the North Hillside Road Extension halted at the 60% design stage.

In June 2000, UConn released the Outlying Parcels Master Plan (JJR, 2000) that includes a master plan for development of the North Campus. An EIE for actions associated with the development of the North Campus was completed in 2001 (Frederic R. Harris, 2001). In it, the Hillside Road Extension utilizes the Option A alignment proposed in the 1994 EIE, which was more environmentally sensitive than the Option B alignment, resulting in fewer impacts to inland wetland resources and farmland soils (Frederic R. Harris, 1994; 2001). The Connecticut Office of Policy and Management (OPM) subsequently found the 2001 EIE to adequately comply with CEPA, but required that a comparative analysis be conducted for the development

Figure ES-1. Locus Map



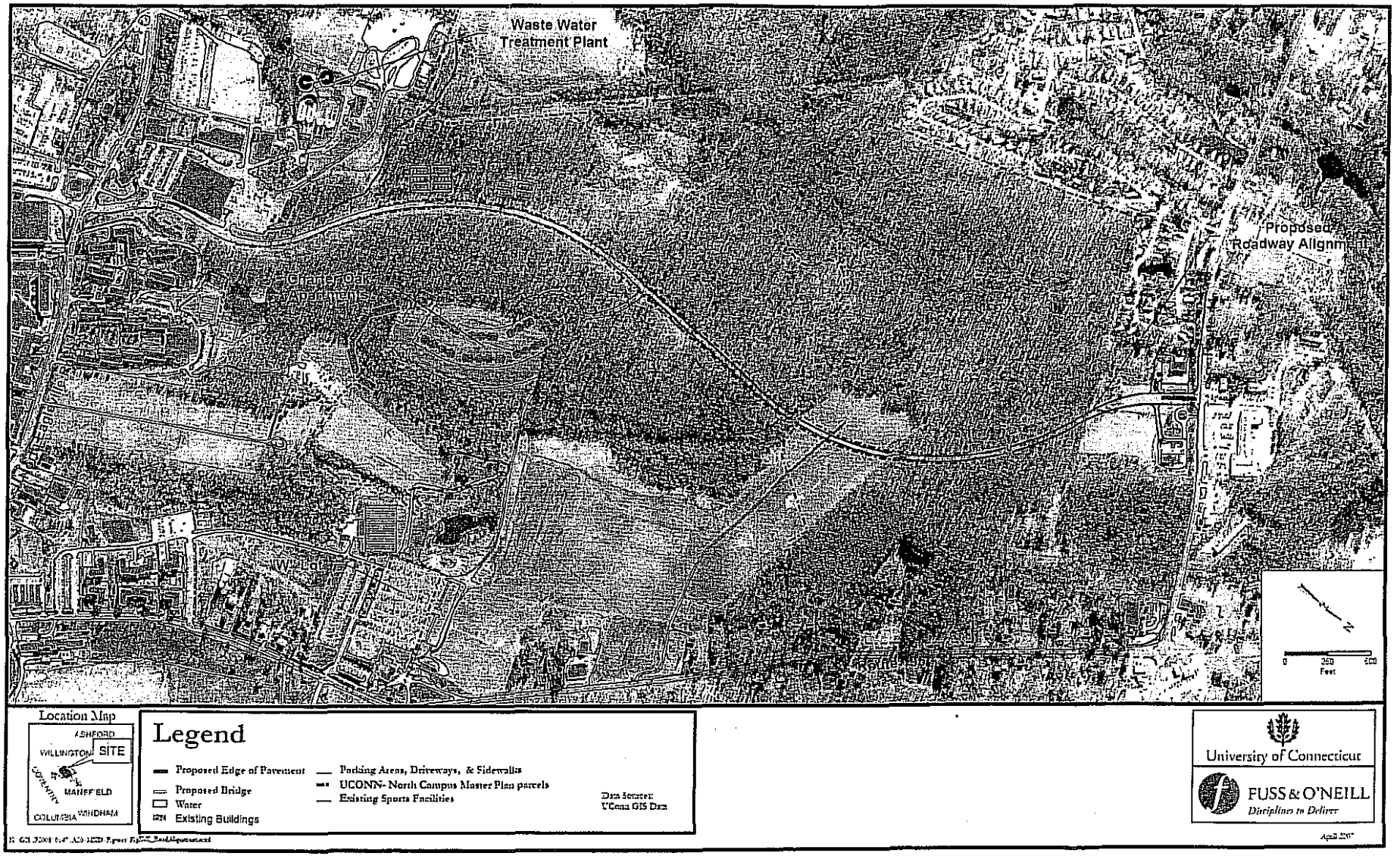
MAP REFERENCE:
THIS MAP WAS PREPARED FROM THE FOLLOWING 7.5 MINUTE SERIES TOPOGRAPHIC MAP:
COVENTRY, CONN. 1974, PHOTOREVISED 1983

IDENTIFYING LOCATION
THE CENTER OF THE SITE SHOWN ABOVE IS APPROXIMATELY 1.25 MILES FROM THE INTERSECTION OF CT ROUTE 195 AND EAGLEVILLE ROAD.

THIS DRAWING HAS BEEN REDUCED - DO NOT SCALE

SCALE: HORZ: 1"=2000' VERT: DATUM: HORZ: VERT: 0 1000 2000 GRAPHIC SCALE	FUSS & O'NEILL *Disciplines to Deliver* www.FandO.com 146 HARTFORD RD MANCHESTER, CT 06040 860.646.2469	THE UNIVERSITY OF CONNECTICUT LOCUS MAP NORTH HILLSIDE ROAD EXTENSION STORRS CONNECTICUT	PROJ. No: 20050147.A20 DATE: NOVEMBER 2007

Figure ES-2. Proposed Roadway Alignment and North Campus Development Parcels



F:\P2005\0147\A20\DEIS\Final\Figure ES-2.doc

of future projects, beyond the roadway project and the Charter Oak Apartments, which were approved previously under the 1994 EIE.

In 2005, approximately $6 million was appropriated by the Federal government for the construction of the North Hillside Road Extension. (Note that new utilities are not eligible for federal-aid participation.) The presence of federal funding for the project necessitates compliance with the National Environmental Policy Act (NEPA). The FHWA, together with the Connecticut Department of Transportation, determined that an Environmental Impact Statement (EIS) is the appropriate level of NEPA documentation for the project. In addition, given the lapse of time since the 2001 EIE for the North Campus Master Plan, OPM requested a comparative analysis due to concerns regarding potential differences in background traffic growth anticipated by the previous EIEs and current traffic projections. The comparative analysis was submitted to OPM in January 2007. OPM issued a decision letter dated October 1, 2007, indicating that, based on their review of the submitted documentation, the 2001 EIE is still valid relative to the impacts associated with the North Hillside Road extension project (Appendix M).

ES.1.2 Project Termini

The existing North Hillside Road begins at North Eagleville Road and extends approximately 4,000 feet to the north terminating just north of the Charter Oak Apartments. The new roadway will extend approximately 3,400 linear feet from the existing terminus near the Charter Oak Apartments northward to U.S. Route 44 (Figure ES-2). The roadway will terminate at U.S. Route 44 between the two parcels occupied by New Alliance Bank, and Bank of America across from Professional Park Drive, creating a four way intersection, approximately 2,000 feet west of Route 195 (Storrs Road).

Route 44 will be widened at the intersection with the proposed North Hillside Road Extension to add exclusive eastbound and westbound left turn lanes, an eastbound right turn lane and a new traffic signal at the intersection. The North Hillside Road approach to this intersection will be treated as a main University entrance with appropriate signage, boulevard median plantings, and landscaping.

UConn expects to acquire a Right-of-Way (ROW) along areas of the existing driveway that would need to be widened for the proposed intersection of North Hillside Road and Route 44. There are no residential properties in this area and the ROW would not require, nor is UConn proposing, relocation of the two existing businesses at this intersection. UConn has requested ConnDOT to act as its agent for ROW acquisition and is currently developing a Memorandum of Understanding with ConnDOT to formalize this arrangement.

In addition to the roadway, there will be construction of utilities consisting of water, sanitary sewer, storm drainage, telecommunications, primary electrical, and natural gas, as well as street lighting and code blue emergency phones. New utilities are not eligible for federal-aid participation. The project design includes a bituminous pedestrian sidewalk on the east side of the roadway and a separate bicycle lane within the curb line in each direction. Guide rails will be installed where necessary.

The study area consists of the proposed North Hillside Road corridor and the adjacent land identified for development on the North Campus. The North Campus is bounded on the north by Middle Turnpike (Route 44), to the east by Storrs Road (Route 195), to the south by North Eagleville Road, and to the west by Hunting Lodge Road.

ES.2 Purpose and Need for Action

The purpose of the project is to construct a new road, by extending the existing North Hillside Road, to provide alternate entrance to the University and to facilitate the development of a North Campus expansion consistent with the Outlying Parcels Master Plan. The need for the North Hillside Road Extension results from the existing and anticipated traffic in the vicinity of the Storrs Campus and the associated effects on roadway capacity and level of service in the area surrounding the campus, especially U.S. Route 44, Route 195, and Hunting Lodge Road. The new road is also intended to facilitate the development of University-related academic and research buildings and student facilities on the North Campus, consistent with the Outlying Parcels Master Plan.

ES.3 Alternatives

The alternatives analysis for this DEIS incorporated information on prior analyses conducted as part of the review of the North Campus development and North Hillside Road extension under the Connecticut Environmental Policy Act (CEPA). The analyses were revisited in light of updated information obtained to describe natural and physical resources in the project area. In addition to the No Action alternative, other reasonable alternatives considered include alternative development sites, alternative roadway alignments, and alternative North Campus development plans.

ES.3.1 No Action Alternative

The No Action or No Build Alternative assumes that no Federal funds would be expended for the completion of North Hillside Road. If the extension is not constructed, an important measure for mitigating increased traffic resulting from the UCONN 2000 development program will not be implemented and outbound (northbound) vehicles will not be shifted from both Hunting Lodge Road and Route 195 north of North Eagleville Road during the peak afternoon traffic hour. Under the No Action Alternative, it is unlikely that the development of the North Campus, consistent with the Outlying Parcels Master Plan, could be achieved. The No Action alternative is inconsistent with the Outlying Parcels Master Plan and the Connecticut Department of Transportation State Transportation Improvement Plan and is therefore not considered an acceptable alternative.

ES.3.2 Alternatives Development Sites

Alternative development sites can be considered in terms of (1) feasible alternative roadway locations and (2) feasible alternative locations for the development of a research and technology park such as the one described in the Outlying Parcels Master Plan. There is no other site in the vicinity of the campus that would allow for traffic from the Storrs core academic campus to reach Route 44, so there is no other feasible alternative for a new roadway into campus that

would divert existing traffic from residential areas near Route 44 and provide a more direct route and gateway entrance to the University.

The 1994 EIE examined the suitability of the former Mansfield Training School (now called the Depot Campus), the other large tract of land in proximity to the main campus, for potential development of a research park. The conclusion in the 1994 EIE was that the site was not feasible for a technology park. This was reaffirmed in the 2001 EIE and both the EIE and the Outlying Campus Master Plan identified the North Campus site as suitable for a research and development technology park.

ES.3.3 Build Alternatives

Roadway Alignment

The 1994 EIE initially examined six alternative roadway alignments, referred to as "Options" in the EIE (Figure ES-3). Each of these alignments was examined to determine their impact on wetlands, public safety, traffic congestion relief, and value to research park development. Through the EIE process, the roadway alignment alternatives were narrowed to Option A (a composite of the A-1 through A-4 options) and Option B (a modification of Option B-2 which connected to the existing North Hillside Road). Ultimately, a 4,000 foot roadway alignment presented in the 1994 EIE as Option B was selected. In the 2001 North Campus Master Plan EIE the Option A roadway alignment was presented because it was more environmentally sensitive, with fewer impacts on wetlands and farmlands than Option B. This preferred alignment was approved by the State of Connecticut Office of Policy and Management and is the alignment that the current design follows.

For the preparation of this DEIS, the potential wetland impacts of the Option A and Option B roadway alignments were reviewed, and the Option B roadway alignment would result in nearly double the area of wetland impacts compared to Option A. Consequently, Option A, identified as the preferred alternative roadway alignment in the 2001 EIE, minimizes impacts to wetland resource areas and is the most feasible and prudent alternative that balances the need for the roadway extension with avoiding and minimizing environmental impacts.

North Campus Development

Alternatives for the development of the North Campus have been analyzed in the 1994 EIE (Frederic R. Harris, 1994), the Outlying Parcels Master Plan (JJR, 2000) and associated North Campus Master Plan EIE (Frederic R. Harris, 2001), and again as part of the DEIS and wetlands permitting (Section 404) process.

In the 1994 EIE, the development alternatives were driven by the roadway alignment and the goal of avoiding both inland wetlands and associated wetland buffer areas. In the 1994 EIE, the North Campus development alternatives were narrowed to development plans associated with the roadway alignment Options A and Option B (as described above). Both alternatives included five primary building sites and both were presented as possible designs for the technology park development.

The 2000 Outlying Parcel Master Plan revisited the development concepts for the North Campus in terms of the University's long-term master planning, with an emphasis on optimal resource utilization and efficient development that incorporates sustainable design principles. This approach inherently reduces indirect impacts from the roadway extension. The Master Plan identified 12 potential development parcels located on both sides of a proposed North Hillside Road extension that followed the roadway alignment of Option A presented in the 1994 EIE. The 2001 EIE for the North Campus Master Plan defined 10 development sites (Figure ES-2), while still achieving the total maximum building space of 1.2 million square feet.

As part of the Section 404 wetlands permitting and the preparation of this DEIS, the North Campus development alternatives were revisited. Four conceptual North Campus development alternatives (Alternative 1, 2, 2A, and 2B) were evaluated, including consideration of potential wetland impacts in light of updated wetlands identification and mapping conducted in 2006 and ongoing coordination with the natural resource regulatory agencies. The proposed roadway alignment is the same for all four development scenarios. Differences between the alternatives are based on building placement within a parcel and overall building and parking footprint. Consequently, with the exception of wetlands, there are no significant differences in the indirect potential impacts associated with the four alternative development scenarios considered.

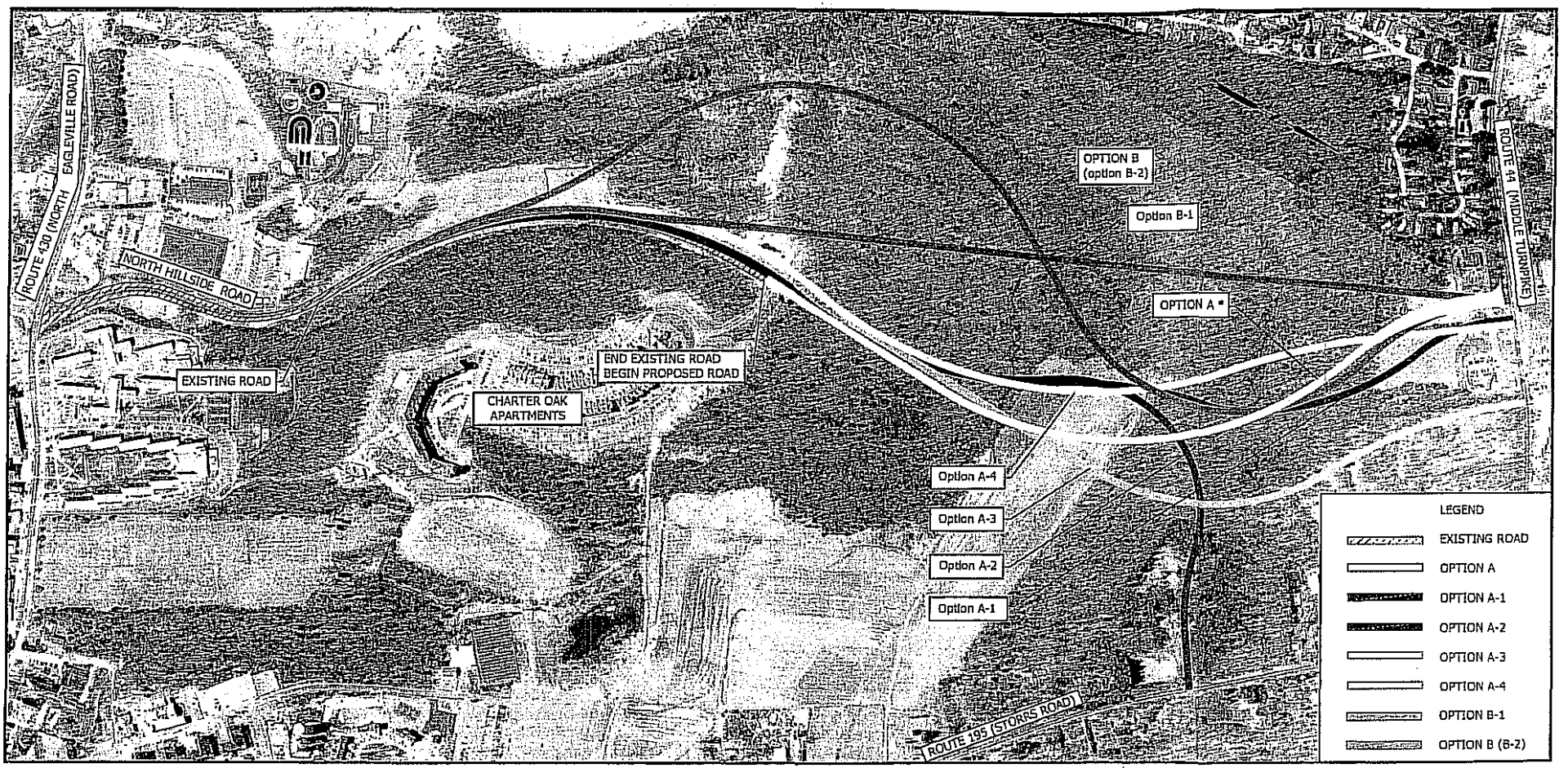
Alternative 1 was based on the Option A layout presented in the 1994 EIE and resulted in eight areas of wetland impacts (including the roadway and North Campus development) totaling approximately 2.35 acres and numerous encroachments into the 100-foot upland envelope surrounding the wetlands. Based on these impacts, Alternative 1 was found to be environmentally unacceptable, and this alternative was dismissed.

Alternative 2 was developed based upon the planning principles and recommended land uses contained in the Outlying Parcels Master Plan and the associated 2001 EIE. This alternative results in two areas of wetland impacts totaling approximately 1.41 acres (including the roadway and North Campus development), and several encroachments into the 100-foot upland envelope.

A third alternative was developed (Alternative 2A) in an effort to further reduce wetland impacts and development within the 100-foot upland envelope, while still meeting the building floor area, parking, and land use program requirements outlined in the Outlying Parcels Master Plan and the 2001 EIE and associated EIE Record of Decision (ROD). Alternative 2A (Figure ES-4) design provides 1.27 million square feet of total building area and 4,475 parking spaces, including existing parking on Parcel F and Parcel H, while limiting total wetland impacts from the roadway extension and North Campus development to 0.91 acres.

The North Campus development concept was further refined (referred to as Alternative 2B) based upon issues and concerns raised by the Connecticut Department of Environmental Protection, the U.S. Army Corps of Engineers, and the U.S. Fish and Wildlife Service during an agency coordination meeting and site walk held at the UConn Storrs Campus on March 6, 2008. The proposed development on the northern portion of Parcel J was re-located to the former agricultural field between wetlands A and B to preserve an undisturbed wetland and amphibian migration corridor on the northern portion of the site. Proposed development on Parcel C was also reconfigured to limit site disturbance to the northern side of the existing dirt access road.

Figure ES-3. Alternative Roadway Alignments Considered



Note: Alternative (Option) A (the proposed alternative from the 1994 and 2001 EIEs and the current design alternative) is a composite of Alternatives A-1 through A-4 in the 1994 EIE. Alternative B is a modification of Alternative B-2 in the 1994 EIE.

In addition to preserving an undisturbed wetland and amphibian migration corridor, Alternative 2B also results in reduced wetland impacts associated with the Parcel C development.

Alternative 2B (Figure ES-4) reflects the proposed North Campus concept development scenario that best addresses the University's goals for development of the North Campus, while minimizing impacts to the on-site wetlands. This alternative is referred to as the "DEIS Preferred Alternative." Alternative 2B also satisfies the individual parcel requirements that are contained in the Outlying Parcels Master Plan and the 2001 EIE ROD. The conceptual design under this alternative provides 1.27 million square feet of total building area and 4,475 parking spaces, including existing parking on Parcel F and Parcel H, while limiting total wetland impacts from the roadway extension and North Campus development to 0.56 acres.

ES.4 Environmental Consequences

The following sections summarize the principal environmental consequences of the proposed project, including direct impacts associated with the roadway extension and indirect or secondary impacts resulting from development of the North Campus parcels. Most of the environmental consequences associated with the project are due to indirect impacts associated with the development of the North Campus.

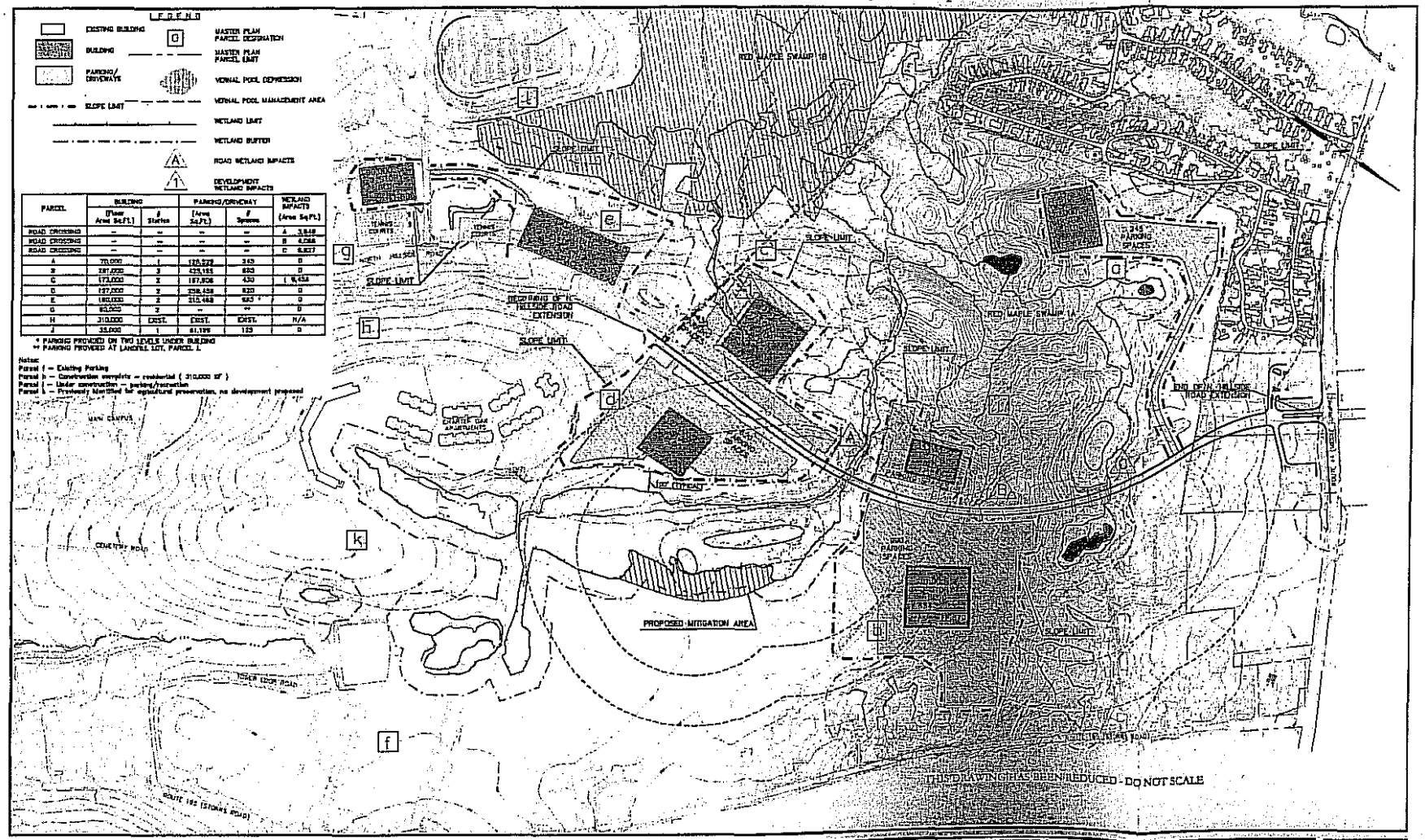
ES.4.1 Land Use

All alternative alignments considered for the roadway corridor will have a relatively limited direct impact in terms of land use conversion. The alternative roadway alignments will have similar indirect land use impacts in terms of conversion of woodland and agricultural land to developed areas. However, since the area of the proposed project has access to sufficient infrastructure to support development, includes the expansion of higher education within Connecticut, and since the proposed project is specifically identified as a development area in each of the relevant land use plans, the indirect land uses change resulting from the North Hillside Road extension is consistent with overall land use planning on the local, regional, and state level.

ES.4.2 Farmland

Direct impacts to farmland soils from the proposed North Hillside Road Extension are limited to the roadway corridor. Under each of the alternative roadway alignments considered, direct impacts would not exceed 1 acre. Indirect impacts to farmland soils are associated with the development the North Campus parcels, including portions of Parcels B, H, J, and K (33.2 acres) and the creation of a wetland mitigation area adjacent to existing wetlands located east of Parcel D. The University acknowledges its responsibility to comply with the acre-for-acre farmland mitigation terms identified in the 1994 and 2001 CEPA EIEs. The University's Chief Operating Officer will work with the Dean of the College of Agriculture and Natural Resources (CANR) to replace a total of 36.3 acres of prime farmland on University-owned property located near UConn's Depot Campus and Spring Manor Farm. The University also proposes to preserve 42 acres of prime farmland for cultivation by CANR on University-owned property located on or adjacent to the North Campus.

Figure ES-4. DEIS Preferred Alternative - North Campus Development



F:\P2005\0147\A20\DEIS\Final\Figure ES-4.doc

ES.4.3 Relocation and Rights-of-Way Acquisition

UConn expects to acquire a Right-of-Way (ROW) along areas of the existing driveway that would need to be widened for the proposed intersection of North Hillside Road and Route 44. There are no residential properties in this area and the ROW would not require, nor is UConn proposing, relocation of the two existing businesses at this intersection. UConn has requested ConnDOT to act as its agent for ROW acquisition and is currently developing a Memorandum of Understanding with ConnDOT to formalize this arrangement. If needed, UConn will mitigate for the possible loss of existing parking spaces caused by the ROW, and will determine the extent of mitigation required, if any, at a later point in the roadway design process. The University will take into account existing land use and underlying zoning during the ROW acquisition process in order to avoid or minimize effects on parking and ensure consistency with local zoning.

ES.4.4 Economic

The facilities constructed on the North Campus will result in new opportunities for employment. The University of Connecticut is already one of the major employers in Mansfield and the North Campus development is anticipated to not only generate new jobs in the area but also jobs that fall in the NCAIS sector of professional, scientific and technical services, which has the highest average annual wage of all NCAIS sectors represented in Mansfield. The North Campus development is anticipated to attract such employers by providing state-of-the-art facilities, close proximity to a leading research and development university and access to a highly educated work force. The 2001 EIE estimated that each 300 square feet of research/technology space would result in 1 employee. Using the same formula, the 841,000 square feet of research/technology space would potentially result in approximately 2803 jobs. Additional jobs are also likely to be generated from the recreational and special academic facilities to be located on the North Campus.

ES.4.5 Traffic

Additional traffic generated as a result of the development of the North Campus will result in declines in the Level of Service (LOS) at intersections in the project area. Under the 2030 Full Build condition, optimizing the signal timing at each intersection within the network will allow most of the signalized intersections to continue to operate acceptably during both peak hours. Several geometric improvements are recommended at full build out of the North Campus development in order to maintain acceptable levels of service at all of the signalized intersections within the study area.

ES.4.6 Air Quality

Analysis of microscale impacts on CO concentrations were evaluated using existing projected traffic data and EPA's CAL3QHC, a line source dispersion model and traffic algorithm for estimating vehicular queue lengths at signalized intersections, were used to estimate the maximum ambient CO concentrations at intersections anticipated to experience the largest decline in LOS under 2030 full build conditions. Although the study area intersections are impacted by increased traffic, maximum one-hour and eight-hour CO concentrations at the

subject intersections are estimated to be well below the Connecticut and National Ambient Air Quality CO standards.

The Connecticut Department of Transportation conducted mesoscale analysis using the MOBILE6.2 emissions model to calculate NO_x and VOC emissions and determine conformity with NAAQS for ozone. The analysis found an overall decrease in emissions of VOCs and NO_x by 2030 is anticipated in the air quality district in which the project is located, and that the projected emissions are below those required to maintain compliance with the State Implementation Plan and the NAAQS for ozone.

ES.4.7 Noise Impacts

Future peak-hour noise levels were predicted using the Traffic Noise Model 2.5 (TNM). The model uses FHWA Vehicle Noise Emission Levels and was used to determine noise impacts associated with the proposed project at receivers previously identified in the 1994 EIE. The maximum predicted noise level increase associated with site-generated traffic in the 2030 Build scenario is 2.2 dBA over existing conditions. All are below the 67 dBA noise abatement criteria for the relevant Category B land use activity used by FHWA.

ES.4.8 Surface Water and Groundwater Resources

The proposed development of the North Campus is anticipated to result in an increased water demand of approximately 90,000 gallons per day, in addition to the approximately 45,000 gallons per day consumed by the existing Charter Oak residential units. Under normal streamflow conditions with all demands realized, including the proposed development of the North Campus, the University would have an adequate amount of water under both average and peak month conditions with the full registered withdrawals from the Fenton and Willimantic River wellfields, which are the University water supply.

The proposed extension of North Hillside Road and development of the North Campus will increase the amount of impervious cover (IC) at the project site. If unmitigated, this increase in impervious area could result in a number of hydrologic changes at the site that could impact the water quality of the receiving water bodies. The approximately 38 acres of new impervious cover on the resulting from the roadway extension and North Campus development would result in an approximately 2% increase in IC of the Cedar Swamp Brook subwatershed and an approximately 1% increase in IC of the Mason Brook subwatershed. It is estimated that IC in the subwatersheds will remain at 10% or less, levels which are generally indicative of healthy stream systems that have been minimally impacted by human activity. Potential impacts associated with increases in IC as a result of the proposed project will be mitigated by the project design, including the preservation of wetland/watercourse buffers and the proposed stormwater management system, as described elsewhere in this document.

The potential impacts of new impervious cover on Parcel G, a portion of which will discharge to Eagleville Brook, will be effectively mitigated by implementing new stormwater management controls, which is consistent with the Eagleville Brook IC Total Maximum Daily Load objectives discussed in Section 4.11.

The western portion of Parcel A lies within the area of contribution to the supply wells that serve the Rolling Hills Mobile Home Park. The eastern portion of Parcel B is located within the Fenton River watershed, which is a public water supply watershed. Under any of the project alternatives, the proposed development in this area could potentially impact groundwater quality resulting from infiltration of untreated stormwater runoff or release of chemicals or other hazardous materials to the environment. In addition to stormwater management practices to reduce the effects of IC, construction-phase best management practices will also be implemented to reduce the potential for impacts on nearby public drinking water supply wells and surface water supplies.

ES.4.9 Stormwater Management

Construction of the proposed roadway and subsequent development of the North Campus will result in increased stormwater runoff. The proposed stormwater management system for the roadway extension and the conceptual stormwater management system for the North Campus development include a variety of stormwater management methods to achieve stormwater quantity and quality objectives consistent with the stormwater management standards and design guidelines in the CT DEP *2004 Connecticut Stormwater Quality Manual.* The project will not result in increases in peak runoff over existing conditions for storms up to and including the 100-year storm for any of the drainage areas analyzed within the project area. In addition, the proposed stormwater management system for the project site is designed to preserve the existing hydrologic conditions to the extent possible, including drainage patterns, runoff volume, groundwater recharge, and runoff quality.

ES.4.10 Wetlands

Three wetland areas, totaling 0.34 acres, will be impacted by the proposed roadway construction. Indirect impacts to wetlands resulting from the development of the North Campus parcels are estimated at 0.22 acres. The wetlands to be disturbed are primarily broad-leaf deciduous forested areas. The total area of proposed wetland impacts for the roadway extension and associated North Campus development is 0.56 acres. The proposed mitigation consists of an approximately 2.2-acre wetland creation involving expansion of the forested wetland adjacent to an agricultural field. Other wetland mitigation measures include preservation of an undisturbed wetland and amphibian migration corridor on the northern portion of the site, a comprehensive stormwater management system design for the North Campus development, amphibian crossings at the roadway wetland crossings, avoidance of the 100-foot upland envelope around the existing wetlands, limiting development to less than 25% of the area within the 750-foot critical upland habitat area of vernal pools, preservation of 85% of the upland habitat within 500 feet of vernal pools, and stream bank restoration of an on-site intermittent stream on the project site.

ES.4.11 Water Body Modification and Wildlife Habitat

The proposed project does not include impoundment, relocation, channel deepening, filling, or other modifications to water bodies or watercourses as a primary goal of the project. Direct and indirect impacts of the roadway extension include loss of existing woodland, grassland/field, and wetland habitat. The amount of habitat types impacted is a function of the

roadway corridor alignment and the conceptual design for development of the North Campus. The roadway alignment identified in the Outlying Parcels Master Plan and as the DEIS Preferred Alternative in this document is intended to reduce wetland impacts. Potential direct and indirect impacts in this alternative result in greater loss of woodland habitat and field areas, both as a result of the proposed roadway alignment and the resulting development. Indirect impacts resulting from the development of the North Campus will result in partial loss of the woodland that is located between the proposed road, the Charter Oak residential area, and the existing agricultural field (except for wooded wetlands located in this area that will be preserved). Woodlands to the west of this area, as well as other areas on the northwest portion of the project site, are proposed for development under each of the North Campus development alternatives. Given the higher habitat value of the wetland areas, loss of woodlands will likely result in less overall wildlife impact compared to wetland disturbance of similar magnitude.

ES.4.12 Threatened or Endangered Species

No Federally-listed threatened or endangered species have been identified in the project area. The 2006 field investigations indicate that state-listed grassland bird species do not appear to use the small grasslands present at the site as breeding habitat, but cornfields present at the site may serve as staging and migratory habitat for grassland-associated bird species. Loss of this potential staging and migratory habitat will be offset by farmland mitigation activities will result in fields similar to that which currently exists, and in similar quantities. Unmitigated loss of woodlands is not expected to affect state-listed species. Wetland impacts for the build alternatives could result in loss of available habitat to the state-listed Northern Spring Salamander, although this species was not identified on site during field reconnaissance.

ES.4.13 Historic and Archaeological Preservation

A Phase 1A Archaeological Assessment Survey of the North Campus area (1987) and Phase 1B and Phase 2 archaeological surveys (2005, 2006) of the roadway corridor have been completed. The results of the surveys indicate that construction of the North Hillside Road extension along the proposed corridor alignment will not result in significant impacts to historical and archaeological resources. This finding is consistent with correspondence from the State Historic Preservation Office (SHPO) regarding the project that found no effect associated with the roadway. However, development Parcels A, C, J, E, and G contain potential areas of prehistoric value, and that Parcel B contains an area of potential historic value. A Section 4(f) de Minimis Impacts Finding was prepared on the presumption that Section 4(f) may be applicable for areas on the proposed future North Campus development where moderate to high sensitivity for archaeological resources was identified in the 1994 and 2001 EIEs. The development of these parcels will require additional archaeological surveys prior to determine if development activities could impact cultural resources. Further archaeological assessment may also be required prior to development of Parcel H since the limits of previous archaeological studies did not fully encompass the boundaries of this parcel. Parcel F contains two state-listed historic structures. The conceptual North Campus development plan calls for those structures to remain, so no impact to historic resources is anticipated.

ES.4.14 Visual Impacts

The construction of the roadway extension and development of the North Campus will inevitably have an impact upon the aesthetic character of the site. The roadway extension itself, while located within a viewshed as defined by the Town of Mansfield, will not directly impact the drumlin or other hill areas identified in the Town of Mansfield Scenic Resources and Classifications Map. Secondary impacts resulting from development of the proposed parcels are likely to include the partial disruption of vistas from Route 195 and the Charter Oak residential units, as well as some disruption of vistas from Route 44. The Outlying Parcels Master Plan and 2001 EIE recommend measures to reduce the visual impacts upon the aesthetic character of the project site and the surrounding area including roadside plantings and vegetated buffers between property boundaries and development areas.

ES.4.15 Title VI and Environmental Justice

No direct impacts to minority or low-income populations will result from the extension of North Hillside Road. The area of the North Campus proposed for development does not contain, nor is it directly adjacent to, areas of EJ populations and therefore, no disproportionately high impacts to protected groups will occur due to the construction or operation of the facilities identified for the North Campus development. In fact, minority and low-income populations within the Storrs campus student population, as well as the overall student body, will ultimately benefit from the expanded facilities constructed as part of the North Campus development.

ES.4.16 Construction Impacts

The construction impacts associated with each of the build alternatives are relatively similar and result primarily from the noise, fugitive dust, construction equipment exhaust, erosion and sedimentation, traffic and pedestrian relocation, and visual impacts that occur with roadway construction and subsequent site development activity and do not extend in duration past the construction period. Mitigation measures would be provided during construction to reduce impacts on natural resources and communities. Most mitigation measure are incorporated into the construction specifications as requirements or best management practices (BMPs).

ES.4.17 Secondary and Cumulative Impacts

Construction of the proposed North Hillside Road extension will facilitate the development of the North Campus which is a distinct, but connected, action. Consequently, the majority of secondary impacts result from the construction and operation of facilities on the North Campus parcels and consists of the types of impacts discussed above. Because these impacts are associated with the North Campus development, they are similar in nature and magnitude for all roadway alignments considered.

In considering cumulative impacts, resources affected by the project were identified; the relevant geographic area for a particular resource affected by the project was identified; other relevant past, present, and reasonably foreseeable future actions were considered; and the overall cumulative effect of the proposed action and these other actions were analyzed. In

general, the direct and indirect effects of the project will not contribute substantially to cumulative effects, although the development of the North Campus will generate additional vehicle trips and is anticipated to have a positive economic effect due to the number and type of jobs created.

ES.5 Required Permits and Approvals

The following federal and state permits and approvals are required for the extension of North Hillside Road, including consideration of potential indirect impacts associated with subsequent development of the North Campus:

- United States Army Corps of Engineers Section 404 Individual Permit – Although the proposed roadway extension will result in direct wetland impacts of 0.44 acres, which is significantly lower then the 1-acre threshold for a Section 404 permit, the U.S. Army Corps of Engineers has previously determined that a Section 404 permit is required given the potential secondary wetland impacts associated with the development of the North Campus.

- CT DEP Inland Wetland & Watercourses Permit – Required by an action undertaken by a state agency (in this case, UConn) in or affecting inland wetlands or watercourses. The action in this instance is the proposed loss of wetlands associated with the construction of the North Hillside Road Extension, stormwater discharges, and secondary impacts associated with the proposed project.

- CT DEP 401 Water Quality Certificate – Required for Connecticut Department of Environmental Protection (DEP) review of a federal permit application for discharges to navigable waters, including wetlands. A 401 Water Quality Certificate is required for the proposed project since coverage under the ACOE Section 404 individual permit is required.

- CT DEP Flood Management Certification – Required for a State action (in this case, the actions of UConn) in or affecting floodplains or natural or man-made storm drainage facilities. The actions in this instance are stormwater impacts and wetland loss associated with the extension of North Hillside Road, and subsequent impact of development of the North Campus parcels.

- CT DEP Water Diversion Permit (Non-consumptive Use) – Required for a State action that results in the alteration of surface water flows, including the collection and discharge of stormwater runoff from a watershed area greater than 100 acres. The proposed North Campus development concept includes a stormwater drainage system that would collect and manage stormwater runoff from a total of approximately 120 acres.

- CT DEP General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (Construction Stormwater General Permit) – Required for construction projects that disturb more than an acre of land, regardless of project

phasing. Greater than 1 acre of disturbance is currently anticipated to occur as part of the proposed project.

The following permits and approvals are anticipated to be required for the subsequent development of the North Campus:

- General Permit for the Discharge of Stormwater Associated with Industrial Activities,
- General Permit for the Discharge of Stormwater Associated with Commercial Activities,
- State Traffic Commission Certificate of Safe Traffic Operation,
- Domestic Sewage General Permit,
- Underground Storage Tank Registration,
- New Source Review (Air Quality).

ES.6 Mitigation Summary

Mitigation measures to reduce or offset potential adverse impacts associated with the proposed action are summarized in Table ES-1.

Table ES-1. Summary of Mitigation Measures

Environmental Sector	Proposed Mitigation
Farmland Impacts	• Preservation of 41.5 acres of prime farmland for cultivation by the College of Agricultural and Natural Resources on University-owned property located on or adjacent to the North Campus, all of which is currently in agricultural use. • Conversion of University-owned land to Prime and Statewide Important Farmland located near the UConn Depot Campus and Spring Manor Farm to achieve the acre-for-acre farmland mitigation identified in previous CEPA documents.
Relocation Impacts and Rights-of-Way Acquisition	• The need for mitigation associated with ROW acquisition will be determined at a later point in the roadway design process. Existing land use and underlying zoning will be taken into account in the ROW acquisition process to avoid or minimize affects on parking and zoning. • Development of a Memorandum of Understanding with ConnDOT to formalize the ROW acquisition agreement.
Traffic	• Optimization of signal timing at signalized intersections in the study area • Geometric improvements at selected intersections to maintain acceptable levels of service at all of the signalized intersections within the study area • Conduct a warrant analysis at the unsignalized intersection of North Eagleville Road at Hunting Lodge Road to determine if a roundabout or a traffic signal is necessary.
Air Quality	• See construction impacts
Noise	• See construction impacts
Surface Water and Groundwater Resources	• Follow the Fenton River wellfield withdrawal protocol recommendations outlined in the Fenton River study and the 2007 Water and Wastewater Master Plan, as dictated by stream flow conditions. • Conduct an instream flow study of the Willimantic River to evaluate the effects of

Table ES-1. Summary of Mitigation Measures

Environmental Sector	Proposed Mitigation
	aquifer pumping on the Willimantic River. • Complete an engineering feasibility study of using treated wastewater effluent to supply the UConn Central Utility Plant to address future campus water demands. • Future developments on the North Campus will employ water conservation measures consistent with the University's targeted conservation initiatives that are described in the 2007 Water and Wastewater Master Plan. • Incorporate project design elements that limit or reduce potential aquatic impacts of stormwater runoff from impervious cover. • Implement construction-phase best management practices (see construction impacts) to reduce the potential for impacts on nearby public drinking water supply wells and surface water supplies.
Stormwater Management	• Design measures to reduce or limit impervious cover (reduced parking ratio, use of structured and shared parking, reduced sidewalk width) • Centralized and lot-based stormwater management measures for the roadway extension and North Campus development consistent with the CT DEP Connecticut Stormwater Quality Manual. o Stormwater management ponds, underground detention systems, sediment forebays, swirl concentrator units, level spreaders, water quality swales/biofilters, rain gardens, and infiltration units. • Non-structural source controls and pollution prevention measures (street and parking lot sweeping, catch basin cleaning, drainage system and stormwater treatment system operation and maintenance, etc.). • Stormwater management O&M Plan • Construction-phase best management practices (see construction impacts)
Wetland Impacts	• Wetland creation area adjacent to the farm field and forested wetland • Roadway design to include amphibian crossings and embedded culverts to allow for amphibian passage to and from the adjacent wetlands, vertical barriers to discourage amphibian crossing over the road, and sloped curbing to reduce the potential for retention of amphibians on the road. • Grading at wetland crossings will be 2:1 or steeper to minimize wetlands disturbances. • Stormwater management measures • Avoiding construction within the vernal pools and within the 100-foot envelope of the vernal pools, preservation of 85% of the upland habitat within the 500-foot ACOE Programmatic General Permit review area, and minimizing development within the 750-foot critical upland area to less than 25%, which is consistent with the guidance provided in Calhoun and Klemens (2002). • Maintain an undeveloped forested habitat around the vernal pools, including the canopy and understory. • Preserving an undisturbed wetland and amphibian migration corridor, thereby protecting the vernal pools with the highest rating and ecological value, with an emphasis on maintaining wetland connectivity following the recommendations of Calhoun (2008). • Stormwater basins located within 750 feet of a vernal pool will be designed with a smaller permanent pool (e.g., micropool extended detention) or as dry basins combined with other controls targeted at pollutant removal to reduce the potential

Table ES-1. Summary of Mitigation Measures

Environmental Sector	Proposed Mitigation
	for the stormwater basins to function as "decoy wetlands" and disrupt amphibian migration patterns.
Water Body Modification and Wildlife Impacts	• Avoidance and minimization of impacts to wetland areas, mitigation for wetlands to be lost, preservation of wetland buffers on the project site, the conservation easement associated with the former UConn landfill, mitigation of losses to field habitat through agricultural preservation and replication of converted farmland, the use of amphibian crossings for the roadway extension, and locating development to reduce woodland impacts where practicable. • Construction will be performed outside of the amphibian migration periods (early spring and fall) to the extent practicable. • Preserve large-diameter trees to the extent practicable.
Threatened or Endangered Species	• Farmland mitigation measures, which will provide staging and migratory habitat for the state-listed grassland bird species similar to that which currently exists, and in similar quantities. • Use of low-relief buildings to limit impacts to migrant birds. • Construction will be performed outside of the amphibian migration periods (early spring and fall).
Historic and Archaeological Preservation	• Additional cultural resource investigation and coordination with the SHPO prior to development of the North Campus parcels. The additional investigation may recommend avoidance of disturbance, redesign, or intensive excavation prior to development for significant sites where artifacts are present.
Visual Impacts	• Roadside plantings along roadside cut slopes. • Vegetated buffers between proposed development areas and adjacent property lines (30-foot width minimum). Buffer widths in excess of 30 feet will be determined on a case-by-case basis. • Design criteria for exterior lighting will include minimizing unnecessary light spillage. • Farmland preservation, limiting development on steep slopes, and providing pedestrian and bicycle facilities. New buildings will be between one and three stories, with at-grade or below-grade structured parking to reduce building footprints and associated environmental and aesthetic impacts.
Energy	• Use of environmentally friendly technologies for energy efficiency for development on the North Campus consistent with the UConn Campus Sustainable Design Guidelines (JJR and SmithGroup, 2004) and the UConn Sustainable Design and Construction Policy, which has provisions requiring any new building construction or renovation project entering the pre-design planning phase to establish the Leadership in Energy & Environmental Design (LEED) Silver rating as a minimum performance requirement.
Construction Impacts	• Appropriate construction signage, uniformed officers, and prohibition of construction traffic on designated local roads. The preferred construction access will be from Route 44 to avoid use of campus roadways. Construction access to and from the project site will be incorporated into the final project plans and specifications. • Existing traffic patterns will be maintained to the extent feasible during peak traffic hours.

Table ES-1. Summary of Mitigation Measures

Environmental Sector	Proposed Mitigation
	• Good "housekeeping" practices such as watering exposed earth areas, covering dust-producing materials during transport, limiting dust-producing construction activities during high wind conditions, and providing street sweeping or tire washes for trucks leaving the site. • Prohibition of excessive construction equipment idling and the use of air pollution control devices (e.g., oxidation catalysts and particulate filters) and clean fuels for the project construction where appropriate. • Conformance with Connecticut noise regulations • In project specifications, require contractors to limit construction noise • Limiting construction to daytime hours • Use and regular maintenance of mufflers on construction equipment • Use of appropriate erosion and sediment controls during construction • Provisions for emergency spill response during construction, hazardous material storage and disposal to prevent vandalism and undetected releases, construction vehicle fueling and maintenance procedures, notification of affected public water systems of the construction start date, and procedures for notification of CT DPH and CT DEP in the event of a chemical/fuel spill at the construction site. • Construction in the vicinity of the vernal pools will take place outside amphibian movement periods in early spring and fall. Construction should be staggered and silt fence should be minimized within 750 feet of the vernal pools. Silt fencing should be used to exclude amphibians from active construction areas.

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(continued)

Natchaug Basin Conservation Action Planning

Workshop #2: Threats Analysis

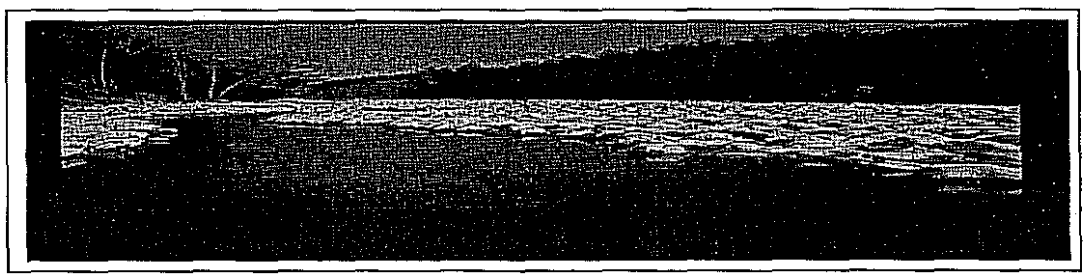
Tuesday January 13, 2009 (Snow date - Thursday January 15, 2009)
8:30 – 4:30 p.m.
University of Connecticut, Wilson Hall – South A, Storrs, CT

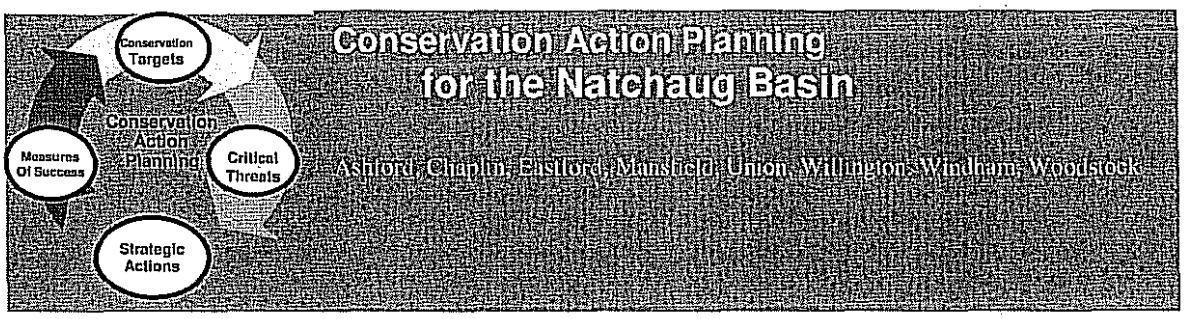
Outcomes

- Ranked list of critical threats to conservation targets
- For each target, a) a list of stresses and b) a list of sources
- Documentation of potential research needs and sources of information

Agenda

8:30	Coffee and Refreshments
9:00	Welcome and Introductions
9:10	Overview and Watershed Context CAP refresher, understanding of threats analysis (stresses and sources), overview of land use trends and patterns across the watershed
10:00	Threat Analysis Target #1 – Breakout Identify and rank stresses
10:35	Break
10:45	Continue Threat Analysis Target #1 – Breakout Identify and rank sources
11:30	Report Target #1 Results
12:30	Lunch /Group Discussion
1:20	Threat Analysis Target #2 – Breakout Identify and rank stresses and sources
2:50	Break
3:00	Report Target #2 Results
4:00	General Discussion/Observations





The Natchaug River is recognized by federal, state, local and private agencies as a benchmark stream for water quality and its basin contains a rich diversity of aquatic and terrestrial plants and animals. The three mainstem rivers of the Natchaug Basin - the Fenton, Mount Hope, and Natchaug Rivers make up the 114,000-acre Natchaug Basin. The basin supports the largest public surface drinking water supply watershed in Connecticut, supplying 22,000 consumers in Willimantic and Mansfield, the majority of the University of Connecticut water system which supports approximately 25,000 students, faculty and staff and additional consumers in the Storrs area. Approximately 18,000 residents of the basin are dependent on private wells. The Natchaug Basin is largely rural, more than 75% forested with very high water quality valued for drinking water, wildlife habitat, recreation, history and beauty.

Much of the land within the watershed is held by the State of Connecticut, US Army Corps of Engineers flood control facility, private land trusts and large private land owners. The natural ecological condition and the services provided to communities within the Basin depend on its continued high quality. Although the watershed is located in the "Last Green Valley" between Washington and Boston there is significant urban and suburban development pressure from these expanding cities threatening the ecological condition of these high quality streams.

Most of the towns and organizations within Natchaug Basin have a document in some form that addresses water resource protection. However, many municipalities, local agencies and organizations lack the capacity necessary to proactively apply the strategies identified in their documents.

To implement on-the-ground conservation a series of three stakeholder meetings in the Natchaug Basin will be held to conduct "Conservation Action Planning for the Natchaug Basin". Meetings will begin in October 2008 concluding in March 2009 and will address protection of the ecological systems used by plants, animals and people. The planning process will generate regional strategies and measures for protection of aquatic resources in the Natchaug Basin.

The Nature Conservancy's Conservation Action Planning (CAP) process includes the following steps:

1. Identify conservation targets and assess their condition or ecological viability.
2. Identify and rank the primary threats affecting the overall condition of the watershed systems
3. Define strategies to specifically address the threats and restoration needs of the conservation targets.
4. Create a document which assigns measurable actions and dates specific to each strategy, to determine if our strategies are working and if not, why.

Progress:

June 27 2008 - Chief elected officials and representatives of eight watershed towns, local conservation organizations, state and local agencies and the University of Connecticut attended the Natchaug Basin Conservation Action Planning (CAP) kick-off meeting at Camp Nahaco on Crystal Pond in Eastford and Woodstock. The enthusiastic response illustrates the continued need for strong partnerships that help balance growth and conservation in the watershed, while minimizing the challenges to the quality and quantity of our water.

October 29, 2008 - 32 representatives of agencies, academic institutions, conservation organizations and eight municipalities collaborate to identify conservation targets, Key Ecological Attributes (KEAs) and indicators of ecological viability.

Targets, Key Ecological Attributes (KEAs) and Viability Indicators

Target – Main Stem Rivers

KEA 1 - Floodplain/Riparian Connectivity to Main Stem
Indicator – Flood frequency

KEA 2 – Riparian Corridor Condition
Indicator – Percentage width and length natural cover in riparian zone

KEA 3 – Hydrologic Regime
Indicator - Indicators of Hydrologic Alteration (IHA) analysis

KEA 4 – Sediment Dynamics
Indicator - Cross-section and elevation sediment measurement
Indicator - Degree of pool filling and embeddedness

KEA 5 - Water Chemistry
Indicator – Nitrogen
Indicator – Dissolved Oxygen
Indicator – Turbidity

Target – Headwater Streams and Wetlands Complexes

KEA 1 – Hydrologic Regime (Natural Flow)
Indicator – Number of diversions
Indicator - Population density
Indicator – How close to target flow

KEA 2 – Water Quality
Indicator – Biological Communities
Indicator – Macro invertebrate abundance
Indicator – Wetland plant communities

KEA 3 – Physical Structure and Composition (Canopy vs. Open water)
- *Indicator – Percentage of natural habitat*
- *Indicator – Percentage of riparian habitat*
- *Indicator – Large woody debris*
- *Indicator – Percentage of ecological types*

KEA 4 – Watershed Condition
- *Indicator – Population density*
- *Indicator – Percentage of natural cover*
- *Indicator – Percentage low impact development practices*

KEA 5 – Connectivity (Longitudinal, lateral and vertical)
- *Indicator – Number (presence/absence) of unnatural barriers*

KEA 6 – Sediment Regime

Target – Cold Water Fisheries *(Key Assumptions: Cold water fisheries can be viable for next 100 years. Cold water and headwater are not synonymous because headwater streams are often warm - beaver activity is necessary for headwater viability.)*

KEA 1 – Population size and distribution
- *Indicator – Number of brown and brook trout per hectare (or mile)*
- *Indicator – Number of mussels per hectare (or mile)*

KEA 2 - Water Quality
- *Indicator – Temperature*
- *Indicator – Dissolved Oxygen*
- *Indicator – Turbidity*

KEA 3 - Connectivity
- *Indicator – Number (presence/absence) of unnatural barriers*

KEA 4 – Groundwater Recharge
- *Indicator – Number of diversions (volume of flow)*
- *Indicator - Population density (metric)*
- *Indicator – Percentage of groundwater contribution (USGS methodology)*

KEA 5 – Substrate Condition
- *Indicator – Percentage of substrate embeddedness*

KEA 6 – Nuisance Species
- *Indicator - Presence/Absence of didymo*

Target – Lakes and Ponds

KEA 1 – Terrestrial Buffer
- *Indicator - Percentage of natural vegetation x distance from shoreline*

KEA 2 – Natural Shoreline
- *Indicator – Percentage of natural cover x distance (docks, beaches)*

KEA 3 – Water Quality
- *Indicator – Meet water quality standards x% of time*
- *Indicator - Meet bacteria threshold*
- *Indicator - Meet trophic goal*

KEA 4 – Healthy Biological Community
- *Indicator – Species richness*
- *Indicator – Meet trophic goal*
- *Indicator – Percentage of native species*

KEA 5 – Watershed Condition
- *Indicator – Percentage undeveloped within x distance of shoreline*

Target – Aquifers and Groundwater Recharge

KEA 1 – Hydrologic Connectivity
- *Indicator – Percentage of pervious area*
- *Indicator – Connectivity of river system*

KEA 2 – Soil Types and Geological Material
- *Indicator – Percentage in unaltered condition*

KEA 3 – Groundwater Quality within Recharge Area
- *Indicator – Macro invertebrate composition*
- *Indicator – Percentage undeveloped or low impact development practices*

Target – Forest (Key Assumption: Particular species composition should not be a target for a 100 year time frame. Preservation of a variety of forest types (Ecological Land Units) will allow natural variation and ecological resilience.)

KEA 1 – Total Forest Cover
- *Indicator – Percentage of watershed in forest cover*

KEA 2 – Large Forest Blocks
- *Indicator – Number of forest blocks of xx size*

KEA 3 – Connectivity
- *Indicator – Connectivity index*

KEA 4 – Representativeness and Redundancy
- *Indicator – Percentage of proportional Ecological Land Units (ELUs)*

KEA 5 – Age Class and Diversity
- *Indicator – Percentage of non-invasive plants*
- *Indicator – Size class target*

KEA 6 – Native Species
- *Indicator – Percentage of invasive species*

Target - Atlantic White Cedar Swamps

KEA 1 – Demographic Dynamics
- *Indicator – Age Structure*
- *Indicator – Reproductive success (number of young saplings)*
- *Indicator – Minimum dynamic area*

KEA 2 – Water Chemistry
- *Indicator – pH fluxes*
- *Indicator – Nutrient fluxes*

KEA 3 – Hydrologic Dynamics
- *Indicator – Water table elevation*

Target – Grassland

KEA 1 – Grassland Cover
- *Indicator – Percentage of goal*

KEA 2 – Grassland blocks > 20 acres; > 50 acres in proximity
- *Indicator – Presence/Absence of bobolink*
- *Indicator – Presence/Absence of meadow lark*
- *Indicator – Percentage of block goal*

KEA 3 – Species Composition
- *Indicator – Number of hay and crop fields*
- *Indicator – Number of fields managed for wildlife*

KEA 4 – Proximity and Connectivity to other habitat
- *Indicator – Presence/Absence of x number breeding wood turtle population*
- *Indicator – Presence/Absence of x number breeding woodcock population*

Target – Vernal Pools (Temporary Ponds)

KEA 1 – Species Composition

Indicator – Presence/Absence obligate species

Indicator – Number of egg masses

KEA 2 – Hydrologic Cycle

Indicator - Duration

KEA 3 – Adjoining Land Habitat Condition

Indicator - Width and circumference (Figure 1)

Indicator – Temperature

Indicator – Percentage area within width contours

KEA 4 – Forest Canopy Condition

Indicator – Percentage canopy closure

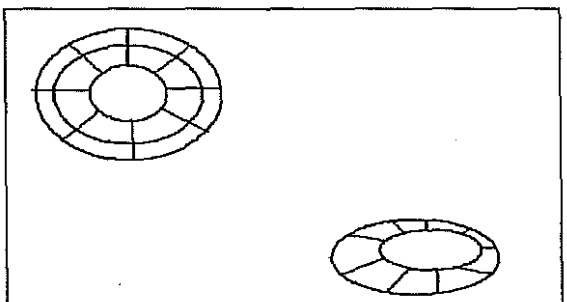


Figure 1: Measurement of vernal pool width and circumference. (As drawn by Juan Sanchez)

To learn more about the Natchaug Basin CAP, the partners, and the watershed visit http://nwc.ctgaia.net

Contact: Holly Drinkuth, Extension Program Assistant Holly.Drinkuth@uconn.edu
860-774-9600 x 19

Guidelines for Ranking Stresses and Sources

Stress Ranking Guidelines

Severity of Damage *– what level of damage can reasonably be expected within 10 years under current circumstances (given the continuation of the existing management/conservation situation)*

Very High	The stress is likely to *destroy or eliminate* the conservation target over some portion of the target's occurrence at the site
High	The stress is likely to *seriously degrade* the conservation target over some portion of the target's occurrence at the site
Medium	The stress is likely to *moderately degrade* the conservation target over some portion of the target's occurrence at the site
Low	The stress is likely to *only slightly impair* the conservation target over some portion of the target's occurrence at the site

Scope of Damage *– what is the geographic scope of impact on the conservation target at the site that can reasonably be expected within 10 years under current circumstances (given the continuation of the existing situation)*

Very High	The stress is likely to be *very widespread or pervasive in its scope*, and affect the conservation target *throughout the target's occurrences the site*
High	The stress is likely to be *widespread in its scope*, and affect the conservation target at *many of its locations* at the site
Medium	The stress is likely to be *localized in its scope*, and affect the conservation target at *some of the target's locations* at the site
Low	The stress is likely to be *very localized in its scope*, and affect the conservation target at a *limited portion of the target's location* at the site

Stress Ranking Chart

↓ Scope	Severity			
	Very High	**High**	**Medium**	**Low**
Very High	*Very High*	*High*	*Medium*	*Low*
High	*High*	*High*	*Medium*	*Low*
Medium	*Medium*	*Medium*	*Medium*	*Low*
Low	*Low*	*Low*	*Low*	-

Source-of-Stress Ranking Guidelines

Contribution *– Expected contribution of the source, acting alone, to the full expression of a stress (as determined in the stress assessment) under current circumstances (i.e., given the continuation of the existing management/conservation situation)*

Very High	The source is a *very large* contributor of the particular stress
High	The source is a *large* contributor of the particular stress
Medium	The source is a *moderate* contributor of the particular stress
Low	The source is a *low* contributor of the particular

Irreversibility *– Reversibility of the stress caused by the source of stress*

Very High	The source produces a stress that is not reversible, for all intents and purposes (e.g. wetland converted to shopping center)
High	The source produces a stress that is reversible, but not practically affordable (e.g. wetland converted to agriculture)
Medium	The source produces a stress that is reversible with a reasonable commitment of additional resources (e.g. ditching and draining of wetland)
Low	The source produces a stress that is easily reversible at relatively low cost (e.g. ORVs trespassing in wetland)

Source Ranking Chart

↓ *Irreversibility*	---------- *Contribution* ----------			
	Very High	**High**	**Medium**	**Low**
Very High		*High*	*High*	Medium
High		*High*	Medium	Medium
Medium	*High*	Medium	Medium	Low
Low	*High*	Medium	Low	Low

Threat (Stress+Source) Ranking Chart

Stress	Source			
	Very High	High	Medium	Low
Very High			High	Medium
High	High	High	Medium	Low
Medium	Medium	Medium	Low	Low
Low	Low	Low	Low	Low

Source Rank across Stresses (also called "Threat-to-Target Rank")

The Threat-to-Target rank is at least the highest rank given to any threat associated with a particular source of stress. Thus, if any one of the threats associated with a source of stress is ranked Very High within a target, the Threat-to-Target rank for that source line will be Very High.

Exception: If a source of stress causes multiple threats, the rank may be adjusted upwards:

Three High rankings = Very High
Five Medium rankings = High
Seven Low rankings = Medium

STRESSES

Physical Habitat

- Habitat destruction or conversion (e.g., by development, loss of marsh by wakes)
  Note: Can be more specific, such as "lack of rearing/floodplain habitat"
- Habitat disturbance (e.g., by trampling)
  Note: Avoid using this generic stress; be specific about nature of disturbance.
- Habitat fragmentation (terrestrial) *(i.e., results of smaller and/or isolated habitat patches, incl. small populations, disrupted dispersal, edge effects)*
- Upstream/downstream fragmentation
- Disconnection of river and floodplain
- Altered sediment regime *(e.g., of spawning gravels)*

Biotic Interactions/Population Dynamics

- Altered composition/structure (i.e., by succession)
- Excessive herbivory (e.g., by deer)
- Excessive mortality (e.g., by overfishing, smothering)
- Extraordinary competition for resources (e.g., by invasive species)
- Extraordinary predation/parasitism/disease
- Harassment/disturbance (e.g., flushing feeding wading birds)
- Resource depletion (e.g., loss of food source)

Hydrologic Regime

- Altered hydrology *(e.g., from dam operations, groundwater pumping, stormwater management, impervious surfaces)*
  Note: If enough known, can specify groundwater hydro (i.e., flow pattern and water table level). or surface water hydro (i.e., overflow pattern and infiltration)

Chemical/Energy Regime

- Altered water chemistry regime
  Note: If enough known, can specify which aspect of chemical regime (e.g., nutrients, dissolved oxygen, pH, salinity)
- Nutrient loading
- Salinity alteration
- Thermal alteration
- Toxins/contaminants *(e.g., megals, chlorine & chlorides, petroleum hydrocarbons, PCBs)*
- Decreased input of organic matter *(e.g., by removal of riparian vegetation)*

SOURCES

Residential & Commercial Development

- Housing & urban areas *(incl. non-housing development typically integrated with housing; if specific categories such as malls, campuses, hospitals are particularly significant, split them out)*
- Commercial/industrial areas *(factories and other commercial centers)*
- Tourism & recreation areas *(habitat effects of sites with a substantial footprint; for disturbance effects use Recreation Activities; if specific categories such as marinas/docks, ski areas, golf courses are particularly significant, split them out)*

Agriculture & Aquaculture

- Annual and perennial non-timber crops *(crops planted for food, fodder, fiber, fuel, other uses)*
- Wood and pulp plantations *(stands of trees planted for timber or fiber outside of natural forests, often with non-native species)*
- Livestock farming and ranching
- Marine and freshwater aquaculture

Energy Production & Mining

- Oil and gas drilling
- Mining and quarrying
- Renewable energy *(for hydropower use Dams & Water Management/Use)*

Transportation & Service Corridors

- Road construction
- Road maintenance
- Railroads
- Utility and service lines
- Shipping lanes
- Flight paths

Biological Resource Use

- Hunting and collecting terrestrial animals
- Gathering terrestrial plants
- Logging and wood harvesting *(multiple species or enrichment plantings in a quasi-natural system; for a few timber species planted in rotation use* Wood and Pulp Plantations)
- Fishing and harvesting aquatic resources *(for recreation, commercial, or other purposes)*

Human Intrusions & Disturbance (no distinct footprint)

- Recreational activities *(i.e., associated disturbance; note particularly significant activities)*
- War, civil unrest, & military exercises
- Work and other activities *(probably not a commonly used category)*

Natural System Modifications

- Fire and fire suppression
- Dam construction
- Dam operations
- Surface water diversion
- Ground water pumping
- Ditches and dikes
- Shoreline or stream bank hardening
- Removal of snags from streams
- Tree thinning in parks

Invasive & Other Problematic Species & Genes

- Invasive non-native/alien species
- Problematic native species
- Introduced genetic material

Pollution

- Household sewage & urban waste water *(for major industrial discharge use Industrial & Military Effluents)*
- Industrial and military effluents
- Agricultural and forestry effluents *(water-borne pollutants; includes nutrients, toxins, sediments)*
- Garbage and solid waste *(for landfills themselves generally use Commercial & Industrial Areas; for toxins leaching from solid waste use Industrial & Military Effluents)*
- Air-borne pollutants
- Excess energy *(inputs of heat, sound, light that disturb wildlife or ecosystems)*

- Development of roads/utilities *(incl. past construction)*
- Landfill construction/operation

Climate Change & Severe Weather

- Habitat shifting and alteration (e.g., from sea-level rise)

PAGE
BREAK

University of Connecticut
Office of the Vice President and Chief Operating Officer

Barry M. Feldman, Ph.D.
Vice President and
Chief Operating Officer

December 31, 2008

BA Petersen
203 Forest Road
Storrs, CT 06268

Dear BA Petersen:

President Hogan asked that I look into your concerns pertaining to the University's proposed compost site. We know that the siting process for facilities such as this can raise concerns among our neighbors and we're grateful for the time and effort the advisory committee members, including several representatives of the town and local environmental groups, invested in this process. Guided by UConn's environmental staff and utilizing GIS mapping produced by the Center for Land Use Education and Research, the advisory committee evaluated a dozen potential sites, all located on UConn-owned land, against 10 environmental and operational criteria. The top two sites recommended by the committee, as you know, are located behind the Bergin Correctional Facility, 1200 ft. away from the nearest residence and more than a half mile due south of your restaurant - these sites far exceed DEP guidelines for buffers from an agricultural waste compost facility.

It would indeed be difficult to compare UConn's proposed state-of-the art covered facility, to be built on a concrete foundation, with other windrow facilities that lack these same structural safeguards and that may not employ best management practices. However, I can assure you that UConn's facility will be managed by trained farm services staff, who will implement a rigorous maintenance protocol using a large, self-propelled windrow turner and a misting system to control both odors and aerosols - all of which will occur within the facility, not in the open air. Faculty from UConn's College of Agriculture & Natural Resources and our various Ag Extension offices will provide additional oversight and expert consultation.

352 Mansfield Road Unit 2014
Storrs, Connecticut 06269-2014

Telephone: (860) 486-4340
Facsimile: (860) 486-1070
e-mail: barry.feldman@uconn.edu

Let me also assure you that the University is building this compost facility for agricultural and landscaping wastes in order to improve our current practices for managing these wastes and minimize impacts on the community. Utilizing this facility will reduce, and ultimately may eliminate, the stockpiling of leaves and solid manure and the spreading of raw manure on our farms fields, a few of which are located much closer to your restaurant than the facility will be. Among other environmental benefits, composting will reduce the odors, volume of waste and greenhouse gas emissions that result from our current practices.

I hope this alleviates your concerns and that your restaurant enjoys continued success. If you should have any additional questions, please feel free to contact me or Rich Miller, Director of Environmental Policy, at rich.miller@uconn.edu.

Sincerely,

Barry M. Feldman

Cc: The Honorable Donald E. Williams, Jr.
The Honorable Denise W. Merrill
President Mike Hogan
Steve Rhodes
Lisa Troyer
Rich Miller
✓Gregory Padick

President Michael J. Hogan
University of Connecticut
115 North Eagleville Road
Storrs,Ct 06269

Mr. Hogan: I am writing to you out of grave concern regarding the proposed compost facility, which would affect the quality of life in our little corner of town. No one at the info meeting, could tell me if the site would give off odors like the compost facilitities I am familiar with. When I asked were I could see a comparable site-everyone shook their shoulders...I dont know. Also, I asked if there were plans to enlarge the facility once it was up and was informed an addition as large as the first building was planned. My family has lived in this area since 1983. This is our home and we are very upset that you would allow this to happen on your watch.How quick would you be able to stop the odors should the facility not operate as designed? Image living with the offensive odor in your home. Please show more respect to us and our neighbors. I wonder what Chucks Margarita Grill feel, having been in the area longer than me.

BA Petersen
203 Forest Road,Storrs Ct

cc: The Honorable Donald E. Williams, Jr
President Pro Tempore
Legislative Office Building
Hartford, Ct 06106

cc: The Honorable Denise W. Merrill
Legislative Office Building
Hartford, Ct 06106

cc: Mr. Gregory Padick
Director of Planning
Town of Mansfield
4 South Eagleville Road
Storrs, Ct 06268-2599

Amy G. Moore
1308 Stafford Road
Storrs/Mansfield, CT 06268
(860)429-3203

December 22, 2008

Mr. Gregory Padick
Director of Planning
Town of Mansfield
4 South Eagleville Road
Storrs/Mansfield, CT 06268-2599

RE: Proposed Compost Facility by University of Connecticut

Dear Mr. Padick:

I am writing to you about my great concern for the above referenced. My house is parallel to Bergin Correctional Institute and would be the closest residence to the proposed compost facility. The impact to my life would be extreme.

Currently the University of Connecticut spreads manure on both fields surrounding my residence. As you can imagine, the odor for three days is extremely unpleasant. How much more odor will the proposed compost facility generate? This odor will not disappear within three days but will be continuous.

I had hopes of one day turning my residence into a bed and breakfast. I will never be able to accomplish this when odors surround my home.

I would respectfully request that the proposed compost facility be located away from residences and businesses. The University of Connecticut has large amounts of farmland located on campus which could be properly monitored. I sincerely hope that you will be able to help in this matter.

Sincerely,

Amy G. Moore

Amy G. Moore

GAL ASSOCIATES, LLC **KUKAI, INC.**

Corporate Offices • 2199 Silas Deane Hwy Rocky Hill, CT 06067-2398 • Tel (860) 529-7407 • Fax (860) 529-2970

A response to this letter is being prepared.

December 29, 2008

University of Connecticut
352 Mansfield Rd.
Unit 2014
Storrs, CT 06269-2014

Attn. Barry M. Feldman, PH.D.
Vice President and Chief Operating Officer

RE: UCONN Compost Facility

Dear Dr. Feldman:

Thank you for your letter addressing our concerns pertaining to the proposed compost facility. Your letter, however, did little to alleviate these concerns. In fact, we are now even more concerned, due to some additional information uncovered by one of our neighbors (letter enclosed), with regard to a possible second building, or phase, proposed for the site.

We will continue to have concerns and express same, until a more acceptable site is found.

It appears as though the University is purposely withholding information with regards to the entire scope of the project and its intended use.

Sincerely yours,

Patrick J. Gallagher, Owner
Chuck's Margarita Grill

cc: Senator Tony Guglielmo
Senator Donald E. Williams, Jr.
Representative Denise W. Merrill

To: Patrick Gallagher-Thanks for dropping off the information at 203 Forest Road, regarding the proposed compost facility by UConn. I also went to the info meeting and I asked if they were planning on expanding the proposed facility once it was up and they said yes-another building, same size, right next to the first one. I also asked if I could go see a like site and they stammered and said there was one they think on Route 83 but had no idea where. When I asked if they would be concerned if it was built near their houses, they had no answer. I will relay my concerns to the mentioned office is your letter. Thanks again. **Barbara Petersen**

University of Connecticut
Office of the Vice President and
Chief Operating Officer

Barry M. Feldman, Ph.D.
Vice President and
Chief Operating Officer

December 22, 2008

Patrick J. Gallagher, President
Chuck's Margarita Grill
GAL Associates, LLC
2199 Silas Deane Highway
Rocky Hill, CT 06067-2398

Dear Mr. Gallagher:

President Hogan asked that I look into your concerns pertaining to the University's proposed compost site. I understand your concerns and appreciate the important role Chuck's Margarita Grill has played as part of the Mansfield business community and University community for nearly 40 years. I'm glad you attended our November 19th informational meeting on the proposed compost facility and had the chance to speak with Dr. Morris, who is a faculty expert on sustainable agriculture and was one of several members of UConn's compost facility site advisory committee.

We know that the siting process for facilities such as this can raise concerns among our neighbors and we're grateful for the time and effort the advisory committee members, including several representatives of the town and local environmental groups, invested in this process. Guided by UConn's environmental staff and utilizing GIS mapping produced by the Center for Land Use Education and Research, the advisory committee evaluated a dozen potential sites, all located on UConn-owned land, against 10 environmental and operational criteria. The top two sites recommended by the committee, as you know, are located behind the Bergin Correctional Facility, 1200 ft. away from the nearest residence and more than a half mile due south of your restaurant - these sites far exceed DEP guidelines for buffers from an agricultural waste compost facility.

It would indeed be difficult to compare UConn's proposed state-of-the art covered facility, to be built on a concrete foundation, with other windrow facilities that lack these same structural safeguards and that may not employ best management practices. However, I can assure you that UConn's facility will be managed by trained farm

352 Mansfield Road Unit 2014
Storrs, Connecticut 06269-2014

Telephone: (860) 486-4340
Facsimile: (860) 486-1070
e-mail: barry.feldman@uconn.edu

services staff, who will implement a rigorous maintenance protocol using a large, self-propelled windrow turner and a misting system to control both odors and aerosols - all of which will occur within the facility, not in the open air. Faculty from UConn's College of Agriculture & Natural Resources and our various Ag Extension offices will provide additional oversight and expert consultation.

Let me also assure you that the University is building this compost facility for agricultural and landscaping wastes in order to improve our current practices for managing these wastes and minimize impacts on the community. Utilizing this facility will reduce, and ultimately may eliminate, the stockpiling of leaves and solid manure and the spreading of raw manure on our farms fields, a few of which are located much closer to your restaurant than the facility will be. Among other environmental benefits, composting will reduce the odors, volume of waste and greenhouse gas emissions that result from our current practices.

I hope this alleviates your concerns and that your restaurant enjoys continued success. If you should have any additional questions, please feel free to contact me or Rich Miller, Director of Environmental Policy, at rich.miller@uconn.edu.

Sincerely,

Barry M. Feldman

Cc: President Mike Hogan
Steve Rhodes
Lisa Troyer
Rich Miller

U. Barry Feldman
for Response
Scott Bachinsky - FYI

State of Connecticut

SENATE

STATE CAPITOL
HARTFORD, CONNECTICUT 06106-1591

SENATOR TONY GUGLIELMO
THIRTY-FIFTH DISTRICT

100 STAFFORD STREET
STAFFORD SPRINGS, CONNECTICUT 06076
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ASSISTANT MINORITY LEADER

RANKING MEMBER
LABOR AND PUBLIC EMPLOYEES COMMITTEE
PUBLIC SAFETY COMMITTEE

MEMBER
FINANCE, REVENUE AND BONDING COMMITTEE
PROGRAM REVIEW AND INVESTIGATIONS COMMITTEE
INTERNSHIP COMMITTEE

December 15, 2008

DEC 16 2008

RECEIVED
DEC 17 2008
VP/COO'S OFFICE

Dr. Michael J. Hogan
President
University of Connecticut
115 North Eagleville Road
Storrs, CT 06269

Dear President Hogan:

I am writing as a follow-up to a recent letter sent to you by Pat Gallagher, President of Chuck's Margarita Grill in Mansfield. Mr. Gallagher and many of his neighbors are concerned about the proposed compost facility that the University is considering placing on Route 32 behind the restaurant. Mr. Gallagher and some of the neighbors attended an informal meeting about this project on November 19th. Dr. Tom Morris spoke about the planned facility.

The problem is that the composting of animal waste and bedding is going to produce an odor which would certainly be inconsistent with a restaurant facility. Mr. Gallagher and his partners have operated this restaurant in Mansfield for almost four decades. They have been a valuable member of the University community, providing jobs for many UCONN students over their history. They continue to this day to employ UCONN students as part of their wait-staff.

In addition they have been a significant property taxpayer to the Town of Mansfield and to the State of Connecticut. We are concerned that the placement of this facility will do serious harm to their extremely successful restaurant business.

I'm writing in the hope that the University can select a more suitable location for this type of facility.

I thank you in advance for your consideration.

Sincerely,

Tony Guglielmo
State Senator

TG/tlw

cc: Patrick J. Gallagher, President
Chuck's Margarita Grill
Gal Associates LLC
2199 Silas Deane Highway
Rocky Hill, CT 06067-2398

The Honorable Donald E. Williams, Jr.
President Pro Tempore, State Senate

The Honorable Denise W. Merrill
State Representative

Chuck's STEAK HOUSE MARGARITA MEXICAN GRILL CANTINA

GAL ASSOCIATES, LLC

Corporate Offices • 2199 Silas Deane Hwy Rocky Hill, CT 06067-2398

Tel (860) 529-7407 • Fax (860) 529-2970

December 5, 2008

To Dan + Tom
for review

University of Connecticut
115 North Eagleville Rd.
Storrs, CT 06269

DEC - 9 2008

Attn. Michael J. Hogan
President

RE: Proposed Compost Location

Dear President Hogan:

I am writing to express our concerns over the proposed compost locations situated less than a half a mile from our restaurant.

My partners and I have operated a restaurant on Route 32 for over 38 years. I believe during that time, we have been a well received member of the college community. We have served athletic teams, coaches, university presidents, students and faculty, as well as residents of the community.

We attended an informational meeting on November 19th that addressed the proposed compost facility. At that meeting we spoke, at great length, with Dr. Tom Morris. Dr. Morris tried to assure us that if the facility "worked as designed" there would be little or no offensive odor produced. At least no more than is presently being produced by existing fertilizing procedures.

Our concern is this. What happens if it fails to operate as designed, and it does give off the odor consistent to composting animal waste and bedding? The result could easily put us out of business. Dr. Morris was not sure if there was an existing facility exactly like the one designed for the Mansfield locations. So, we really have no way of knowing if it performs as designed or not. We cannot afford to wait and find out. Most compost facilities that we are familiar with, give off a very offensive and unappetizing odor. An odor that could easily be misconstrued as coming from our restaurant.

We are, hereby, asking you to please reconsider these two locations, and try to locate one that will not have the possibility of causing catastrophic damage to our business, and to the lives of our neighbors.

Sincerely yours,

Patrick V. Gallagher, President
Kukai, Inc.
d/b/a Chuck's Margarita Grill

cc: Dr. Tom Morris
Dr. Richard Miller

Town of Mansfield
TOWN COUNCIL

Proposed Resolution to Establish a Town Council Sustainability Committee
Approved January 12, 2009

A Resolution ESTABLISHING A TOWN COUNCIL SUSTAINABILITY COMMITTEE:

WHEREAS, the Town of Mansfield is a signatory to the Mayor's Initiative on Climate Change and has undertaken other initiatives to preserve the environment; and

WHEREAS, the Strategic Visioning Conference, Mansfield 2020-A Unified Vision, defined sustainability as meeting the needs of current and future generations through the integration of environmental protection, conservation, community organization and economic prosperity; and

WHEREAS, the Strategic Visioning Conference, Mansfield 2020-A Unified Vision, set a goal of reducing carbon emissions attributed to the municipal sectors of the Mansfield by 20 percent by 2010; and

WHEREAS, the Strategic Visioning Conference, Mansfield 2020-A Unified Vision, identified sustainability as a fundamental governing principle; and

WHEREAS, the Town of Mansfield has made a commitment to sustainable economic development;

WHEREAS, the Town of Mansfield is engaged in many quality of life issues in the community;

WHEREAS, the Town anticipates the development of other goals to address aspects of sustainable development in the future;

NOW, THEREFORE, BE IT RESOLVED by the Council of the Town of Mansfield that a permanent TOWN COUNCIL SUSTAINABILITY COMMITTEE be established.

BE IT FURTHER RESOLVED that the TOWN COUNCIL SUSTAINABILITY COMMITTEE be composed of: two Council members or one Council member and one ex-Council member; the Town Manager; a representative each from the K-8, R-19, University of Connecticut and PZC; and that three citizens be chosen to represent environmental protection, economic vitality, and social justice within the context of sustainability. The Chairperson shall be appointed by Council. The Town Manager will appoint one or more staff as rotating, non-voting liaisons to the Committee. The term of

office for voting members shall be four years, except that the Chairperson shall serve at the discretion of Council and staff shall serve at the discretion of the Town Manager.
BE IT FURTHER RESOLVED that the TOWN COUNCIL SUSTAINABILITY COMMITTEE be charged with maintaining a general overview of the sustainability of the Town, to specifically include the following responsibilities:

- Provide guidance and proposals to the Town Council regarding sustainability principles to be adopted by the Town Council or to be administratively implemented:

- Monitor implementation of principles and policies as adopted by the Town Council and administrative programs, and report to the Town Council annually;

- Coordinate and collaborate with Town boards and commissions, organizations, regional and state agencies to advance sustainability principles, plans, and policies established; and

- Seek information from other organizations to aid in the development of strategies, programs and initiatives that will further the sustainability goals established by the Council by policy or budgetary support of administrative programs.

TOWN OF MANSFIELD
OFFICE OF PLANNING AND DEVELOPMENT

GREGORY J. PADICK, DIRECTOR OF PLANNING

Memo to: Mansfield Planning and Zoning Commission, Town Council, Conservation Commission
From: Gregory Padick, Director of Planning
Date: 1/15/09
Re: Proposed Telecommunication Tower in South West Mansfield

A previously distributed December 8, 2008 letter (with attachments) from Attorney Kenneth Baldwin, representing Cellco Partnership d.b.a. Verizon Wireless, describes a proposed new telecommunication tower in southwestern Mansfield east of Route 32 near the intersection with Route 31. The subject letter was sent to the Mansfield Town Manager pursuant to Connecticut Siting Council application guidelines. A formal application to the Siting Council is expected to be submitted in February 2009. Mansfield representatives have been provided an opportunity to comment before the filing. Upon submittal of a formal and more complete application, a public hearing will be held in Mansfield and there will be additional opportunities to comment from Mansfield representatives and other interested citizens.

I have reviewed the December 8, 2008 submission and have the following comments:

- Two (2) alternative sites have been proposed for a new 140 foot high telecommunication tower. The tower is designed to accommodate multiple companies. The two sites, either of which would be acceptable to Verizon, are located on the Mansfield Drive-In property and the Highland Ridge Golf Driving Range property. Both proposed locations would be accessed from Route 32.

- The new tower site has been proposed to address existing service problems in SW Mansfield and SE Coventry (primarily along Routes 32 and 31). Either site would address existing service area deficiencies.

- The proposed sites do not involve any wetland disturbance and no impacts on environmental or historic resources are anticipated. The application to the CT. Siting Council will include an "Environmental Screening Checklist" and review comments from the Department of Environmental Protection, the State Historic Preservation Officer and the US Fish and Wildlife Service. The Conservation Commission has reserved comments until reviewing the final application.

- Based on a preliminary "viewshed" analysis the two alternative towers will not be readily visible from Mansfield properties, except for those immediately adjacent to the subject sites. My review of this preliminary study indicates that the towers would not be readily visible from existing residences in either Mansfield or Coventry. A finalized viewshed map will be included in the Siting Council application.

Summary/Recommendation

My review of the information provided to date indicates that the subject tower project will have minimal impact on Mansfield residents. Furthermore, there does not appear to be an environmental impact oriented basis to determine a most appropriate site between the two proposed alternatives. Based on these preliminary findings, it is recommended that Mansfield representatives await the submission of a final report with more detailed information before considering the submission of comments on the subject project.

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Mansfield Open Space Preservation Committee
Minutes for December 16, 2008
DRAFT MINUTES

Members present:
Jim Morrow, Quentin Kessel, Steve Lowrey and Ken Feathers

1. Chairman Jim Morrow called the meeting to order at 7:35 PM

2. Feather/Kessel: Motion to approve the minutes of November 18, 2008, motion carried.

3. Public Comment: No public present.

4. Report from Town Staff::
   Reviewed draft of annual report that Jennifer had submitted; the committee approved it with minor revisions that Morrow would forward to Jennifer.

5. Old Business:
   Committee chose not to discuss proposed changes to Subdivision Regulations at this time

6. New Business:
   The Town Council had requested a recommendation from the Committee regarding the disposition of the Potter property for which many years of back taxes were owned.
   Lowrey/Kessel: Motion for town to foreclose on property for taxes owned and sell to any interested abutters.

11. /Kessel/Feathers: Motion to adjourn, Meeting adjourned at 7:46 P.M.

Respectfully submitted
Stephen Lowrey

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MINUTES

MANSFIELD PLANNING AND ZONING COMMISSION
Regular Meeting, Monday, December 15, 2008
Council Chambers, Audrey P. Beck Municipal Building

Members present:	R. Favretti (Chairman), B. Gardner, J. Goodwin, R. Hall, K. Holt, P. Plante, B. Ryan
Members absent:	P. Kochenburger, B. Pociask
Alternates present:	M. Beal, G. Lewis (arrived 7:04), L. Lombard
Staff present:	G. Padick, Director of Planning, C. Hirsch, Zoning Agent

Chairman Favretti called the meeting to order at 7:00 p.m. He appointed alternates to act in the following order, if needed: Lombard, Beal, and then Lewis.

Minutes:

12/1/08- Hall MOVED, Plante seconded, to approve the 12/1/08 minutes as written. MOTION PASSED UNANIMOUSLY.

12/10/08 Field Trip- Ryan MOVED, Holt seconded, to approve the 12/10/08 Field Trip minutes as written. MOTION PASSED with Favretti, Lombard, Ryan and Holt in favor, all others disqualified.

Old Business:

1. **3-Lot Subdivision Application, Bassetts Bridge & South Bedlam Rds, Mansfield Hollow Estates, File # 1278 (M.A.D. 2/13/09)**
   Item tabled, awaiting revised plans.
2. **Site Modification Request Proposed Replacement of Existing Commercial Building at Corner of Storrs and Bassetts Bridge Roads.**
   Item tabled, awaiting revised plans.

Zoning Agent's Report:

Items A-C were noted.

Hirsch stated that he has received a written response from Hall, and is currently reviewing the information. He noted that Hall did not include any information on his personal business use of the property. Hirsch also said he had nothing new on the DeBoer site, because he has been denied access.

Padick stated that he and Hirsch have been asked to attend the January 22, 2009 Committee on Quality of Life meeting to discuss zoning enforcement as it relates to student housing and the definition of family.

Old Business, continued:

3. **Verbal Update from Director of Planning Re: Environmental Review Team (ERT) Study of Ponde Place project.**
   Padick updated the Commission about the ERT holding a meeting today at the Community Center to present background information on the project and revised plans. He noted that in attendance were representatives from the ERT team and the applicant's team, plus (approximately) fifteen people from the public and two members of the PZC. The meeting then adjourned to the site for a comprehensive site walk. The ERT's report is expected to be finalized and presented to the PZC in February, 2009.

New Business:

1. **Proposed Telecommunication Tower in southern Mansfield**
   Item tabled.
2. **8-24 Referral Re: Middle School Fuel Conservation Project**
   Gardner MOVED, Holt seconded, that the Planning and Zoning Commission report to the Town Council that it has no objection to the Town conveyance of partial ownership rights to the Spring Hill Fields property off of Spring Hill Road to the Mansfield Board of Education. MOTION PASSED UNANIMOUSLY.

3. **Request for Bond Releases**
   Item tabled pending more information from staff.

Reports of Officers and Committees:
Favretti noted the next Regulatory Review Committee on 2-10-09 at 1pm.

Communications and Bills:
Padick noted a Special Meeting of WINCOG will be called to discuss the CL&P Interstate Reliability Proposal to see if other towns had taken a stance and to determine if WINCOG wants to endorse Mansfield's position.

Scheduled Business:
Discussion regarding Potential Re-Zoning of the "Industrial Park" zone on Pleasant Valley Road and Mansfield Avenue.
Lombard disqualified himself and Chairman Favretti appointed Lewis in his place. Padick began the discussion with the background information. He discussed the previous proposals, utilizing a map developed by Favretti and him. Padick pointed out various land uses (agriculture, residential, commercial) which were proposed earlier by the Commission but that were never approved as new zone changes.

Attorney Kari Olson and Bruce Hussey emphasized that they have no specific development plan in mind at this time. They stated that they are in accord with the concept suggested by the Favretti/Padick map, but would like to discuss further the details of what would be included in each of these zones and also the extent of them.

Favretti asked Hussey and Olson if they would be willing to meet with him and Padick to discuss this point further. They were in agreement, and Padick stated that he will set up a meeting in January.

Discussion regarding the definition of lot as it applies to property on a Town Line. (Communications from R. Lennon and K. Kaufman)
Chairman Favretti stated that although tonight's discussion was not a public hearing, he would conduct it similarly, and he asked Mr. Lennon to begin the discussion. Robert Lennon of 20 Jackson Lane and Joseph Cerreto of 6 Jackson Lane stated their opposition to the recent ruling regarding the definition of lot as it applies to property on a town line. Lennon referred to his letters of November 30, 2008, and December 10, 2008, which in essence refer to the fact that he and his neighbors bought their properties thinking that the lot in question, partially in Chaplin, would not be developed, based upon the PZC regulations and conditions of the sub-division plan.

Attorney Samuel Schrager, representing the applicant, reviewed the timeline of events leading to the present situation. He noted that the applicant is prepared to have the same covenants placed on the lot in question as are on the approved lots in the subdivision, consisting of a substantial buffer from existing lots. He stated that the lot in question will be utilizing a separate driveway, accessed from Bedlam Road in Chaplin. Schrager submitted to the Commission a letter in response to Lennon's letters.

After extensive discussion between the property owner, the neighbors, and the Commission, Favretti tabled further discussion until the next meeting on 1-5-09.

Adjournment:
Favretti declared the meeting adjourned at 9:18 p.m.

Respectfully submitted,

Katherine K. Holt, Secretary

DRAFT MINUTES

MANSFIELD PLANNING AND ZONING COMMISSION
Regular Meeting, Monday, January 5, 2009
Council Chambers, Audrey P. Beck Municipal Building

Members present:	R. Favretti (Chairman), B. Gardner, J. Goodwin, R. Hall, K. Holt, P. Kochenburger, P. Plante, B. Pociask, B. Ryan
Alternates present:	M. Beal, G. Lewis, L. Lombard
Staff present:	G. Padick, Director of Planning, C. Hirsch, Zoning Agent

Chairman Favretti called the meeting to order at 7:15 p.m. He appointed alternates to act in the following order, if needed: Beal, Lewis and then Lombard.

Minutes:
12/15/08- Hall MOVED, Gardner seconded, to approve the 12/15/08 minutes as written. MOTION PASSED with all in favor except Kochenburger who disqualified himself. Pociask noted that he listened to the tapes.

Old Business:

1. **3-Lot Subdivision Application, Bassetts Bridge & South Bedlam Rds, Mansfield Hollow Estates, File # 1278 (M.A.D. 2/13/09)**
   Tabled, awaiting revised plans.
2. **Site Modification Request Proposed Replacement of Existing Commercial Building at Corner of Storrs and Bassetts Bridge Roads.**
   The revised plans submitted have been referred to staff. Reports are expected prior to the next meeting from the Fire Marshal, Assistant Town Engineer and Director of Planning. Item was tabled.
3. **Discussion regarding the definition of lot as it applies to property on a Town Line.**
   Padick briefly summarized his 12/30/08 report. Gardner MOVED, Hall seconded, that the Planning and Zoning Commission modify the 11/17/08 action to add a 4th condition to read as follows: As documented in a 12/30/08 letter from Attorney Schrager, the subject parcel in Mansfield and Chaplin shall be subject to the same subdivision restrictions and covenants placed on lots in the abutting Aurora Estates Subdivision and in addition a 50 foot wide conservation easement, based on the Town's model format, shall be placed adjacent to lots 2, 3, and 4 of the Aurora Estates Subdivision.
   MOTION PASSED with all in favor except Goodwin and Holt who abstained.
4. **Request for Bond Releases:**
   a. **Fellows Estates, File # 1230**
      Holt MOVED, Hall seconded, that the Planning and Zoning Commission authorize the Director of Planning to take appropriate action to release $24,000 plus accumulated interest that served as a maintenance bond for subdivision improvements in the Fellows Estates Subdivision. The subject bond release shall not take place until it is confirmed that trail access locations on Monticello Lane and Storrs Road have been appropriately marked and until it is confirmed that trees planted in 2008 have a one (1) year warrantee. MOTION PASSED with all in favor except Lewis who disqualified himself.
   b. **Wildrose II Estates, Files #1113-2, 1113-3**
      Holt MOVED, Gardner seconded, that the Planning and Zoning Commission authorize the Director of Planning to take appropriate action to release $63,400 plus accumulated interest from the two maintenance bonds in the Wild Rose Estates Subdivision. $10,000 shall be retained to ensure that all landscaping and, as appropriate, trail work are in acceptable condition next spring, and to address any erosion and sedimentation issues associated with landscaping and drainage work. A new bond agreement shall be executed for this revised bond. MOTION PASSED UNANIMOUSLY.
5. **Potential Re-Zoning of the "Industrial Park" zone on Pleasant Valley Road and Mansfield Avenue.**
   Item tabled awaiting staff meeting with primary property owners.
6. **Proposed Telecommunication Tower in southern Mansfield**
   Item tabled, awaiting staff review.

Scheduled Business:

Zoning Agent's Report

Items A - D were noted. Hirsch stated that Hall submitted more information on the use of the site for his own business as a contractor. Hirsch will present all the information he has gathered regarding the Hall site at the next meeting. Hirsch also noted that he was contacted by the DeBoer family, and he is hopeful he'll be allowed to move forward with information gathering at their site.

New Business:

1. **Draft Environmental Impact Statement, North Hillside Road Ext. Public Hearing Thursday, January 29, 2009, 7pm at Bishop Center**
   Item tabled-under staff review.
2. **2009/2010 Budget Submission**
   Padick reviewed with the Commission the changes he proposed to the 2009/10 budget. Holt MOVED, Hall seconded, to accept the proposed 2009/2010 IWA/PZC budget. MOTION PASSED UNANIMOUSLY.
3. **Proposed lot line revision, Windwood Acres Subdivision**
   Mark Peterson of Gardner and Peterson Associates and Attorney Samuel Schrager were present to represent the applicant. Gardner MOVED, Holt seconded, that the Planning and Zoning Commission approve a revision of lot lines for lots 13, 16 and 17 in the Windwood Acres Subdivision as depicted on subdivision plans revised to 12/12/08. MOTION PASSED UNANIMOUSLY.

Reports of Officers and Committees:

Favretti noted the next Regulatory Review Committee meeting was set for 2/10/09 at 1 p.m. and a field trip is set for 1/12/09 at 1 p.m.

Communications and Bills:

Padick called particular attention to item #2 regarding the 12/18/08 presentation about the Willimantic River Study. He noted that documents from the full presentation are available in his office for anyone who is interested in more information.

Adjournment:

Favretti declared the meeting adjourned at 7:57 p.m.

Respectfully submitted,

Katherine K. Holt, Secretary

DRAFT MINUTES
MANSFIELD INLAND WETLANDS AGENCY
Regular Meeting
Monday, January 05, 2009
Council Chambers, Audrey P. Beck Municipal Building

Members present:	R. Favretti (Chairman), B. Gardner, J. Goodwin, R. Hall, K. Holt, P. Kochenburger, P. Plante, B. Pociask, B. Ryan
Alternates present:	M. Beal, G. Lewis, L. Lombard
Staff present:	G. Meitzler (Wetlands Agent)

Chairman Favretti called the meeting to order at 7:00 p.m. Alternates were appointed to act in the following order, if needed: Beal, Lewis and Lombard.

Minutes:
12-1-08 - Hall MOVED, Ryan seconded, to approve the 12-1-08 regular meeting minutes as written. MOTION PASSED UNANIMOUSLY.
12-10-08 Field Trip- Holt MOVED, Ryan seconded, to approve the 12-10-08 field trip minutes as written. MOTION PASSED with Ryan, Lombard, Holt and Favretti in favor and all others disqualified.

Communications:
The Wetlands Agent's Monthly Business report and the minutes of the 12-17-08 Conservation Commission meeting were both noted.

Outstanding Enforcement Action:
W1499 - Chernushek - 473 Middle Turnpike
Wetlands Agent Meitzler noted that this item has been referred to the Town Attorney.
Holt MOVED, Pociask seconded, to continue the violation hearing until the February 2, 2009 regular meeting. MOTION PASSED UNANIMOUSLY.
W1400 - Glode - Stafford Rd near Mansfield City Rd
Wetlands Agent Meitzler noted that the Town Attorney is in the process of preparing a report.

Old Business:
W1420 - White Oak Condominiums - Mansfield City & White Oak Roads
Holt MOVED, Ryan seconded, to table this item and re-schedule the Public Hearing for January 20, 2009 at a special meeting. MOTION PASSED UNANIMOUSLY.
W1417 - Popeleski - Bassetts Bridge & S. Bedlam Rd - 3 Lot subdivision
Item tabled, awaiting revised plans.

New Business:
W1419 - Chernushek, 473 Middle Turnpike
Goodwin MOVED, Holt seconded, to receive the application submitted by Henry Michael Chernushek (File W1419) under Section 5 of the Wetlands and Watercourses Regulations of the Town of Mansfield, to level an area for horse riding and a garden, at 473 Middle Turnpike, on property owned by the applicant, as shown on a map dated 12-4-08, and as described in other application submissions, and to refer said application to the staff and Conservation Commission for review and comment and to set a Public Hearing for 2-2-09. MOTION PASSED UNANIMOUSLY.

W1421 - Clark - Hanks Hill /Farrell Roads – 4-lot subdivision
Goodwin MOVED, Holt seconded, to receive the application submitted by Sheila A. Clark (File W1421) under Section 5 of the Wetlands and Watercourses Regulations of the Town of Mansfield for a four-lot subdivision of 25.16 acres, located at the north side of Hanks Hill Road, on property owned by the applicant, as shown on a

map dated 10-30-08, and as described in other application submissions, and to refer said application to the staff and Conservation Commission for review and comment. MOTION PASSED UNANIMOUSLY.

Field Trip:
A field trip date was set for Monday, January 12, 2009 at 1 p.m.

Reports of Officers and Committees:
None noted.

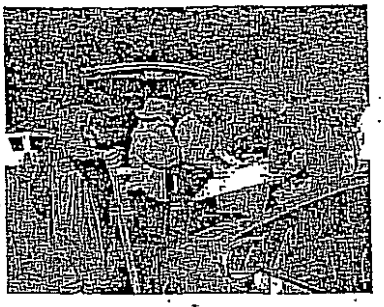
Other Communications and Bills:
Noted.

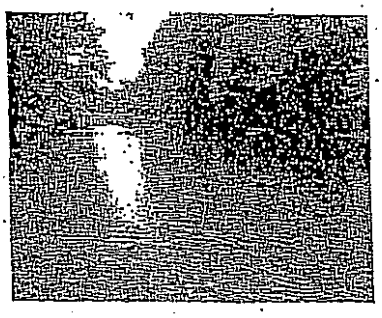
Adjournment:
The meeting was adjourned at 7:14 p.m.

Respectfully submitted,

Katherine K. Holt, Secretary

Willimantic River Study
Preliminary Results from Instream Flow Analysis





Presented by:

David Murphy, P.E.
Milone & MacBroom, Inc.
Cheshire, Connecticut

December 18, 2008

MILONE & MACBROOM

Presentation Agenda

- ☐ Review PHABSIM Process
- ☐ Review Study Area and Transects
- ☐ Model Input: HSC
- ☐ Model Output: WUA Curves
- ☐ Development of Streamflow Records
- ☐ Habitat Duration Curves
- ☐ Analysis and Findings
- ☐ Provisional Conclusions
- ☐ Provisional Recommendations
- ☐ Schedule

MILONE & MACBROOM

Provisional Conclusions

- Of the four species, Brook trout habitat is most sensitive to low flow conditions.
- Even over very low flows (10-20 cfs), WUA is 22% to 42% of maximum.
- Other species' habitats are less sensitive.
- A provision goal is to try and maintain 15% of maximum WUA, consistent with Fenton study.
- UCUT or similar analysis to be conducted after low-flow measurement.

MILONE & MACBROOM

Provisional Recommendations

- Establish gauge at Merrow Bridge or elsewhere to monitor upstream river flows.
- Consider cutbacks in withdrawals when upstream flow is less than 8 cfs.
- Final operational recommendations to follow the completion of the study.

MILONE & MACBROOM

Project Schedule

- ☐ Instream Flow Study
  - ✓ Low flow characterization and additional analysis to be conducted in summer 2009
- ☐ Hydrogeologic Study
  - ✓ Begin ground water model refinements
  - ✓ Final two hydrogeologic monitoring events to be conducted in summer 2009
  - ✓ Finish model refinements fall 2009
- ☐ Final conclusions fall 2009

Milone & MacBroom

PAGE
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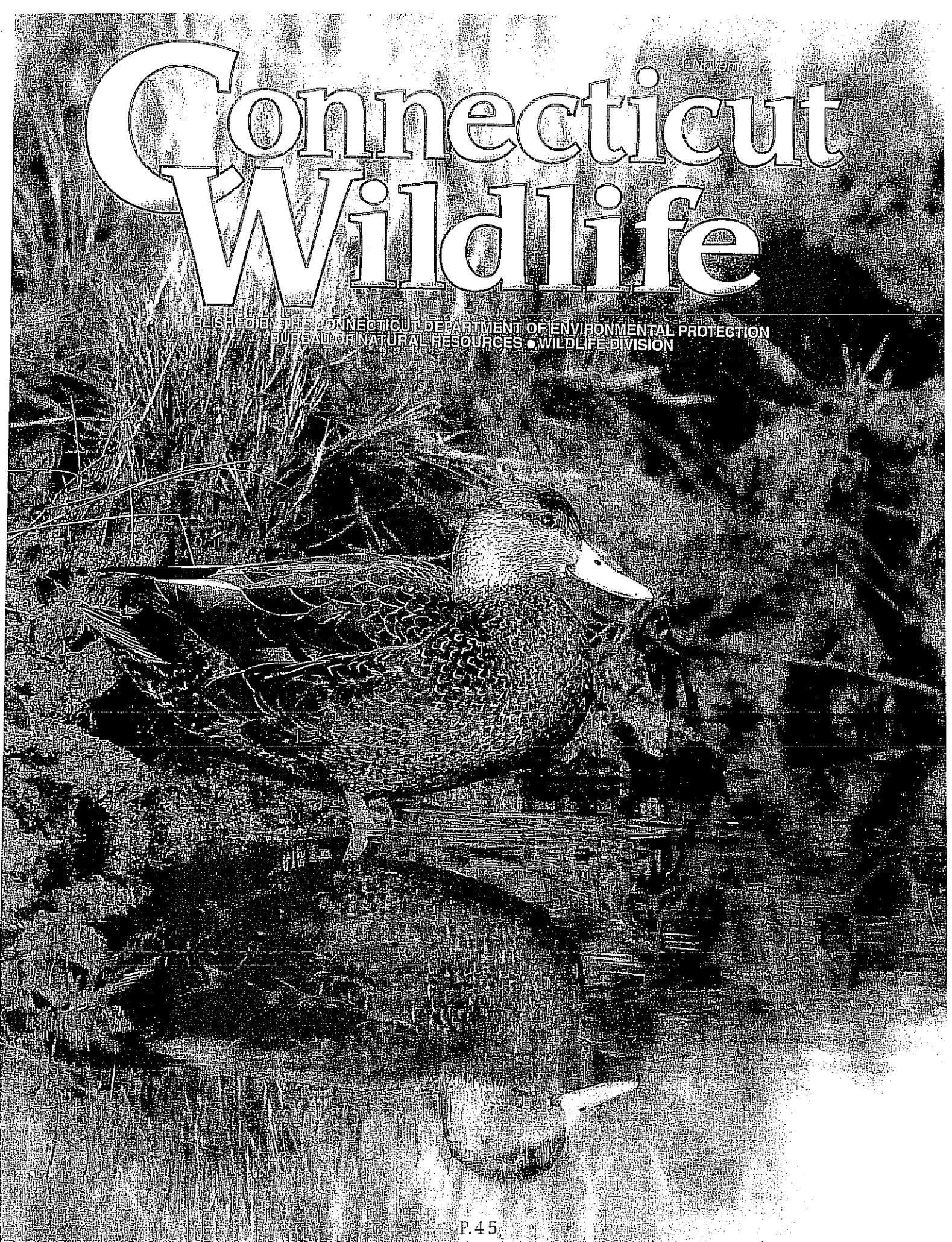
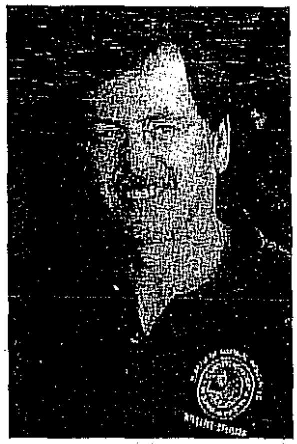
Connecticut Wildlife

PUBLISHED BY THE CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF NATURAL RESOURCES • WILDLIFE DIVISION



From the Director



Lately, I have taken to hunting with an older fellow. This man is a conservationist in every sense of the word. He is well-educated and well-traveled, but would likely say his favorite place to be is on a marsh with his dog when the ducks are flying. He has a deep passion for waterfowl and a lifetime of contributions to habitat protection. Because duck hunting is ingrained into the fabric of his life, he can truly be called a waterfowler.

On the other hand, I grew up hunting grouse, woodcock, and pheasants over an English setter. I have bought a Duck Stamp every year for nearly 40 years and, when the opportunity presents itself, when ducks are flushed incidentally to my main quarry, I will take a shot. If I am able to harvest one or two ducks per season, I consider myself fortunate. Because I hunt ducks, I am a duck hunter. But, I don't meet the standard of a waterfowler.

Waterfowlers prefer ducks to deer, turkey, or any other game. They pray for bad weather because that is what moves the birds. The pre-dawn cold, wind, and rain that leaves most people grateful for an extra blanket on the bed is the call to the marsh for the waterfowler. They get geared up, train their Labradors, practice their calls, and touch up their decoys in preparation for the fall season, which is the highlight of their year. And, they care about the ducks they hunt.

Without ducks there can be no duck hunting. This truth is self-evident. More than a century ago, when the duck populations were nearly wiped out by market hunting and unethical practices, the North American waterfowler was born. Their passion and their monetary contributions led to the establishment of refuges, the protection of breeding areas, and laws and regulations that allowed waterfowl populations to recover. Federal and state agencies were created to administer waterfowl hunting seasons based upon scientific data collected through research funded by hunters. And, conservation organizations, such as Ducks Unlimited and the Connecticut Waterfowl Association, have made invaluable contributions to the welfare of waterfowl.

I think about these things when I am in the marsh with my hunting partner and his dog. Chances are, if the ducks come, they are coming from a place that waterfowlers helped to save. The goal is to have abundant duck populations far into the future. Because of people like him, it's happening.

Dale W. May

Cover:

In November 2007, the Wildlife Division began a study investigating habitat use and energy budgets of black ducks wintering on the Connecticut coast. The article on page 6 gives an update on the progress of this project.

Photo courtesy of Paul J. Fusco

Volume 28, Number 6 • November / December 2008

Connecticut Wildlife

State of Connecticut
Department of Environmental Protection

Wildlife Division

Franklin WMA

Sessions Woods WMA
P.O. Box 1550, Burlington, CT 06013

P.46

Increased Hunting Opportunities

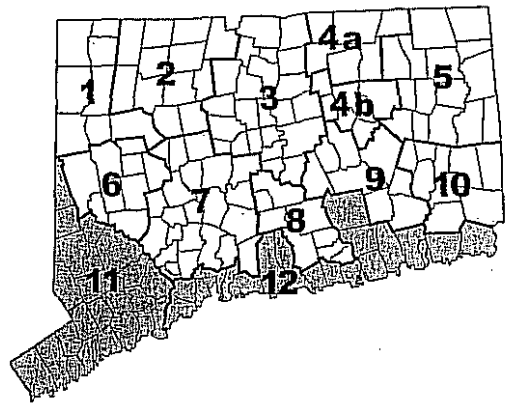
Written by Howard Kilpatrick, Deer Program

The DEP Wildlife Division has been working towards stabilizing and reducing overabundant deer populations. Deer management zones 11 (southwest Connecticut) and 12 (shoreline towns) have been the focus of efforts to stabilize deer population growth. Deer management efforts in these two zones have been hampered by limited access to relatively small parcels of private property for hunting and many large parcels of protected open space that have been closed to hunting. This situation, combined with limited use of firearms due to the 500-foot discharge law and public concerns about hunting safety, has made deer management a challenge in these zones.

Since 1995, hunting regulations have been modified to increase hunter opportunities and efficiency at harvesting deer in the two zones. Some examples include: replacement antlerless tags, earn-a-buck program, extended seasons, January bow season, and use of bait. These changes, along with efforts by town officials to enlist open space to deer management, have resulted in significant progress towards population stabilization. However, more work is needed in terms of educating residents about the ramifications of "not managing deer" and the benefits of increasing hunter harvest.

To further increase hunter harvest, the Wildlife Division has submitted a regulation proposal that would allow bowhunters to use crossbows on private lands in zones 11 and 12 during the January archery deer season. Bowhunter participation and harvest are relatively low during the January season. Crossbows are easier to operate than bows, especially during cold weather, and their use would increase hunter success and participation. Several northeastern states, including Maryland and Pennsylvania, have recently legalized crossbows for managing suburban deer populations. A survey of homeowners in Greenwich found that a majority of landowners supported the use of crossbows to increase the deer harvest.

Connecticut Deer Management Zones



Crossbows provide a safe and efficient tool for removing additional deer from areas where deer are overabundant.

It is important to provide hunters with the tools they need so that the deer population can be managed. If hunting cannot be used to adequately manage deer populations, then communities will be left with more costly and less practical management options that aren't effective at the landscape level.

Building Houses for Bluebirds

The Wildlife Division is once again offering bundles of rough-cut lumber to groups free-of-charge for building bluebird nest boxes. For more than two decades, the Division has offered rough-cut wood, nest box plans, and fact sheets to Connecticut schools, scout and 4-H groups, nature centers, conservation commissions, and similar civic organizations as part of the Bluebird Restoration Project. Providing nesting locations has helped the bluebird increase its numbers across the state.

The wood for building nest boxes can be reserved by organized groups **only** on a "first come, first serve" basis. Twenty-five weathered bundles of wood that are left over from last year are available immediately at the Sessions Woods Wildlife Management Area (WMA), located on Route 69 in Burlington. Another 50 new bundles will be available by January 2009. Group leaders should call Wildlife Division technician Geoffrey Krukar at 860-675-8130 to make a reservation. Requesters will be required to provide the following information: their name, group name, mailing address, daytime phone number, and number of bundles requested. Each bundle of wood yields approximately 15-20 nest boxes. Please be aware that the lumber consists of planks, therefore all groups will be responsible for cutting the wood to the correct size.

Only one request per group will be accepted and participants will be mailed information packets that contain box designs, directions to the pick up location, and claim tickets. When notified, groups will be responsible for picking up their wood at the Sessions Woods WMA. Arrangements to receive lumber at other state-owned facilities can be made on a case-by-case basis.

Groups that participate in this project will be expected to construct, erect, and monitor the bluebird boxes throughout the nesting season (March-July). To be eligible to participate in future years, an annual report of box usage will need to be sent to the Wildlife Diversity Program. If your group cannot commit to following the project through to completion, please do not reserve lumber.

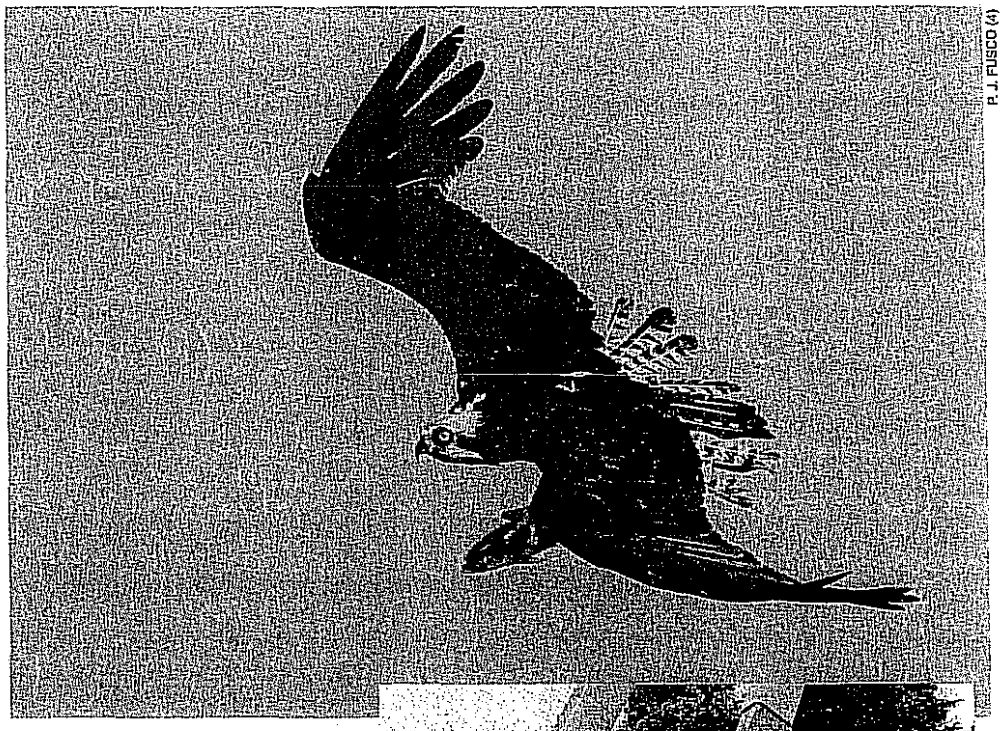
Although lumber is only available for groups, individuals interested in aiding Connecticut's bluebird population may obtain a bluebird fact sheet with nest box plans, box location tips, and nest box survey cards by contacting the Wildlife Division's Sessions Woods office or visiting the wildlife section of the DEP website (www.ct.gov/dep/wildlife). Survey cards for reporting box use and location are part of a statewide network that helps monitor bluebird population trends.

Groups that participate in the Bluebird Restoration Project will be expected to construct, erect, and monitor the bluebird boxes throughout the nesting season (March-July).

Ospreys Still Soaring Along Connecticut's Coast

Connecticut's osprey population was in trouble in the 1960s when it was determined that pesticide contamination was causing osprey eggshells to weaken, resulting in nest failures due to cracked eggs. By 1974, only nine active osprey nests were recorded in Connecticut. However, with the banning of the pesticide DDT in 1972 and the placement of artificial nest platforms along the coastline, osprey populations have made a remarkable recovery.

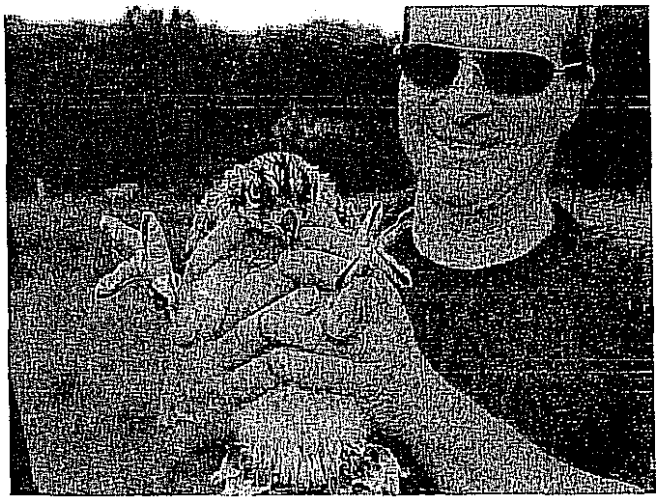
Over the years, numerous volunteers have monitored the platforms, reporting their observations and the number of young produced in nests to the Wildlife Division. Efforts have also been made to place identifying leg bands on some of the young ospreys. The recovery of leg bands helps biologists track where the young birds migrate, where they eventually have nests of their own, and how long they live.



P. J. FUSCO (4)

Wildlife Division biologist Julie Victoria set out this year to place leg bands on some of the young osprey hatched in Connecticut. She is continuing the work started by the late Jerry Mersereau, a longtime Wildlife Division volunteer and bird bander (the Sept./Oct. 2004 and May/June 2005 issues of *Connecticut Wildlife* contain more information about Jerry). On a warm, sunny day in late June, Julie and several volunteers visited nine osprey nests. The group started out at the Millstone Power Station in Niantic, which had six active osprey nests. Three of the nests were accessible and three young were banded (two young in one nest were too small to band). The other six nests visited by the group were located in Stonington and Mystic, where a total of 13 additional young ospreys were banded.

Thanks are extended to the volunteers who helped out: Hank Golet (a longtime volunteer from the Bald Eagle Study Group); Greg Decker (Biologist from the Millstone Environmental Lab); Cathleen Balantic, Lynette Gardner, and Susan Gonzalez (Millstone Environmental Lab); Meg Nieman from the Environmental Management Department of Northeast Utilities; and the operators of a bucket truck provided by Connecticut Light & Power.



Top: An adult osprey flies overhead while workers access an osprey nest to temporarily remove the young ospreys for banding. Middle: Greg Decker, a biologist from Millstone Environmental Lab, hands an osprey chick that has just been banded to volunteer Hank Golet so that it can be returned to its nest. Above: Hank Golet holds an osprey chick, as does Greg Decker (left).

State Threatened Piping Plovers Produce 102 Chicks

Written by Orla Molloy, Wildlife Diversity Program


P.J. FUSCO

Newly hatched piping plover chicks are extremely vulnerable to predation and disturbance by dogs and people along Connecticut beaches.

Piping Plovers

Connecticut had one of the most successful piping plover breeding seasons since record keeping began in 1986. The last fledglings from 2008 headed south shortly after Labor Day. This breeding season hosted 41 plover pairs, up from 36 in 2007, and yielded 102 fledglings, up considerably from 69 in 2007. This is the first time since the monitoring program started in 1986 that Connecticut has turned out over 100 fledglings!

Piping plovers used Connecticut beaches from Stratford to Waterford for the 2008 nesting season. Plovers had the greatest breeding success at Long Beach in Stratford, Sandy Point in West Haven, Griswold Point in Old Lyme, and Harkness State Park in Waterford. Long Beach yielded 14 fledglings, up two from 2007. Sandy Point generated 20 fledglings, doubling that of last year. Griswold Point produced 10 fledglings, up from four just the year before. Numbers at Harkness State Park increased from 10 fledglings in 2007 to 17 fledglings in 2008.

The piping plover is a state and federal threatened species that is protected under both the federal and Connecticut Endangered Species Acts. Seasonal staff for the Wildlife Division, along with 43 volunteers, monitor breeding pairs, beginning in April and May, at established nesting sites. As soon as breeding pairs are observed at nesting beaches, string fencing is put up to act as a buffer to discourage people from entering such areas and disturbing the birds. Bright yellow signs reading "Keep Away" and "No Dogs Allowed on Beach" are also posted. When nests are found with a total of four eggs (3 eggs, in some cases), a wire fence exclosure is put around the nest and mesh netting is placed over the top. The exclosure helps prevent depredation from foxes, dogs, raccoons, cats, and avian predators, such as gulls and herons, but it does not prevent the breeding pair from entering or exiting at their leisure through the small openings in the fencing.

Plovers face many challenges when deciding to nest on Connecticut beaches. Human disturbance played a critical role this year in the failure of nests. Plovers are by nature skittish birds. In order to have a successful nest, they need to have as little disturbance as possible. If they are continuously flushed off their nest, they will not incubate their eggs or might even abandon incubated eggs. This was the case in Milford this past summer. There was blatant disregard for the nesting pair when beer cans and empty cases were found on top of the exclosure!! Overnight parties were being held on this beach, causing the breeding pair to abandon their nest. This unfortunate situation could have been prevented had people respected the buffer zone. Overnight policing at the site might also have prevented the problem. Sunbathers and photographers at Griswold Point caused the abandonment of two plover nests due to their close proximity to the string fencing.

A major concern is the loss of suitable breeding habitat for plovers. Plovers need sandy and vegetation-free beaches for successful nesting. Most Connecticut beaches are inundated with beachfront communities, causing the degradation of critical habitat for plovers. Some pairs have been forced to nest below the high tide line, making them vulnerable to wash outs. Two nests this season failed due to wash outs. Some pairs are forced to nest closer to each other or even in areas with vegetation, which brings a higher risk for predation. Three nests failed this year due to depredation.

Least Terns

The 2008 least tern nesting season was not as triumphant as the plover's this year. Although least terns are not federally threatened, they are state threatened and should be considered important in conservation efforts. Least terns are colonial nesters with colonies that can reach into the hundreds. Of the 252 pairs of terns that nested on Connecticut's beaches in 2008, only 76 chicks fledged. However, the number of terns within the state, as well as the number of fledges, did increase from last year's 147 pairs and 59 fledglings. Same as with piping plovers, Long Beach, Sandy Point, and Griswold Point had the greatest breeding success.

Least terns face similar obstacles as piping plovers. They have to contend with depredation, loss of suitable habitat, wash outs, and human disturbance. Disturbance plays a key role in the failure of colonies. Like the piping plover, nesting least terns will abandon their nests if kept off for a prolonged amount of time. Depredation in tern colonies is difficult to prohibit due to the flying nature of this bird. Colonies are roped off with string fencing, but exclosures cannot be placed around individual tern nests as a preventative measure against depredation.

2008 has delivered some of the highest breeding numbers to date for both of these species. The nesting season might not have been so successful had it not been for the wonderful help from the many volunteers and the staff of the U.S. Fish and Wildlife Service's Stewart B. McKinney National Wildlife Refuge, plus monitoring and public awareness conducted by Wildlife Division seasonal staff. Thanks are extended to all who helped this year.

Funding for this project was provided by Section 6 of the Endangered Species Act, which provides grants to states and territories to support participation in a wide array of conservation projects for species on the federal list of threatened and endangered species, as well as for species that are candidates or have been proposed for listing.

Wintering Black Duck Study Enters into a Second Year

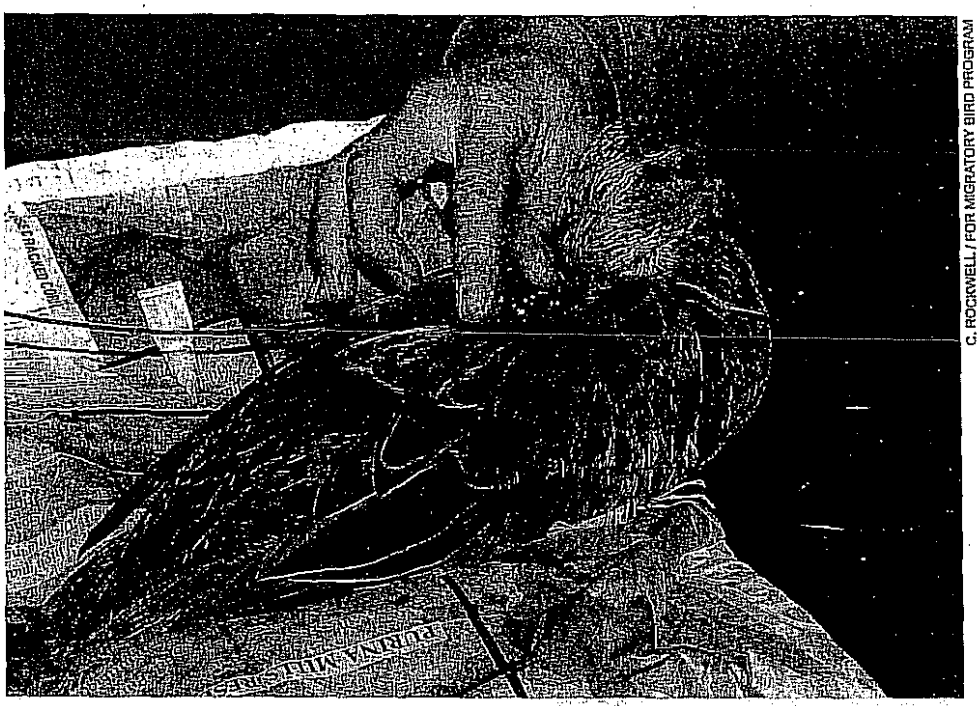
Written by Min Huang, Migratory Gamebird Program

In November 2007, the Wildlife Division began a study investigating habitat use and energy budgets of black ducks wintering on the Connecticut coast. This study should also help in estimating the carrying capacity of various black duck wintering habitats and provide needed information on where black ducks spend their time. In conjunction with the determination of habitat use, the study will also quantitatively assess time and energy budgets of black ducks in these respective habitats and quantify available food resources throughout the wintering and spring staging period. This information will better inform wetland restoration work in not only Connecticut, but throughout the Atlantic Flyway.

From November 2007 through January 2008, 34 hen black ducks were captured with the use of swim-in traps and rocket nets. All hens were fitted with radio transmitters. Radio telemetry equipment was used four times a week to pinpoint locations for each bird. As was expected, contact was lost with some (13) of the radio-tagged ducks. Based on the timing, eight of the 13 birds presumably left the state and went further south. These birds were lost during two extreme cold snaps. The other five birds likely left the state and started moving north to the breeding grounds, as contact was lost in early and late March. A total of 7 birds were residents, as they were still alive and in the state at the end of April.

Apart from the ducks that left the state and two that moved some distance, the other radio-tagged birds did not move much from where they were captured. One duck captured in Stratford relocated to Greenwich, where it stayed throughout winter and spring and presumably nested on one of the offshore islands in Greenwich Harbor, likely Great Captains Island. The other bird that moved an appreciable distance was originally caught in Guilford and then moved to Durham, where it spent several weeks before moving back to the original capture site. In April, the duck moved back to Durham, where she likely attempted to nest.

Another aspect of the study is to quantify time and energy budgets of wintering birds. Time budget surveys were conducted at each of the study sites at least four times a week. As one might expect, black ducks spent the majority of their time feeding, followed by sleeping and loafing. Winter is a time of hardship for ducks, and the least amount of time spent moving around, the more energy they conserve and the more fat reserves that can be built up for nesting. The ducks spent over 37% of their time either loafing or sleeping. An additional 35% of their time was spent foraging.



C. ROCKWELL / FOR MIGRATORY BIRD PROGRAM

A radio transmitter is placed on a hen black duck as part of a wintering black duck study. The radios are attached with harnesses that are adjusted to fit each individual bird. Once the ducks are equipped and before being released, they are held for a while to insure that the radio is not interfering with any of their activity.

Food available to wintering ducks was estimated by taking 15 core samples and 15 sweep samples from each study site each month. (Core samples are mud/vegetation samples that are taken with a metal corer. Sweep samples are taken from the water column and emergent vegetation with the use of a modified fine mesh net.) These samples were screened for invertebrates and seeds. As expected, there was depletion of available resources over the course of winter. There was a clear decline from November through March in the biomass of invertebrates in the samples. The seed biomass is still being sorted out, but it is likely that the trend will be similar. All samples will be analyzed to determine the nutritive value of each invertebrate and seed. This data will help researchers construct time and energy budgets for the black ducks to determine how well they are faring throughout the winter in these habitats.

The final piece of the puzzle is to determine whether black ducks are using all available habitat on the coast, or if there are factors that preclude the birds from using certain areas. Weekly surveys of 25 marshes were conducted along the coast to gauge black duck use. These data, along with radio telemetry results, should provide information on areas that are used by black ducks and areas that are not. The next step will be to determine what factors might cause black ducks to avoid certain areas.

The Wildlife Division currently has funding in place to cover two years of work on this project. It is hoped that additional funding may be secured to extend the project into a third year.

The State Wildlife Grants program provides federal dollars to support cost-effective conservation aimed at preventing wildlife from becoming endangered.

Funding from the Federal Aid in Wildlife Restoration Program is derived from an excise tax on firearms and ammunition that is paid by sportsmen.

Fewer Acorns Found During 2008 Mast Survey

Written by Michael Gregonis, Deer/Turkey Program

Knowledge about mast is important because its availability can influence productivity of squirrels, deer, bears, wild turkey, ruffed grouse, and many other wildlife species. Mast is a word often used by biologists, although many people may not know what it is. In general, mast is the nuts and berries produced by trees and shrubs. There are two categories: hard mast (e.g., acorns, beech nuts) and soft mast (e.g., blueberries, wild cherries, raspberries).

States from Maine to West Virginia are participating in a cooperative research project focused on the mast production of white and red oak groups. The results of the project will be a single online database available to wildlife biologists and the public for the purpose of tracking annual hard mast productivity. The goal of the survey is to gather regional information regarding hard mast production, which will aid in the management of wildlife species in northeastern United States. The Wildlife Division joined this regional effort in 2007 and initiated a field study to assess hard mast production in each of Connecticut's 12 deer and turkey management zones (see zone map on page 3). This information, in conjunction with ongoing acorn abundance assessment from the deer hunter survey, will assist in gaining knowledge of annual acorn productivity throughout Connecticut's oak forests.

At 11 of 12 study sites, 25 trees from the white oak group (e.g., white, chestnut, swamp) and red oak group (e.g., red, black, pin, scarlet) were selected for sampling. At one site, 50 trees were selected from the red oak group because of the limited number of white oaks available for sampling. Sample trees were numbered and marked with white paint indicating species from the white oak group and red paint for the red oak group. Marking the trees with paint and a metal numbered tag assists with locating each tree on an annual basis.

To assess annual hard mast productivity, the crown of each tree is scanned visually for 30 seconds with binoculars to detect the presence or absence of acorns. Surveys are conducted from August 15 to September 1, and all trees are assessed to determine the proportion of sample trees that have mast, providing an index of productivity (see table).

A productivity scale of 0 (scarce) to 6 (abundant) was used to rank mast abundance at the regional and statewide levels. The statewide index for 2008 was 2.4, whereas during 2007 the index was 3.9. This year's index indicates that statewide acorn abundance was scarce to moderate. On a regional basis, acorn abundance ranged from a high of 4.2 in zone 10, to a low of 1.4 zone 9. The mast index fell into the scarce to moderate category in the remaining management zones.

The mast information will also be used to predict productivity in some wildlife populations and the deer harvest. Past research has shown that in years with high acorn abundance, more food is available for some wildlife species (e.g., tree squirrels), creating conditions that enhance survival and increase production of young the following year. From information reported on the annual deer hunter survey, it was found that in years of low acorn abundance the deer harvest increases. This increase in harvest is attributed to increased movements by deer from feeding to bedding areas and longer foraging periods in fields. Acorn mast is very important to many wildlife species and can affect population fluctuations and impact vulnerability to hunting pressure.

Connecticut Hard Mast Survey, 2008

Zone	Location	Percent Acorn Abundance White	Percent Acorn Abundance Red	Total Percent Acorn Abundance	Research Mast Index
1	Housatonic WMA	16	56	36	2.2
2	Sessions WMA	20	64	42	2.5
3	Scantic River SP	0	54	54	3.2
4	Belding WMA	60	36	48	2.9
5	Yale Forest	28	28	28	1.7
6	Aldo Leopold WMA	28	56	42	2.5
7	Sleeping Giant SP	36	36	36	2.2
8	Cockaponset SF	32	24	28	1.7
9	Hurd SP	28	20	24	1.4
10	Franklin WMA	84	56	70	4.2
11	Huntington SP	24	32	28	1.7
12	Barn Island WMA	28	60	44	2.6
Mean					2.4

Give a Gift of Wildlife this Holiday Season!

The DEP Wildlife Division has unique and affordable holiday gift ideas for those with an interest in wildlife:

Connecticut Wildlife Magazine: A subscription is the perfect gift for any wildlife enthusiast. Each recipient will receive a postcard informing them of your gift. Just fill out the form at the back of the magazine and send it in with your payment. We'll take care of the rest.

Wildlife License Plates: Show your support for wildlife by purchasing a license plate for your vehicle featuring a bald eagle or bobcat. Funds raised from sales and renewals of the plates are only used for wildlife research and management projects; habitat projects; and public outreach that promotes the conservation of Connecticut's wildlife diversity. Application forms are available at DEP and Department of Motor Vehicle offices and online at www.ct.gov.dmv.

Wildlife gift givers can also visit the Division's Sessions Woods Conservation Education Center to shop from a selection of wildlife and nature-oriented books contained in a book cart sponsored by the Friends of Sessions Woods. Sessions Woods is located at 341 Milford St. (Rt. 69), in Burlington, and is open Mon.-Fri. (except holidays), from 8:30 AM until 4:00 PM. For more information, please call Sessions Woods at 860-675-8130.

Is It a Decline in Chimneys or Swifts?

DEP Biologists Work Regionally to Answer this Question

Written by Shannon Kearney-McGee, Wildlife Diversity Program

What do chimneys and insects have in common? They are the two critical ingredients needed for chimney swifts to breed in Connecticut. Chimney swifts are named because of their innovative adaptation in the face of urbanization. Many people recognize them as resembling a "flying cigar." They once nested in old hollow trees, but luckily, chimneys were an adequate replacement as these trees were removed from the landscape.

You may have noticed that these "flying cigars" around your chimney are becoming more rare. Current U.S. Geological Survey (USGS) Breeding Bird Survey data and Partners In Flight population estimates indicate that more than a half million swifts will be lost this year. This population decline of four percent a year is alarming. The estimated declines have prompted DEP Wildlife Division biologists to cooperate with other state wildlife agencies and organizations to develop Chimney Watch, a regionally coordinated effort to monitor chimney swifts. Biologists want to understand why the birds are declining and what can be done to stop the decline. The first question Chimney Watch aims to answer is whether or not suitable nesting chimneys are limited. This research question stems from the observation that many chimneys are being capped and new building construction includes chimneys that are structurally inadequate for chimney swift nests. Chimney Watch monitoring will quantify how many chimneys are suitable for chimney swift nests and how many of these suitable chimneys are actually occupied by nesting swifts.

This past season, DEP biologists implemented Chimney Watch in Connecticut. Staff inventoried 13 randomly selected locations to determine chimney availability. Chimney availability was determined from exterior observation and, if chimneys were capped, they were not considered available. At inventory locations, the density of available chimneys ranged from three to 600 per square kilometer. Towns with inventories are illustrated in the accompanying figure. All sites reported at least 25% of the chimneys as "available." Randomly selected available chimneys from the inventory locations were then surveyed for swift occupancy and none of the selected chimneys were occupied by swifts. Swifts were observed flying in the vicinity of only four of the survey blocks. From opportunistic conversations with homeowners, observers were made aware that some of these chimneys had historical swift nesting, but the swifts were not using the chimneys this year.

Results from chimney inventories and swift surveys are cause for concern. Biologists are now trying to understand why none of the Connecticut chimneys were occupied. One explanation could be that chimneys that were described as available might actually be unsuitable for swifts. It is unlikely, however, that all of the chimneys were unavailable. Another explanation for lack of chimney swift detection could be blamed on the survey method. Biologists had volunteers test the method on known occupied chimneys. Birds were detected at all known chimneys.

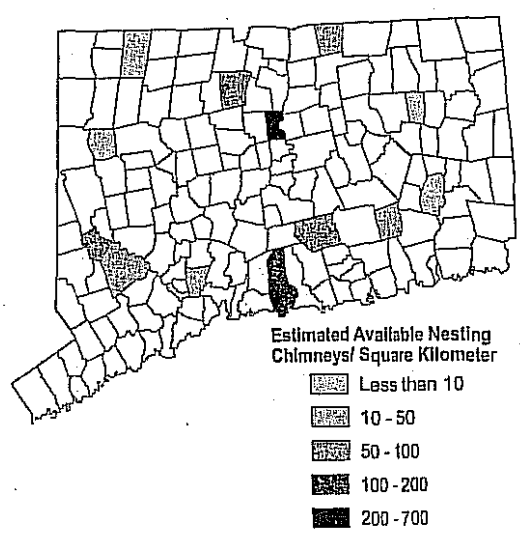
Biologists are also considering the possibility that swifts are declining despite the presence of available nesting chimneys. Larger roosting chimneys may be limiting their population numbers. Chimney swifts breed in Connecticut and throughout eastern North America, but they migrate to the Amazon Basin of South America to spend the winter. Along the course of their migration the swifts congregate in large groups and use large, older chimneys as roosts. These types of chimneys are most commonly seen in older schools or factory buildings in Connecticut. Roosting groups can number as few as a couple of swifts or larger with thousands of swifts! If swifts cannot locate suitable roosting structures along their migration route, they may perish in large numbers from exposure on cold evenings.

Connecticut, in cooperation with regional efforts, has also been keeping track of chimney swift roost chimneys. This year staff and volunteers checked 16 roosting chimneys for activity. Only five chimneys were active, and swifts numbered less than 100 at these roosts. In past years, some of these roosts had hundreds of birds. The inactive chimneys are disturbing because only one chimney had actually been capped.

Chimney Watch monitoring is still in its pilot phases; however, these chimney vacancies, combined with other observations, are beginning to point to systematic declines in chimney swifts that may be caused by more than just changes in chimney availability. Wildlife rehabilitator Jayne Amico of The Recovery Wing reported rehabilitating only 19 chimney swifts this year. This is less than half the number rehabilitated in 2005. In neighboring New York and Massachusetts, where breeding bird atlases have been recently updated, chimney swifts are showing substantial declines. In Canada over the past 20 years, declines of chimney swifts seem to correlate with declines in other aerial insectivores like the common nighthawk and whip-poor-will. These shocking 30-50% declines have resulted in federal listing in Canada for both the chimney swift and common nighthawk.

Explanations for the decline of aerial insectivores as a group are directed at their food source. Factors that may affect their food source could include pesticide use anywhere in their breeding or wintering grounds, water pollution which could affect insects that have an aquatic stage, homogenization of vegetation through invasive species encroachment, or possibly unusual weather fluctuations. Because bird breeding cycles have evolved to maximize food for their young, changes

Available Chimney Density



in the weather or plant composition could change the peak hatch timing and abundance of insects, which could then result in inadequate food availability for the young.

Developing a new monitoring program that assesses the effect of food availability on chimney swift populations is more difficult than testing the hypothesis that chimneys are limiting swift populations. Artificial nesting structures are fundamental in answering both questions. If chimneys are limiting, artificial nesting structures will serve as a replacements for disappearing chimneys. Artificial nesting structures will also allow biologists to directly measure chimney swift growth rates, feeding rates, and nest success in order to understand if food is limiting. The Wildlife Division is cooperating with the University of Connecticut to develop a suitable artificial nesting structure.

If chimney swift population declines are not being driven by nesting structure limitations, it will indeed be more difficult to conduct management to intervene. It won't be as easy as putting up new nesting structures. Management may need to be conducted at the habitat level. However, by linking monitoring to specific management activities, biologists will be able to gauge which activities will best help revitalize swift populations.

How You Can Get Involved

- Help is needed to monitor and report nesting and roosting chimney swifts. If you know of a roosting location, please report it to the Wildlife Division's Sessions Woods office (860-675-8130) or send an email to wildlife technician Shannon Kearney-McGee (shannon.kearney@ct.gov). If you have swifts in your chimney, you can help the DEP test their monitoring techniques by monitoring your nesting swifts. Contact Shannon to get involved. If you don't have any nesting swifts, but want to participate in Chimney Watch, the regional chimney swift monitoring effort, contact Shannon to get involved and find out more at http://coopunit.forestry.uga.edu/distribution/CHSW/. You can also take part in "A Swift Night Out," a continental effort to monitor chimney swifts at roosting sites by reporting your count numbers to www.chimneyswifts.org.
- Maintain your chimneys! It is good for your home and your swifts! Proper maintenance is crucial for any chimney whether it is to be used by chimney swifts or for winter fires. Wood fires produce flammable creosote residue that coats the inside of a chimney. If left unattended for more than a single season, this material will build up and the entire layer may ignite with catastrophic results. A resulting chimney fire will spew burning cinders onto the roof and surrounding structures. The intense heat of such a fire may also cause permanent damage to a chimney. In most cases, an annual cleaning will keep the chimney walls clean and safe for swifts and homeowners alike.

Unlike creosote buildup, swift nests in chimneys do not cause a fire hazard. By keeping the chimney free of creosote build-up, homeowners help assure successful nest building and decrease the chances of the nest falling before the birds have fledged. Chimney sweeping should be conducted before the swifts return from their wintering grounds in South America. The best time to clean a chimney is in mid-March.


P. J. PUSCO

An estimated decline in the chimney swift population has prompted Wildlife Division biologists to cooperate with other state wildlife agencies and organizations to develop Chimney Watch, a regionally coordinated effort to monitor chimney swifts.

- If you have a metal flue, you need to cap your chimney. The inside of a chimney must be made of stone, firebrick, or masonry flue tiles with mortared joints to be suitable for swifts. These materials provide enough texture for the birds to cling to the walls. Metal chimneys are unsuitable. Swifts and other animals that enter a metal flue will fall to the bottom and be unable to climb the slippery walls.
- What if a chimney swift nest falls to the bottom of a chimney? Keeping a chimney clean and the damper closed will diminish the chance that a nest will fall into your home. When the damper is open during heavy summer rainstorms, swift nests can be dislodged from the insides of chimneys and very young swifts may fall into the fireplace where the adults cannot care for them. If this happens, it would be ideal to return the swifts back into their parents' care. This may take considerable innovation, but some solutions have included placing the nest in a wicker basket on the smoke shelf just above the damper or lowering a basket with the swifts from above. If it is impossible to return the nest to the chimney, you should contact a wildlife rehabilitator. Swifts are notoriously difficult to rehabilitate and you should not try to care for the birds yourself. In Connecticut, Jayne Amico of The Recovery Wing in Southington specializes in chimney swift rehabilitation.

To see answers to frequently asked questions about Chimney Watch, go to www.chimneyswift.org. For more information about the cooperative project with the University of Connecticut, go to **http://hydrodictyon.eeb.uconn.edu.eebedia.index.php/Chimney_Swifts_in_Connecticut.**

The State Wildlife Grants program provides federal dollars to support cost-effective conservation aimed at preventing wildlife from becoming endangered.

Outlaw Gangs in the Neighborhood

Article and photography by Paul Fusco, Wildlife Outreach Program

One of our most familiar songbirds, the blue jay is a very common breeder and migrant in Connecticut. Blue jays can be found statewide all year round. They are a common backyard bird, always full of energy and always curious. They are feisty and noisy as small, roving flocks announce their presence in the backyards and neighborhoods across the state. Jays also have a reputation of being bullies, thieves, and robbers.

Description

Blue jays are members of the Corvid family of songbirds. The group includes jays, magpies, crows, and ravens. All members of the family are among the most intelligent of birds. Large for a songbird, blue jays are a little bigger than a robin.

Blue jays have long, rounded tails and short, rounded wings. They are blue above, pale gray below, and boldly patterned with black and white markings in the wings and tail. Their black necklace is another diagnostic field mark. One of the blue jay's most distinguishing features is its crest, which is raised when the bird becomes agitated.

Blue jays have a heavy, black bill that is used to crack apart nuts and acorns. While holding down the nut with its feet, a jay will peck at the nut with the tip of its lower bill until it is able to break away pieces to swallow.

Range

Ranging from southern Canada, south to the Gulf Coast, and from the Atlantic coast to the Rocky Mountains, blue jays are primarily birds of eastern North America. Blue jays are expanding their population somewhat in the western part of their range, which includes southern Alberta to Washington. According to Breeding Bird Surveys, blue jay populations appear to be stable to slightly declining in the eastern part of their range.

Blue jays are typically found in deciduous, coniferous, and mixed forest habitats, especially along edges and in areas with large mast producing trees. They were once more of a rural forest bird than they are now. Over the years they have adapted well, moving into urban areas, suburban backyards, and park lands.

Migration

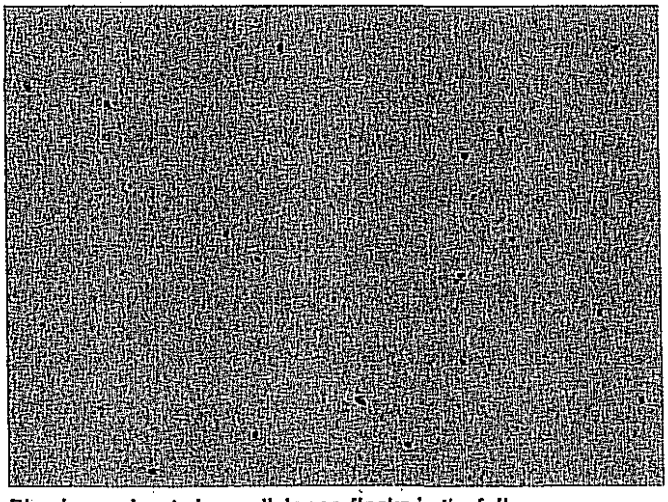
Some blue jays migrate out of the northern part of their range in the fall, while others stay put. While they are considered to be migratory, not all individuals migrate and not all that migrate do so each year. Younger birds may be more likely to migrate, but even adults that overwinter in northern areas may migrate in following years.

On some fall days, when conditions are right, jays can be seen migrating in large, loosely organized flocks. Typically, the best locations for observing the fall movement would be along the coast at places like Lighthouse Point Park in New Haven, one of Connecticut's premier fall migration hotspots. Lighthouse Point is a natural migrant trap in that southbound birds get funneled along the coast toward the park. The fall migration spectacle at Lighthouse Point is not only good because of the large numbers of birds (especially hawks), but also the viewing situation is optimal, with a wide viewing perspective and frequently low-flying birds.

Blue jays will readily take peanuts at backyard bird feeders.

Behavior

When small flocks of blue jays show up in backyards, their bold, noisy, and raucous nature can be likened to that of an outlaw gang. Blue jays are aggressive toward other smaller birds at food sources, and they are known to depredate



Blue jays migrate in small, loose flocks in the fall.

Are Blue Jays Really Blue?

The answer is yes, and no.

Bird feathers derive their color in two ways — either through pigment or structural characteristics. Most blue feathers do not get their color from pigment.

The blue color in the jay's feathers is structural, in that the color results from the refraction and reflection (scattering) of blue wavelengths of light due to the design of the feather, particularly within the feather barbs. This part of the feather is made up of three layers — a clear outer layer, a cellular middle layer that is filled with air, and a black melanin-rich bottom layer. When light hits the outer layer, it passes through to the air-filled layer where blue light is scattered and all but blue light is mostly absorbed. Any light that gets through to the melanin layer is completely absorbed there. The result is that only the blue light is reflected back for us to see.

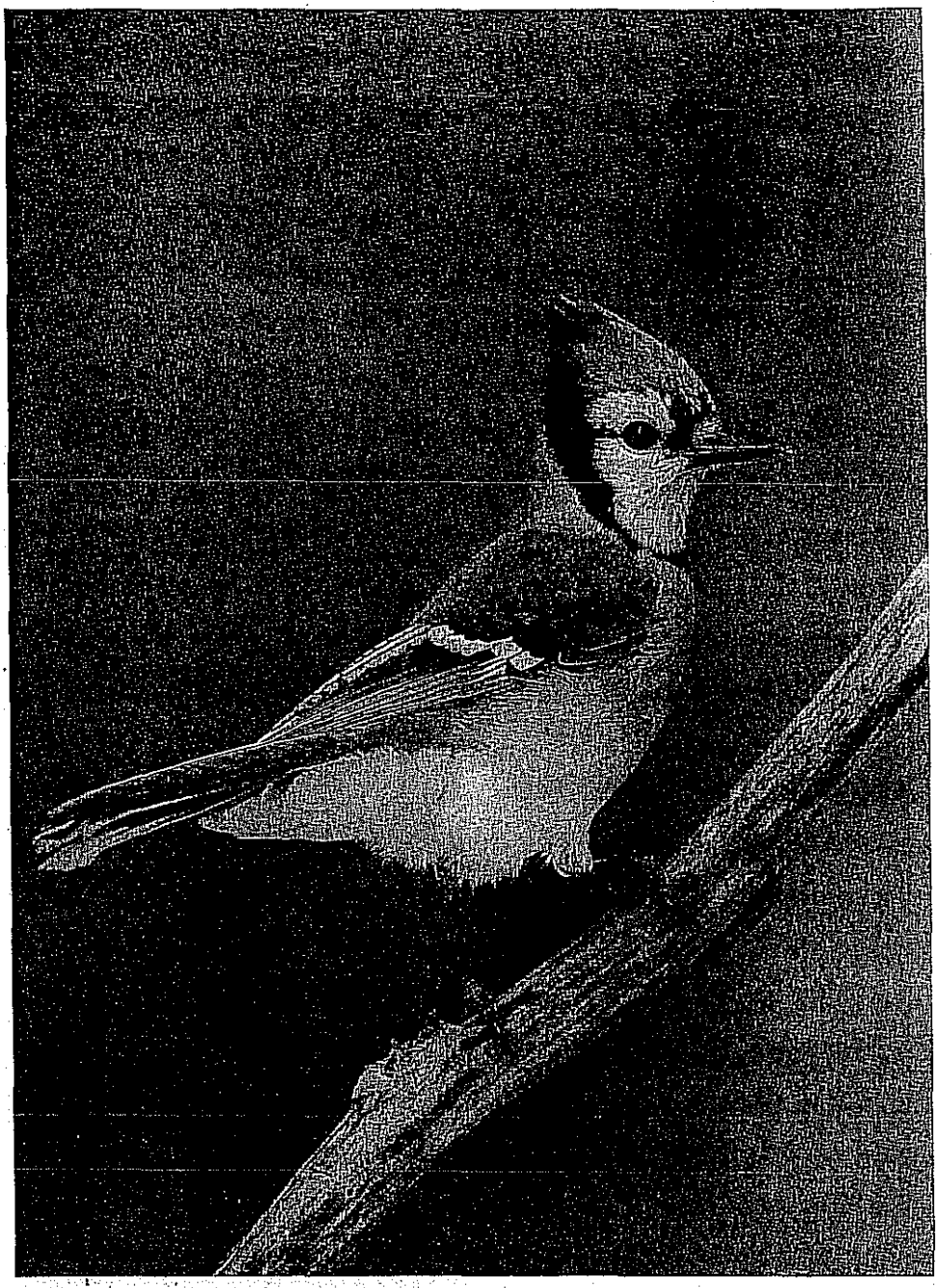
This means that blue jay feathers will always retain their brilliant blue in any light, and will never be bleached or damaged by sunlight or by water as would happen over time if the color was derived from pigment.

the eggs and chicks of other birds during the nesting season.

Blue jays make a wide variety of calls that may have diversities in pitch, tone, and inflection. Some calls may be harsh and piercing, while others are delicate and musical. The typical blue jay call is a loud "*jay-jay*" or "*jeer-jeer*," which makes other birds aware of their presence. When given in a faster cadence, their calls become a warning call to other birds that danger is near. The bell-like "*tull-ull*" and "*whee-delee*" are two of the more distinctive calls. These calls are associated with early courtship and male dominance. The *tull-ull* call is also directed at predators. Jays frequently alert other birds with their loud alarm calls whenever danger presents itself in the form of a hawk or a cat.

Blue jays will often scatter birds at a feeder by screaming like a hawk as they fly in. Jays often mimic the calls of hawks, including red-shouldered, red-tailed, broad-winged, and osprey. The reason they do this is unknown, but the practice serves them well when they are looking to dominate backyard feeders by intimidating other birds.

One well-known trait of the jay is its mobbing behavior. When a jay finds a hawk or a sleeping owl, it sounds a "call to arms" signal to other jays within hearing distance. In a short time, a screaming mob of jays will come together and harass the raptor, driving it from tree to tree. By following the noise, a hiker or birder can sometimes catch sight of a rare bird being pestered.



The bold color and markings of the blue jay seem to be a good fit to its bold and raucous behavior.

Food

The normal blue jay diet includes a wide range of food. Jays eat invertebrates, seeds, acorns and other nuts, fruits, suet, and small vertebrates. Mast, such as acorns and nuts, are a favorite. Jays will cache (hide) acorns and other nuts, many of which will sprout when forgotten and left uneaten. This makes blue jays an important factor in the regeneration of oaks, beeches, hickories, and formerly of chestnuts.

Backyard bird feeding enthusiasts can accommodate blue jays by providing peanuts along with seed offerings. The peanuts (unsalted) can either be chopped pieces or whole in the shell. Blue jays relish them.

Conservation

Based on data from the U.S. Geological Survey, National Audubon Society Breeding Bird Surveys, and Christmas Bird Counts, blue jay populations in Connecticut are estimated to have declined by as much as 69% over the past 40 years. The reasons for the decline are unclear, and likely the result of a number of factors, some of which may include habitat loss, pesticides, and disease. These kinds of declines have not just been experienced by blue jays, but also by many other common species of birds.

Since first appearing in New York in 1999, West Nile virus (WNV), a mosquito-borne virus, has taken a dramatic toll on many bird species. Members of the Corvid family, including blue jays and crows, have been particularly susceptible to the virus. In some East Coast areas, the crow population has plummeted by over 50%. Dramatic declines in blue jay numbers have also been seen. Over the last few years, blue jay populations have been recovering from the initial impact of WNV.

Blue jays remain one of our most common and visible birds. They are known for their bold color, bold markings, and their bold disposition. Blue jays are always full of life and vigor, making them one of Connecticut's most charismatic natural residents.

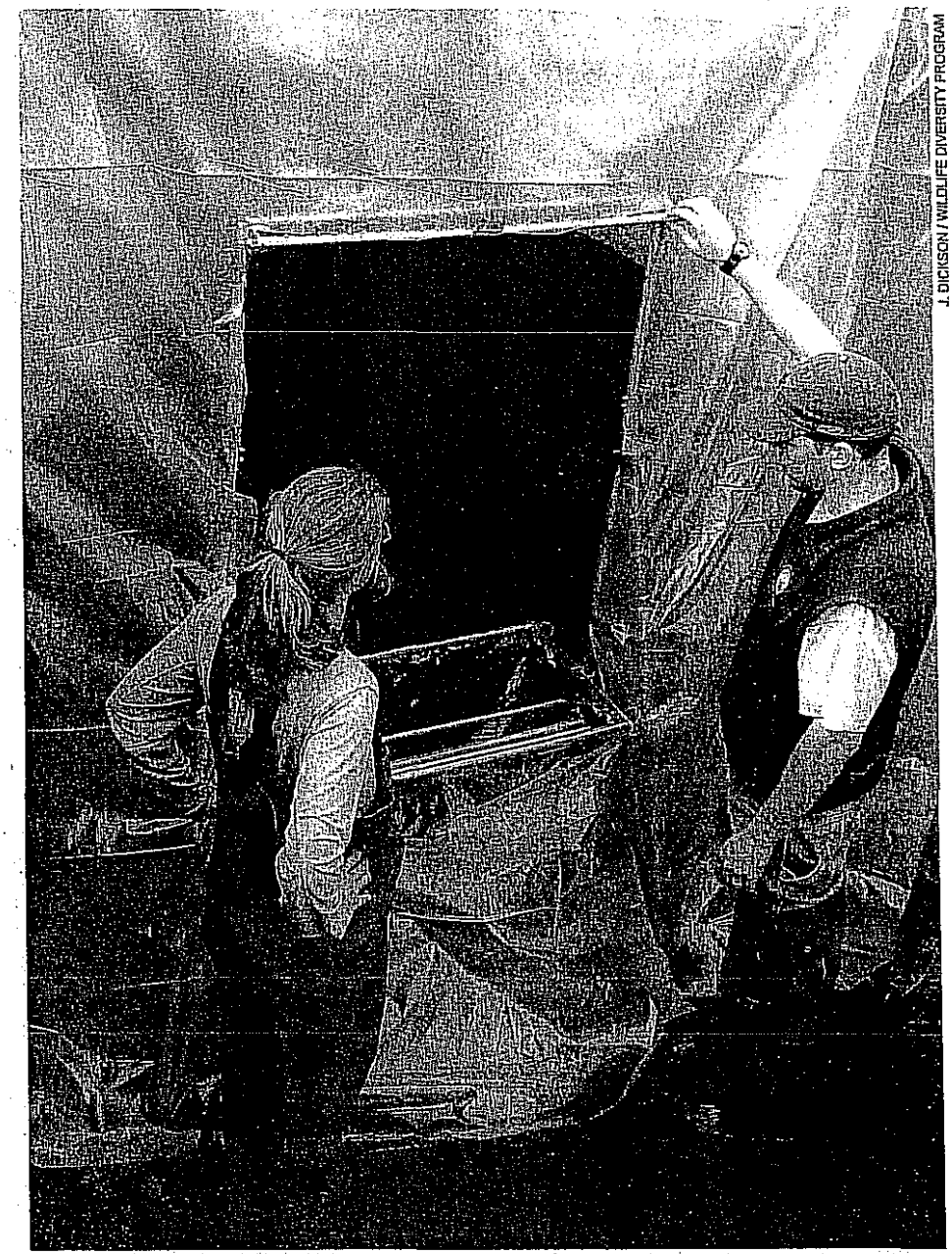
Seeking the Endangered Indiana Bat

Written by Geoffrey Krukar, Wildlife Diversity Program

The state and federally endangered Indiana bat (*Myotis sodalis*) formerly had a range that stretched from the Midwestern United States south to Florida and northeast through New England, including Connecticut. However, as the population of Indiana bats declined range-wide in the mid-1900s, this species became increasingly difficult to find in Connecticut. The Indiana bat was considered extirpated from the state by the late 1950s. The only confirmed record of an Indiana bat in Connecticut since then is of one individual detected during a hibernaculum survey conducted by the Wildlife Division in 1997.

Recent research indicates that Indiana bats appear to be increasing throughout their northern range. In other states (Vermont, New Jersey) where Indiana bats were believed to be extirpated, biologists have discovered hibernating and breeding populations of the bats.

Understanding that Indiana bats can migrate long distances across state lines, the New York Department of Environmental Conservation (NYDEC), in partnership with the U.S. Fish and Wildlife Service, Vermont Fish and Wildlife Department, Connecticut Wildlife Division, and others, led multi-state telemetry studies in 2001, 2005, and 2007 on female Indiana bats as they emerged from hibernation and began migrating to summer roosting sites. In all three instances, bats were tracked to within a few miles of the New York-Connecticut border and, in 2001, one bat was followed right to the border before the signal was lost. Assuming that migrating bats will stay on straight-line flight paths until they reach their summer sites, it is highly likely that some Indiana bats hibernating in New York are traveling to Connecticut to raise pups.



J. DICKSON / WILDLIFE DIVERSITY PROGRAM

Wildlife Division technician Geoffrey Krukar (right) and research assistant Amber Carr put the final touches on one of the harp traps used to capture bats as they emerge from their underground hibernation sites.

G. KRUKAR / WILDLIFE DIVERSITY PROGRAM

The Indiana bat project yielded new location information for breeding red bats, such as this pregnant female. Red bats are a species of special concern in Connecticut.

Based on research projects conducted in New York and the likelihood that some Indiana bats do spend the summer in Connecticut, the Endangered Species/Wildlife Income Tax Check-off Program committee granted funding for a one-year project to search for these bats. The project was split into two parts, sampling bats during spring emergence from hibernacula and sampling bats in their summer habitats.

Spring Emergence

Bats are difficult to sample because of their nocturnal foraging habits, potentially large home ranges, use of echolocation to detect traps and nets, and ability to avoid capture by flying around or over most trapping devices. Every spring between late March and early May, bats in Connecticut and other neighboring

states leave their hibernacula to disperse across the landscape to their summer breeding grounds. At this time, many bats can be quickly captured by placing a harp trap at the entrance of the hibernaculum. The funneling effect of the mine, cave, or aqueduct forces the bats into the trap.

In late April, bats were trapped at three hibernacula in Connecticut. A total of 71 individual bats were captured. The three species identified were little brown bat (*Myotis lucifugus*), northern long-eared bat (*Myotis septentrionalis*), and eastern pipistrelle (*Perimyotis subflavus*). Although no Indiana bats were documented, the biological information collected will aid Wildlife Division staff in monitoring more common species of bats.

Summer Habitat

Trying to select where to sample for Indiana bats in the Connecticut landscape presented the challenge of searching for a "needle in a haystack." Researchers hoped to increase the probability of capturing Indiana bats in the state by focusing survey efforts in areas of suitable habitat along known migration trajectories of these bats from New York. In 2005 and 2007, NYDEC staff was able to obtain good information about summer habitat and landscape characteristics around the Indiana bat roost trees (all roost trees were less than 300 meters in elevation and within 800 meters of a water source). To reduce the size of the "haystack," a predictive model was created by inserting the habitat information from New York into ArcGIS mapping software. Through the use of this model and software, two large areas were identified in Connecticut as matching the habitat criteria and being on the same migration trajectory as the bats in New York. Collis P. Huntington State Park in Redding and Bennett's Pond State Park in Ridgefield were selected as the study sites.

The two parks were then divided into grids. To ensure that all of the available habitat would be surveyed, individual grids were then randomly selected to determine the order for the survey. All grids were sampled at least once but several were sampled twice throughout the season. The actual trapping location within each grid was decided on-site by selecting an area that would logically yield the most captures of bats. Often these areas were along wooded roads, trails, or stream corridors where the bats could be funneled by thick surrounding vegetation into fine-threaded mist nets.

G. KRUKAR / WILDLIFE DIVERSITY PROGRAM

This triple high mist net set allowed for sampling in areas with a high tree canopy. The nets are raised up the poles with ropes and pulleys.

Although bats can detect the net, they are less likely to do so while traveling familiar pathways between roosting locations and food or water resources. The key to successful captures is to fill all available airspace along those pathways with netting. A newly purchased, triple-high net set allowed for sampling in areas where the tree canopy was too high for traditional single-high nets.

The surveys began in late May and continued through mid-August. On average, 8.3 bats (range 0-24 bats) were captured per night. Again, no Indiana bats were detected but four other species (big brown bat (*Eptesicus fuscus*), little brown bat, northern long-eared bat, and red bat (*Lasiurus borealis*) were captured. Data were collected for each animal, including weight, reproductive status, sex, age, and overall condition. Additionally, each bat was fitted with a metal wing band prior to release. The wing bands display a unique sequence of numbers that allow for identification of individuals if they are ever recaptured.

Conclusions

Although no Indiana bats were found, the surveys did produce positive findings. The red bat is a species of special concern in Connecticut because of a general lack of solid information about its population. The new locations of red bats recorded during this project will enhance understanding of where this species occurs in the state. Also, the biological data collected from all five species during both spring and summer surveys provide a good baseline for comparison with future years to determine any changes in overall population health. Additionally, it directly addresses some of the major conservation actions and research needs outlined in Connecticut's Comprehensive Wildlife Conservation Strategy.

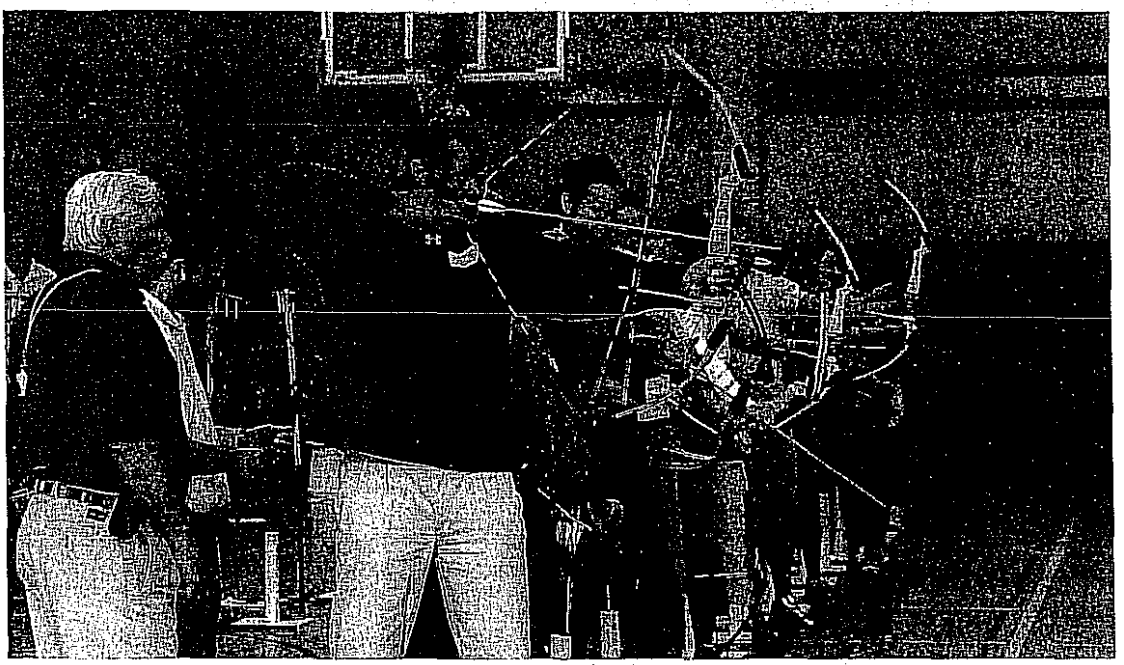
More in-depth analysis of this project's data is on-going. It may be possible to calculate the probability of detection for some of the bat species in Connecticut. This could prove to be a valuable tool for determining the minimum number of mist-netting nights required to establish presence/absence with a 95% certainty. Knowing this information will allow researchers to more efficiently sample an area and make sound conclusions.

While this project serves as a good start, more research definitely is needed to determine whether Indiana bats are present in Connecticut during the summer months. Additional efforts should focus on refining the predictive model and widening the search area. Also, the use of acoustical monitoring equipment should be incorporated into Indiana bat sampling to determine if the bats are present at survey locations but avoiding capture. Much remains to be done.

This project is being funded by the Connecticut Endangered Species/Wildlife Income Tax Check-off Fund.

Introducing the National Archery in the Schools Program

Written by Elaine Hinsch, National Archery in the Schools Program Coordinator



P. J. FUSCO

On the third day of the National Archery in the Schools Pilot Program, Basic Instructor Trainers Walter Moore (left) and Jason Henry conducted a class for a group of physical education teachers.

The DEP, with the support of the Department of Education, has embarked on a new endeavor – the National Archery in the Schools Program (NASP) – which has generated a lot of excitement among Connecticut's high schools. NASP promotes education through student participation in the life-long sport of archery and supports DEP Commissioner Gina McCarthy's "No Child Left Inside" initiative. The focus is to teach International style target archery in physical education classes in a safe, educational setting with a curriculum designed and written by teachers to meet national physical education standards. NASP includes sections on safe use of equipment, archery techniques, and archery history, along with information on mental concentration and self-improvement and a special section on teaching students with disabilities. NASP offers all students, regardless of ability, the opportunity to participate in a sport that helps build self-esteem. Educators nationwide have reported that NASP "engages the unengaged" and inspires students to greater achievement in school.

A 2004 study of the National Archery in the Schools Program, undertaken by Responsive Management of Harrisonburg, Virginia, concluded that students who participated in the program in their physical education classes liked school better. Improvements in behavior and attendance at school overall were also reported.

The DEP Wildlife Division recently provided coordination and support to implement a two-year pilot project in Connecticut. Under NASP, Basic Archery Instructor Trainers and Basic Archery Instructors are certified. Connecticut's first pilot training program was held over three days in April 2008 at RHAM High School in Hebron. Thirteen people successfully completed the program and became certified as NASP Basic Archery Instructor Trainers and are thereby qualified to teach the program and certify Basic Archery Instructors. The Division was pleased to have a group of well-qualified professionals, some in the field of archery and others who brought their teaching experience.

Ten Connecticut high schools participated in the pilot program and, on the third day of training, 20 more people joined the group to be trained as NASP Basic Archery Instructors. The Instructor Trainers from the pilot program will teach the new instructors, who will then go back to their schools and implement NASP within their physical education curriculum.

Upon completion of the training program by the 10 pilot schools and with their approval to teach the National Archery in the School Program as part of their physical education curriculum, the DEP provided each school with training and archery equipment which valued more than $3,000. Funding for the NASP pilot program was provided by Connecticut's Federal Aid in Wildlife Restoration Program CE/FS Section 10 allocation.

To date, nine of the 10 pilot schools have already conducted classes in 2008 and the others intend to conduct classes in the spring of 2009. The DEP will be conducting the second pilot training program in spring 2009. Interested high schools should have the superintendent of schools, principal, a physical education teacher, or special education teacher contact the Wildlife Division by January 12, 2009, at 860-424-3011 or email NASP coordinator Elaine Hinsch at elaine.hinsch@ct.gov. For more information about the NASP, visit the website at www.nasparchery.com.

The Wildlife Division would like to offer a special thank you to RHAM High School for allowing the school to be used for three-day training.

CT Schools Selected for the National Archery in the Schools Pilot Program

- Bullard-Havens Technical High School, Bridgeport
- Brookfield High School, Brookfield
- Lewis S. Mills High School, Burlington/Harwinton
- H. H. Ellis Technical High School, Danielson
- Glastonbury High School, Glastonbury
- E.C.J.T. Grasso Southern Technical High School, Groton
- RHAM High School/Regional School District, Hebron
- Naugatuck High School, Naugatuck
- New Milford High School, New Milford
- Lyman Hall High School, Wallingford

Success for Roseate and Common Terns at Falkner Island

Falkner Island, a crescent-shaped island located in Long Island Sound south of Guilford, is the site of the largest common tern and roseate tern colony in Connecticut. The island is part of the U.S. Fish and Wildlife Service (USFWS) Stewart B. McKinney National Wildlife Refuge. According to the USFWS, the 2008 nesting season for both common and roseate terns (state and federally endangered) could be deemed successful. More common tern nests were recorded in the yearly census than in 2007. Although overall numbers for roseate terns continued to decline this year, overall fledging and nest success rates were higher than in previous years. The high success rate of fledglings this year may be due, in part, to constant predator control by the USFWS and especially to the lack of predation observed on any roseate nest.

Forty pairs of roseate terns nested in 2008, successfully fledging 23 chicks. Although this number is notably lower than in previous years, the total fledging rate is markedly higher at 67%. A total of 2,062 common tern nests were recorded in the 2008 yearly island census.

Daily monitoring of the colony and constant predator control have been beneficial to the reproductive success of these birds. The island was protected throughout most of the day, leaving little to no room for predation to occur.

Banding was a great success this year. The amount of banded birds this season will allow for more effective monitoring in the future and will provide more information about the terns' movements and reproductive success.

The 24-hour presence of monitors on the island prohibited the public from coming onto the island and disturbing the colony and destroying nests or chicks. Further presence on the island should be encouraged next nesting season. The few visitors that did come to the island were cooperative and left knowing more about the habitat on the island and why it is important for people to stay away during the nesting season.

This information was provided by staff of the Stewart B. McKinney National Wildlife Refuge.

P.J. FUSCO

These common terns have gathered to feed near the U.S. Fish and Wildlife Service boat docking area on Falkner Island in Long Island Sound.

Volunteer for Wildlife Conservation

Written by Laura Rogers-Castro, Outreach Program

Are you interested in learning more about wildlife management and sharing this new knowledge with others? Then, you may want to submit an application for the next Master Wildlife Conservationist Program (MWCP) series. The MWCP is an adult volunteer training program sponsored by the Wildlife Division. The program consists of 40 hours of classroom study on topics such as the history of wildlife conservation; ecological principles; population ecology; interpretation; deer management; nuisance wildlife; wetland restoration; and black bear management. Most of the classes are held on weekdays at the Wildlife Division's Sessions Woods Conservation Education Center in Burlington.

Once candidates complete the classes and pass the final exam, the Wildlife Division asks that they perform 40 hours of volunteer service, in the field of wildlife conservation, during the next year and 20 hours each subsequent year to remain in the program. Volunteer work focuses on outreach efforts, such as manning Wildlife Division booths at fairs and festivals and presenting wildlife-related programs in schools and libraries or at community events. The volunteer commitment can also be completed by assisting with research efforts, such as banding Canada geese or monitoring the Connecticut shoreline for piping plover and least tern nesting success.

The good news about the MWCP is that the classes are free. However, only 20 candidates are selected for each program series. Suitable candidates include individuals with a strong interest in wildlife conservation, commitment to volunteer service, and willingness to teach others. Volunteers will learn a great deal about wildlife, but the Division is not necessarily seeking individuals solely for the intent of continuing education purposes.

The next MWCP series is slated to begin in late March 2009 and will continue into early May. Application packets will be mailed in November and candidates will be selected by mid-January. If you have the time and think you could contribute to the education of Connecticut residents on wildlife issues, please contact Laura Rogers-Castro at 860-675-8130 (Monday-Friday, 8:30 AM to 4:30 PM) or e-mail laura.rogers-castro@ct.gov.

The Search for the Elusive Weasel Continues!

Written by Christina Kocer, Wildlife Diversity Program

Success! There really are weasels in Connecticut! After almost two years of extensive efforts, Wildlife Diversity Program staff has finally captured the elusive weasel!

Two species of weasels reside in Connecticut, the short-tailed weasel (*Mustela erminea*) and the long-tailed weasel (*Mustela frenata*). Both weasel species are small, long and thin with short, soft, brown fur covering their backs and white to yellow fur on their bellies. Like their cousin the striped skunk, weasels possess pungent scent glands. However, unlike skunks, they are unable to spray their scent on an unsuspecting agitator. Weasels are often confused with mink, another Connecticut species. But, weasels are considerably smaller, have white bellies and a black-tipped tail, and, in the northern part of their range, they may turn completely white in winter. Weasels are voracious hunters, often taking over the dens and burrows of their small mammal prey.

S. VAN DE BURG / WILDLIFE DIVERSITY PROGRAM

Wildlife Division Research assistants Patrick Mule' (left) and Patrick Deane collect biological information from a weasel that had been captured in a live trap during survey efforts.

In early 2007, a project was initiated to study the distribution and abundance of weasels throughout Connecticut. This project used live-trapping and tracking techniques, in conjunction with the collection of road-killed and trapper harvested animals, to document presence, obtain basic body measurements, and collect tissue samples from animals throughout the state. Because short-tailed and long-tailed weasels look very similar, DNA samples were collected to make an accurate species identification. The collected tissue samples will be brought to a lab at the University of Connecticut for genetic analyses later this winter.

Based on experiences in the field, many modifications were made since the project began. Until recently, data were limited to collecting specimens from trappers and roadsides or searching tirelessly for tracks as trapping methods were refined. During the winter of 2008, a wooden live trap was redesigned and, with the help of Wildlife Control Supplies in East Granby, a PVC skunk trap was also redesigned to make it more suitable for weasel captures. Small, squirrel-sized, wire box traps were also used for trapping this year. New trapping locations were chosen based on countless phone calls from the public reporting sightings and road-kills. To date, seven unique individuals have been captured at six different sites. All three of the trap types have proven successful in capturing these clever and elusive species. So far, at least 15 road-killed individuals have been collected and the Wildlife Division will be looking for more road-kills as the project continues into the fall and winter. If you see a road-killed weasel or if your pet deposits one on your doorstep, please contact Wildlife Division technician Christina Kocer at the Sessions Woods office (860-685-8130) or by email at christina.kocer@ct.gov as soon as possible. If you are willing, please wrap it in a plastic bag and put it in a freezer – we will come and pick it up!

P. DEANE / WILDLIFE DIVERSITY PROGRAM

Jen Kaiser, a research assistant for the Wildlife Division, visually examines a weasel to assess body condition.

The Wildlife Division would like to thank the private landowners who allowed access to their property and Hard Rain Farm, in Burlington, for providing fresh bait for this project.

This project is being funded by the Endangered Species/Wildlife Income Tax Check-off Fund and the State Wildlife Grants Program.

Non-native Invasive Plant: Mile-a-minute Vine

Written by Peter Picone, Habitat Management Program

If you haven't yet seen the nasty invasive, non-native mile-a-minute vine (*Persicaria perfoliata*), it's a good thing because you don't want to encounter the ugly barbs that are on the long stems. This relatively new invader to Connecticut has been found in a few towns, most recently at Quinnipiac River State Park in North Haven. A small patch of mile-a-minute vine was found when a winter habitat enhancement project for saw-whet owls was being staked out at the park. Unfortunately, further reconnaissance revealed a more extensive infestation along adjacent forest edges and a gas pipeline right-of-way. The Wildlife Division, in cooperation with the DEP Parks Division, Connecticut Department of Transportation, and the Connecticut Agricultural Experiment Station, pulled by hand and applied herbicide to some of the mile-a-minute vine at the end of the summer.

Controlling or managing mile-a-minute vine is a challenge because of its thorny barbs and ability to grow over six inches a day. Because it grows so rapidly, the vine can overtake native plant communities. Once established, it becomes a virtual green vegetative blanket. As an annual, the vine reseeds itself every year and the seeds can remain viable in the soil for at least 5 years. Fortunately, a local and concerned volunteer group called Mad Gardeners, Inc., has been tracking and removing an infestation in the New Milford area for several years.

This vine has the potential to become a mainstay of Connecticut's landscape if we don't take collective action against it. Hope remains that through early detection and rapid response, mile-a-minute vine can be eliminated before it gets a bigger foothold in the state. Hopefully, for the sake of Connecticut's natural habitats, it doesn't become as common as the invasive oriental bittersweet (*Celastrus orbiculatus*) or common barberry (*Berberis thunbergii*).

P. PICONE / HABITAT MANAGEMENT PROGRAM (2)

Mile-a-minute vine has elongated, branched stems that are covered with small spines and can have a reddish color. The leaves are simple, alternate, triangular, and 1"-3" wide. A very distinct saucer-shaped bract encircles the stems at each node. The metallic-blue colored fruits ripen from September to November.

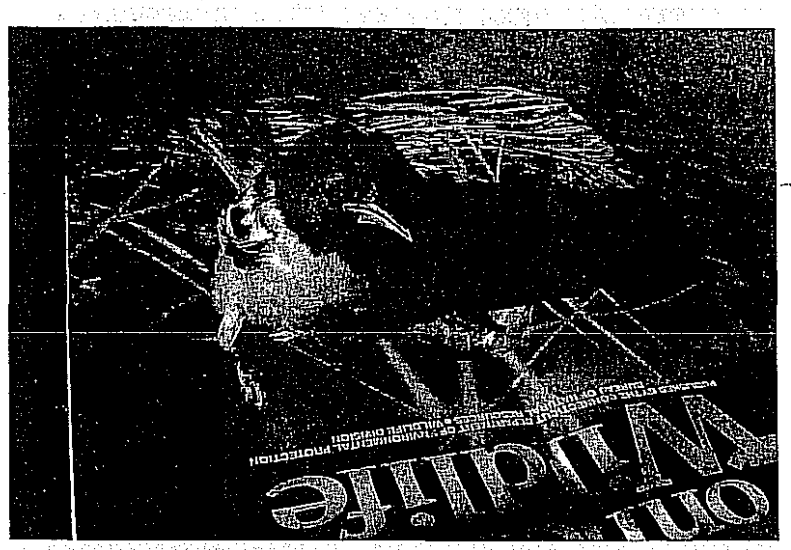
Any observations of mile-a-minute vine should be reported to the University of Connecticut (donna.ellis@uconn.edu) or Mad Gardeners (knelson151@sbcglobal.net). Your assistance in reporting locations of this vine could make a difference before it spreads to more towns in Connecticut.

Students Encouraged to Enter the Junior Duck Stamp Contest

The Connecticut Waterfowlers Association (CWA) is sponsoring the U.S. Fish and Wildlife Service (USFWS) Junior Duck Stamp Art Contest for Connecticut and is encouraging junior artists to submit Duck Stamp art work for the 2009 contest. The Federal Junior Duck Stamp Conservation and Design Program is a dynamic arts curriculum that teaches wetlands and waterfowl conservation to students in kindergarten through high school. The program incorporates scientific and wildlife management principles into a visual arts curriculum with participants completing a Duck Stamp design as their visual "term papers." The contest begins each spring when students submit their artwork to a state contest. Students are judged in four groups according to grade level: Group I: K-3, Group II: 4-6, Group III: 7-9, and Group IV 10-12. Three first, second, and third place entries are selected for each group. A "Best of Show" is selected by the judges from the 12 first-place winners regardless of their grade group. Each Best of Show is then entered into the national Junior Duck Stamp Contest. The first place design from the national contest is used to create a Junior Duck Stamp for the following year. Junior Duck Stamps are sold by the U.S. Postal Service for $5 per stamp. Proceeds from the sale of the stamps support conservation education, and provide awards and scholarships for the students, teachers, and schools that participate in the program. The 2009 contest information is available on the USFWS website (www.fws.gov/juniorduck/ArtContest.htm). Artwork must be submitted by March 15, 2009, to the Connecticut Waterfowlers Association, c/o Chris Samor, 29 Bower Hill Rd., Oxford, CT 06478. To learn more about the Connecticut Waterfowlers Association, visit the organization's website at www.ctwaterfowlers.org.

The Wildlife Observer

Do you have an interesting wildlife observation to report to the Wildlife Division? Please send it (and any photos) to Wildlife Observations, DEP, Wildlife Division, P.O. Box 1550, Burlington, CT 06013 or email it to dep.wildlife@ct.gov.



Is Connecticut Wildlife *for the Birds?*

To the Editor:

I thought you might like these pictures. This past June, a northern oriole flew into our picture window. I went outside to see if it was hurt and found it lying on the ground under the window. I got a cup of water and picked up a magazine from the coffee table. I dripped water on the bird and fanned it with the magazine. He began to show some signs of life but didn't move well. I didn't want any cats to get at the bird, so I lifted it up with the magazine and put it down on our patio table. It was still stunned so I left it there. My husband got the camera and took a picture. The bird eventually started to move and after about 30 minutes, it flew away. I didn't realize until I looked at the picture later that I had picked up *Connecticut Wildlife* to use.

Patricia Schwarm, East Hampton

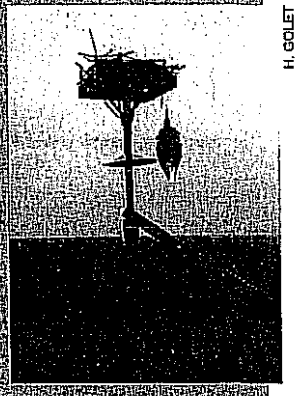
Staredown Between a Deer and Bobcat

To the Editor:

I have been a subscriber to *Connecticut Wildlife* magazine for a few years. I thought you might like some shots of a bobcat and deer that I managed to catch on June 20, 2008, at 7:30 AM. The two of them just seemed to be ignoring each other for about a minute until the cat started to turn back to the woods and the deer then followed – slowly with lots of snorting and hoof stomping. The deer then picked up its pace through the woods for a couple hundred feet. I shot the photos from an elevated deck about 120 feet away, so the shots are a little fuzzy.

Garry Nesbitt
Ridgefield

Photo Enforces Message About Dangers of Fishing Line



H. GOLET

Wildlife Calendar Reminders

Dec. 7 ..... **Fall Bird Walk**, at the Sessions Woods Conservation Education Center in Burlington, starting at 8:00 AM. Burlington resident and bird enthusiast Laura Spitz will lead this two-mile walk suitable for all levels of bird watching ability Participants should bring binoculars and wear appropriate shoes for hiking. Call the Sessions Woods office (M-F, 8:30-4:30; 860-675-8130) to preregister.

Jan. 11 ..... **Adult Workshop-Bears of North America: A Virtual Trip into their World**, at the Sessions Woods Conservation Education Center in Burlington, starting at 2:00 PM. Master Wildlife Conservationist Gary Melnysyn has traveled throughout North and Central America photographing and documenting wildlife in its natural habitat. Gary will visit Sessions Woods to provide a virtual tour into the lives of bears. He also will provide several tips on successful nature photography. Participants can visit www.fiddleheadfoto.com to preview some of Gary's photos. Call the Sessions Woods office (M-F, 8:30-4:30; 860-675-8130) to preregister.

Jan.-April ..... Donate to the Endangered Species/Wildlife Income Tax Check-off Fund on your 2008 Connecticut Income Tax form.

Feb. 14-15..... **10th Annual Connecticut River Eagle Festival,** presented by the Connecticut Audubon Society, will be held in Essex. A complete guide to the Eagle Festival on the Connecticut River, listing boat tours, programs, and events, can be obtained from Connecticut Audubon by calling 1-860-767-0660. To find out more about the festival, visit Connecticut Audubon's website at www.ctaudubon.org.

Hunting Season Dates

Nov. 19..... Opening day for deer shotgun/rifle season.

Nov. 29..... Open day for deer shotgun season on state land (B season) and state land no-lottery season.

Dec. 10-23 ..... Deer muzzleloader hunting season.

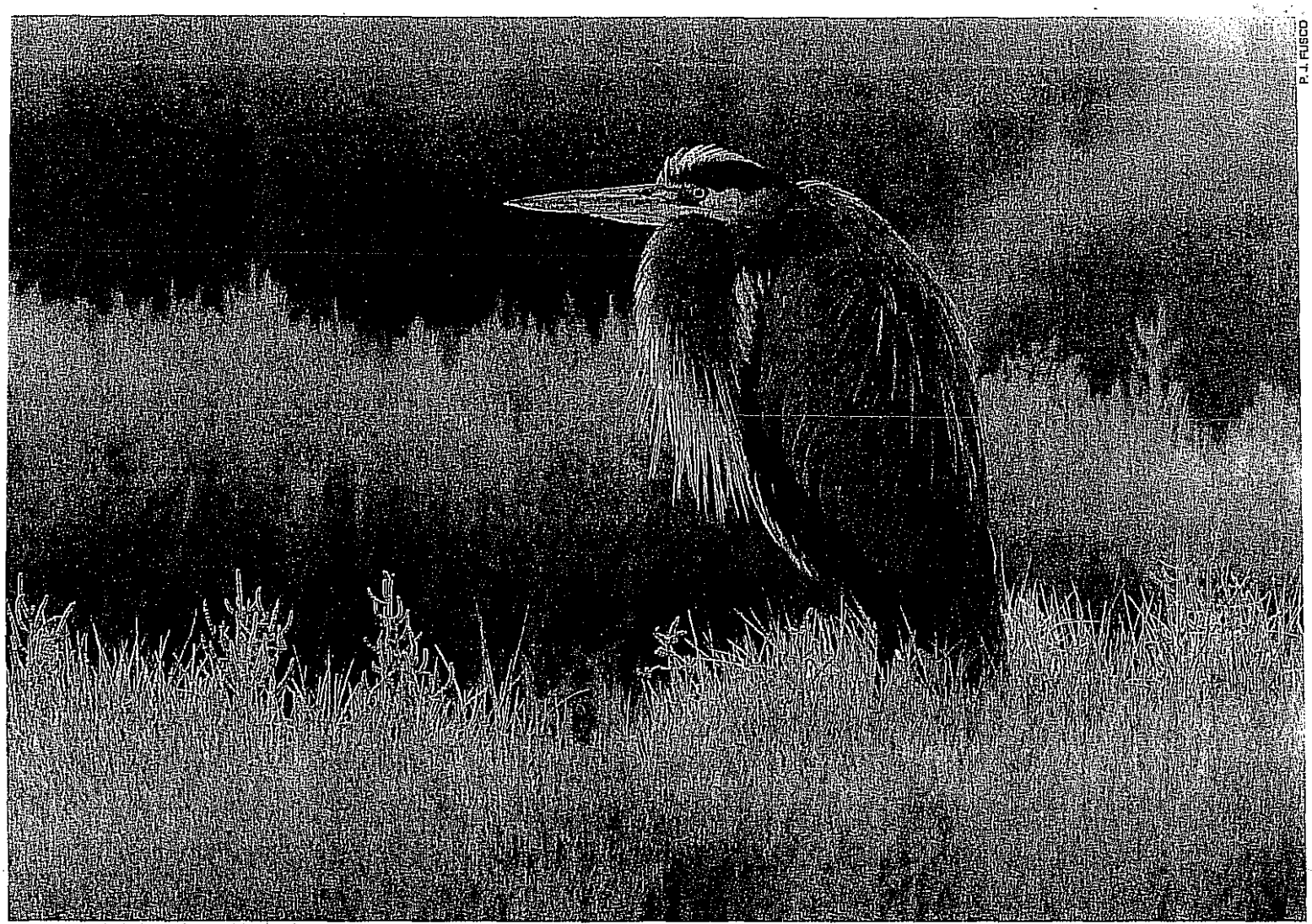
Jan. 15-Feb. 15 ..... Special late Canada goose season in the south zone only.

..... Consult the 2008 Connecticut Hunting and Trapping Guide for specific season dates and details. The 2008-2009 Migratory Bird Hunting Guide contains information on duck, goose, woodcock, rail, and snipe seasons. Both guides are available at Wildlife Division offices, town halls, and on the DEP's website (www.ct.gov/dep). The 2009 Connecticut Hunting and Trapping Guide will be available by mid-December.

Shepaug Bald Eagle Observation Area

The Shepaug Eagle Observation Area, in Southbury, will be open to the public on Wednesdays, Saturdays, and Sundays, from December 27, 2008, through March 11, 2009, from 9:00 AM to 1:00 PM — strictly by advance reservation. All individuals and groups wishing to visit the site to view eagles must make a reservation for a particular date, as there will be a limited number of visitors allowed per open day.

Beginning on December 9, 2008, reservations for the Shepaug Eagle Observation Area can be made on Tuesdays through Fridays, from 9:00 AM-3:00 PM, by calling 1-800-368-8954.



A great blue heron graces a Connecticut marsh on a frosty winter morning.

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