

LAND USE REGULATION WORKSHOP

“LID Regulation in the Tankerhoosen Watershed”

presented by
Erik Mas, Fuss and O'Neill, Inc.

July 10th 6:30 p.m.
Senior Citizens Building 1st Floor

Dear Commissioner,

This very **important** and **informative workshop** has been put together **specifically for Vernon land use commissioners**. We hope you will attend.

Low impact development (LID) regulation is a tool that many towns in Connecticut have adopted in order to minimize the impacts of impervious cover and stormwater runoff, particularly in environmentally sensitive areas.

This workshop will discuss a review of Vernon's existing land use regulations relative to stormwater management and impervious cover, as well as potential approaches for developing regulatory mechanisms for **incorporating LID into Vernon's regulations for the Tankerhoosen watershed**. Results of research on approaches used by other towns will also be discussed.

As you know, and as described in the Vernon POCD, the Tankerhoosen watershed is a particularly valuable natural resource -- and we are fortunate to have this resource in our community. The Class A water quality in the upper regions of the watershed supports the Belding Wild Trout Management Area, one of only two such Class I areas east of the Connecticut River.

This workshop is a part of a larger project, the Tankerhoosen Watershed Management Plan, which is currently being conducted by Fuss and O'Neill. The Plan will be completed in August, 2008. Project findings will be presented to commissioners in a second workshop in late August. Project Manager, Erik Mas, has extensive experience in developing watershed management plans. He was also Project Manager for the 2004 Connecticut Stormwater Quality Manual developed by Fuss and O'Neill for the Connecticut Department of Environmental Protection.

We look forward to seeing you July 10th!

Sincerely,

Project Partnership for the Tankerhoosen Watershed Management Plan:

*Friends of the Hockanum River Linear Park, Inc.,
Town of Vernon Planning Department, and Town of Vernon Conservation Commission,
North Central Conservation District
Hockanum River Watershed Association
Rivers Alliance of Connecticut, Inc.
Belding Wildlife Trust*

Agenda

**Vernon Land Use Regulation Workshop
LID Regulation in the Tankerhoosen Watershed**

**July 10, 2008
6:30 PM**

1. Welcome and Introductions
2. Background
 - a. Tankerhoosen River Watershed Management Plan
 - b. Meeting Objectives
 - c. Tolland LID Regulation Experience
3. Motivation
 - a. Low Impact Development
 - b. Phase II Stormwater Program
 - c. Natural Resource Protection
 - d. Town Concerns
4. What is Low Impact Development?
5. Regulatory Review - Observations
 - a. Stormwater Management Standards and Design Manual
 - b. Local Regulatory Mechanism
 - c. LID Incentives and Obstacles
 - d. Local Regulations and Impervious Cover
6. Regulatory Review - Preliminary Recommendations
 - a. Design Manual
 - b. Stormwater Management Standards
 - c. New or Modified Stormwater Regulations
 - d. Other Amendments to Existing Regulations
7. Group Discussion
8. Closing

Vernon Land Use Regulation Workshop: LID Regulation in the Tankerhoosen River Watershed

Presented to:

Vernon Land Use Commissioners

July 10, 2008



FUSS & O'NEILL
Disciplines to Deliver

Presentation Outline

- Background
- What is Low Impact Development?
- Why should Vernon promote LID?
- How do Vernon's existing regulations stack up?
- What could be improved, and how?
- Group Discussion

MEMORANDUM

TO: Technical Advisory Committee, Tankerhoosen River Watershed Management Plan and Town of Vernon Land Use Commissioners

FROM: Erik Mas, P.E., Fuss & O'Neill, Inc.

DATE: June 9, 2008

RE: **Stormwater and Low Impact Development (LID) Regulations in the Tankerhoosen River Watershed – Vernon Regulatory Review**

1.0 INTRODUCTION

Fuss & O'Neill is working with the Friends of the Hockanum River Linear Park, Inc., in collaboration with its project partners (Town of Vernon Planning Department, Town of Vernon Conservation Commission, North Central Conservation District, Hockanum River Watershed Association, Rivers Alliance of Connecticut, Inc, and the Belding Wildlife Trust) to prepare a Watershed Management Plan for the Tankerhoosen River watershed. The watershed plan will identify action items that can be implemented by the watershed municipalities and private groups to protect and improve the health of the Tankerhoosen River watershed, which is a particularly valuable natural resource, demonstrated by the Class A water quality in the upper regions of the watershed that harbor the Belding Wild Trout Management Area, one of only two such Class I areas east of the Connecticut River.

A key element of the Watershed Management Plan is to identify potential land use regulatory mechanisms (i.e., new or modified land use regulations) that can be implemented by the watershed towns to better manage stormwater runoff associated with land development within the watershed. Many Connecticut communities are in the process of developing new or modified land use regulations that incorporate Low Impact Development (LID) and related stormwater management approaches to address stormwater quantity and quality objectives. Communities, including Vernon, are faced with a mandate to meet State and Federal Phase II stormwater permit requirements under the National Pollutant Discharge Elimination System (NPDES) program, as well as addressing local concerns about the damaging effects of increased impervious cover and uncontrolled stormwater runoff from land development and suburban sprawl. An opportunity exists for the Town of Vernon to develop and implement an ordinance or other regulatory mechanism to satisfy Phase II stormwater regulatory requirements, while also strengthening the existing land use controls to protect natural resources within the Tankerhoosen River watershed.

This memorandum summarizes our review of Vernon's existing land use regulations and related planning documents that pertain to stormwater management and natural resource protection issues, as well as potential approaches for developing regulatory mechanisms to incorporate improved stormwater management, including LID concepts and opportunities to reduce impervious cover, into the Town's land use regulations. The information presented in this

LAND USE PUBLIC MEETING

“Managing Threats to the Tankerhoosen River Watershed: *A Plan for Protecting Its Water Quality and Ecological Health*”

presented by

Erik Mas, Fuss and O’Neill, Inc.

Thursday, February 26th, 7:00 p.m.
Tolland Agricultural Center, Route 30
(across from Northeast School)

- **The Tankerhoosen River - cited by national, state and local experts for its high water quality and healthy ecosystems.**
- **The Tankerhoosen Watershed – 70% lies within the Town of Vernon. The remaining 30% is within the towns of Tolland, Bolton and Manchester. *It is our responsibility to care for the future of this important resource.***

**COME TO THIS PUBLIC MEETING TO HEAR THE RESULTS OF A
4-YEAR STUDY ON THE TANKERHOOSSEN WATERSHED –
VERNON’S QUIET JEWEL**

“Through an extensive planning process, our scientists worked with experts from various agencies and organizations from four states to identify the most important rivers within the Connecticut River watershed. The Tankerhoosen was selected as one of these significant tributaries. The highlights of the Tankerhoosen River are its high water quality and the aquatic life that only such a healthy system can harbor”.

– *Shelley Green, Connecticut Chapter, The Nature Conservancy,
Coastal Management Section*

**Funded by the National Fish and Wildlife Foundation,
Long Island Sound Futures Fund**

**Organized by the Project Partnership for the
“Tankerhoosen Watershed Management Plan”**

- Friends of the Hockanum River Linear Park, Inc.*
- North Central Conservation District*
- Belding Wildlife Trust*
- Town of Vernon*
- Hockanum River Watershed Association*
- Rivers Alliance of Connecticut, Inc.*

Results of Tankerhoosen River study to be released Feb. 26

By Journal Inquirer Staff

VERNON — Officials will release the results of a four-year study of the Tankerhoosen River during a meeting at 7 p.m. on Thursday, Feb. 26, at the Tolland Agricultural Center on Route 30 across from Northeast School.

The talk, "Managing Threats to the Tankerhoosen River: A Plan for Protecting Its

Water Quality and Ecological Health," will be given by Erik Mas of the engineering firm, Fuss & O'Neill, Inc.

Over four years, some \$123,000 was spent on the study — \$72,000 from the National Fish and Wildlife Foundation, and \$51,000 from six local organizations, including the Friends of the Hockanum River Linear Park Inc., town of

Vernon, Belding Wildlife Trust, North Central Conservation District, Hockanum River Watershed Association, and Rivers Alliance of Connecticut, Inc.

The Tankerhoosen River watershed has been cited for its high water quality and healthy ecosystem. For details about the presentation, contact Ann Letendre, 875-4623.



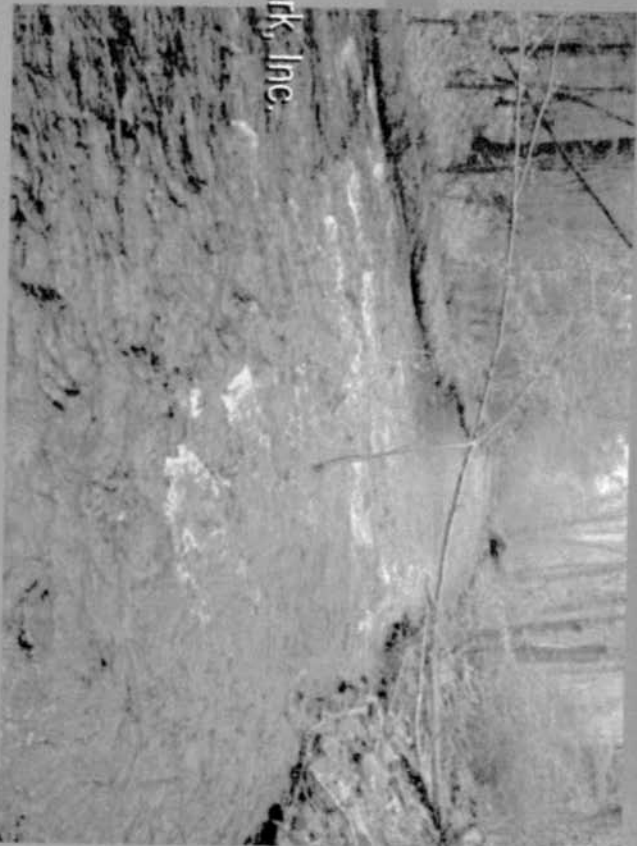
To order reprints of JI photos:

www.journalinquirer.com

Managing Threats to the Tankerhoosen River Watershed: A Plan for Protecting Its Water Quality and Ecological Health

February 26, 2009

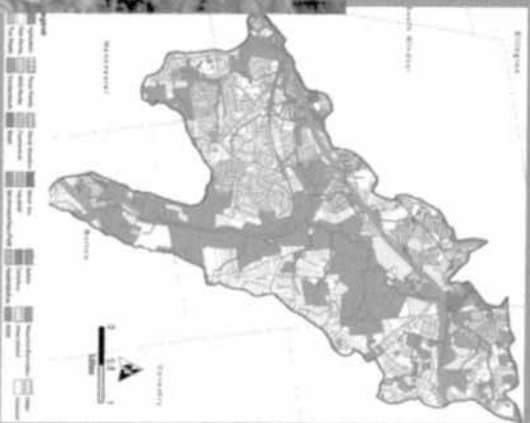
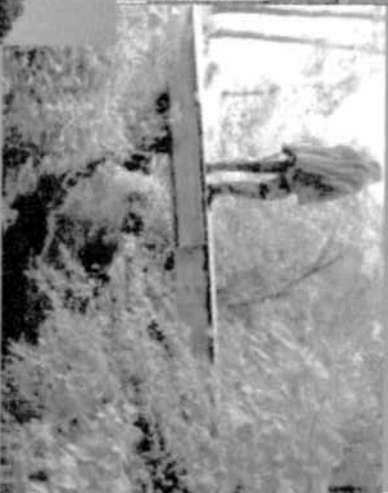
Sponsored by:
Friends of the Hockanum River Linear Park, Inc.
North Central Conservation District
Town of Vernon
Rivers Alliance of Connecticut
Hockanum River Watershed Association
Balding Wildlife Trust



FUSS & O'NEILL
Disciplines to Deliver

Purpose of Tonight's Meeting

- Present the results of a multi-year study and planning process for the Tankerhoosen River watershed
- Highlight the management plan recommendations
- Get feedback from the public



VERNON

Vernon ReminderNews.com March 10, 2009 PAGE 7

Council gets behind commission's Tankerhoosen watershed plan

By STEVE SMITH
Staff Writer

Last Tuesday, the Town Council heard a presentation on the Tankerhoosen River Watershed study by Town Engineer Len Tunderman and Volunteer Ann Letendre, who is also chair of the Hockanum River Linear Park Committee.

The study was funded by a \$123,000 grant from the National Fish and Wildlife Foundation, and the watershed is part of the towns of Bolton, Tolland and Manchester, as well as Vernon, which is home to about 70 percent of the watershed.

Letendre said the degradation of the river's water quality should be stopped or reversed, as it is considered crucial to the health of Long Island Sound.

In 1999, the lower part of the Tankerhoosen was declared an "impaired river" by the DEP. "This was a great concern," Letendre said. "It was a wake-up call."

She added that the type of pollution most affecting the river is one that accumulates over time, and is very difficult to control. Minute cadmium particles from cars' brakes and windshield wipers make their way to the drainage systems, and then the river.

Collecting data was the first part of the study. The second phase is the management plan, which was developed by the firm of Fuss and O'Neill, Inc.

The plan recommends objectives for the entire watershed, as well as specific areas that need to be targeted.

Some of the many short-term goals include conducting fish passage assessments, revising standards for crossings

and storm water drainage systems, targeting illicit discharge investigations, and prioritizing stream cleanup efforts.

Longer term goals include the prioritization of stream and riparian buffer organization projects, as well as storm water retrofits.

"We want to conduct an outreach program for residents, so they are aware of how the activities they undertake can have an impact on the quality of the Tankerhoosen," Tunderman said.

Councilman Bill Campbell said he was impressed and grateful for the presentation. He asked what the impact would be if a proposed big-box development were to go through near Exit 67 of I-84.

"You can't say one way or another," Letendre said, "without knowing what the application is, what kinds of devices and what kinds of offsetting mitigation efforts are used."

Though no official council action was taken, some members hoped the plan would get implemented sooner than later. Marie Herbst asked for an update in six months. "I'm very concerned about that particular river," she said. "Erosion is not going to stop."

Councilman Mark Etre asked the commission to keep in mind that the town should be sure to not give up the riparian rights, and also asked for official recommendations sooner than later, since the town is currently reviewing all of its ordinances.

"This is going to be key," he said. "That way, the council is working with [the commission] and when we go through our debates on changes or enhancements, we can work on them then."

Friends of the Hockanum River Linear Park of Vernon, CT, Inc.

P R E S S R E L E A S E

For Immediate Release – September 26, 2008

Contact: Ann Letendre, (860) 875-4623
Don Bellingham (860)

VOLUNTEERS NEEDED FOR RIVER ASSESSMENT

Volunteers are needed to take part in an ongoing biological assessment of the Hockanum and Tankerhoosen Rivers on Saturday, October 11, 2008. No experience is necessary! Volunteers will meet at 9:00 a.m. at the Tolland Agricultural Center, 24 Hyde Avenue, Vernon for a training workshop. Teams will then complete the assessment at selected river sites during the remainder of the morning. Collections should be completed by 2 p.m. and refreshments will be provided. Volunteers should wear shoes that are appropriate for hiking. Waders will be provided for work in the water.

The event provides a unique opportunity for citizens to take an active role in assessing and protecting local rivers. Following a streamside assessment procedure developed for volunteer monitoring groups by the Connecticut Department of Environmental Protection, volunteers will collect and examine the critters—insects, worms, mollusks and crustaceans—that live in the stream bottom. These organisms, called *benthic macroinvertebrates*, tell us a lot about the health of our rivers. Some are more tolerant of pollution than others, so the types and abundance found can indicate whether a stream is clean or polluted.

This is the seventh year that the biological assessments have been conducted. Data is turned over to the Connecticut Department of Environmental Protection who analyzes the data and prepares annual reports of the results. Previous year data results have indicated excellent to good water quality in the upper reaches of the Tankerhoosen, but there is a general decline in quality in the middle and downstream sections of the River. Much of this decline is attributed to the impacts of stormwater runoff into the river as it runs through more developed areas.

For further information contact Ann Letendre (860) 875-4623, or Don Bellingham (860) 872-6061 of the Friends of the Hockanum River Linear Park.

#####

4 SATURDAY-SUNDAY, MAY 31-JUNE 1, 2008 / JOURNAL INQUIRER

Volunteers to assess Tankerhoosen River, streams

VERNON — Field crews will visually assess the Tankerhoosen River and several of its tributary streams next week.

Two field crews made up of two to four people each will walk sections of stream corridors of the Tankerhoosen River, as well as Clark, Tucker, and Gages brooks.

Most of the assessment work will be done in Vernon, with small sections in Tolland along Gages Brook and in Manchester along Tucker Brook.

The work will be done between 8 a.m. and 6 p.m. Tuesday, June 3, through Thursday, June 5.

The Tankerhoosen River watershed is considered an important resource in the state. The high water quality in the upper regions supports one of only two Class I wild trout areas east of the Connecticut River. The 300-acre Belding Wildlife Management Area also is located within the watershed.

Because of the importance of the watershed, a coalition of several organizations has been undertaking biological and water quality assessments of the Tankerhoosen over the past three years, according to a news release from Ann Letendre of Friends of the Hockanum River Linear Park.

Led by the Friends group, the coalition includes the Vernon Conservation Commission and the Vernon Planning Department, the North Central Conservation District of Rivers Alliance of Connecticut, Hockanum River Watershed Association, and the Belding Wildlife Trust.

The work has been funded by grants from the National Fish and Wildlife Foundation. The engineering firm Fuss and O'Neill Inc. has been conducting the assessments for the coalition. Matching funds have been provided by the coalition organizations.

The assessment teams will observe land use conditions within the stream corridors, such as streambank erosion, outfall condition, and floodplain habitat.

The goal of the assessments is to identify priority restoration projects in the watershed. Potential projects will be identified in a Watershed Management Plan for the Tankerhoosen, which will be released for public input later this summer.

Questions from the public or landowners can be directed to Ann Letendre, 875-4623; Erik Mas, Fuss & O'Neill, 413-452-0445; Len Tundermann, Vernon Town Planner, 875-3635; and Dave Askew, North Central Conservation District, 875-3881.

Public Notice

May 20, 2008

To Tankerhoosen River Watershed Landowners and Others:

The Friends of the Hockanum River Linear Park of Vernon, Inc., a private, not-for-profit organization, has partnered with Fuss & O'Neill, Inc. as well as representatives of the Town of Vernon, Rivers Alliance, Inc., Belding Wildlife Trust, North Central Conservation District, and the Hockanum River Watershed Association to conduct stream and upland field assessments within the Tankerhoosen River watershed. The field assessments will consist of several teams of individuals performing stream walks of selected stream corridors within the watershed, as well as visual observation of various land use conditions and practices in the watershed, primarily in the towns of Vernon, Tolland, and Manchester. The goal of these assessments is to identify priority restoration projects in the watershed. Potential projects will be identified in a Watershed Management Plan for the Tankerhoosen River watershed, which will be released for public input later this summer.

This letter is to notify you that the proposed field work will be conducted between 8:00 a.m. and 6:00 p.m. from June 3 through June 5, 2008, and potentially on selected days during the week of June 2, 2008. Field crews will conduct as much of the assessments as possible from within the stream corridor and their cars and will make every effort to avoid private property.

If you have any questions, please contact Ms. Ann Letendre of the Friends of the Hockanum River Linear Park at 860-305-7068 or at annletendr@aol.com; or Mr. Erik Mas of Fuss & O'Neill, Inc. at 413-452-0445 or at EMas@fando.com, or Dave Askew, North Central Conservation District at 875-3881, or Len Tundermann, Vernon Town Planner at 870-3635.

Thank you for your assistance.

Sincerely,

Ann Letendre

Friends of the Hockanum River Linear Park of Vernon, Inc.