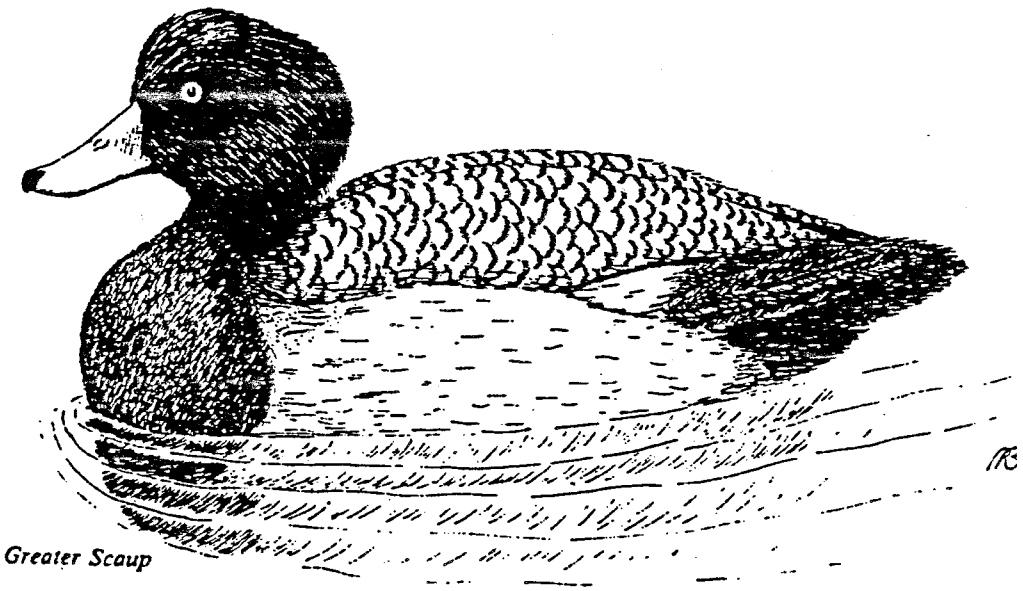
KING'S MARK ENVIRONMENTAL REVIEW TEAM



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REPORT FOR

CEDAR HILL SUBDIVISION

TORRINGTON,
CONNECTICUT

King's Mark Resource Conservation and Development Area, Inc.

CEDAR HILL SUBDIVISION

TORRINGTON, CONNECTICUT

Environmental Review Team Report

Prepared by the King's Mark Environmental Review Team
of the King's Mark Resource Conservation
and Development Area, Inc.

Wallingford, Connecticut

for the

Torrington Planning and Zoning Commission

This report is not meant to compete with private consultants by supplying site designs or detailed solutions to development problems. This report identifies the existing resource base and evaluates its significance to the proposed development and also suggests considerations that should be of concern to the Planning and Zoning Commission and the City. The results of the Team action are oriented toward the development of a better environmental quality and long-term economics of the land use. The opinions contained herein are those of the individual Team members and do not necessarily represent the views of any regulatory agency with which they may be employed.

NOVEMBER 1989

ACKNOWLEDGMENTS

The King's Mark Environmental Review Team Coordinator, Nancy Ferlow, would like to thank and gratefully acknowledge the following Team members whose professionalism and expertise were invaluable to the completion of this study:

* William Warzecha, Hydrogeologist
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  491-9884

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  Connecticut Department of Transportation
  566-2113

I would also like to thank Susan Anderson, Secretary of the King's Mark Environmental Review Team for assisting in the completion of this report.

Finally, special thanks to Edward Lukacovic and Daniel McGuinness of the Torrington Planning Department, Stanley Lessler, Susan Lessler and Emil Schipal, property owners, Roland Desrosiers, land surveyer, Doris Murphy, abutting landowner and Bill Krassner for their cooperation and assistance during this environmental review.

EXECUTIVE SUMMARY

Introduction

The Torrington Planning and Zoning Commission has requested that an environmental review be conducted on Cedar Hill Subdivision, a 77-acre parcel proposed for subdivision development. The site is mostly second growth forest and contains a portion of Cedar Swamp and several areas of wetlands. There are steep slopes in the central portions of the site. The site is located in the northeast corner of Torrington on the New Hartford Town Line and lies within a public water supply watershed. The site will be served by municipal sewer and water.

The developer proposes a 77 single-family home cluster with a small loop road and 3 cul-de-sacs on approximately half of the site. The rest of the site will be preserved as open space. Lot sizes range from 7,500 square feet to 51,769 square feet. The proposed open space includes most of the wetlands and half of the central ridge.

The review process consisted of 4 phases: (1) inventory of the site's natural resources; (2) assessment of these resources; (3) identification of resource problem areas; and (4) presentation of planning and land use guidelines. Based on the review process, specific resources, areas of concern, development limitations and development opportunities were identified. The major findings of the ERT are presented below:

Setting, Zoning and Land Use

The site is bounded by Cedar Lane, residential properties and private, undeveloped land. The vicinity is characterized by mixed land uses, including medium density residences, an industrial park and a small commercial area. The site is located in a R-15 zone which allows single-family residential uses. The developer proposes to cluster the development.

Topography

Slopes on the site are steep to gentle. The upland areas are separated by large wetland areas.

Geology

The bedrock underlying the site has been mapped as Hoosac Schist. Depth to bedrock varies widely over the site. The bedrock should not pose any problems for the development unless it is uncovered during excavation for roads, foundations and utility lines. Glacial till overlays the bedrock on the site. The texture of most of the till is silty and compact with a hardpan layer. The hardpan layer often results in seasonally high groundwater tables which indicate the need for footing drains if full basements are used and proper erosion and sediment control for deep cuts in the soil to prevent slumping. Swamp deposits cover the till over the wetland areas. Because of their size, the wetlands serve important hydrological and ecological functions and every effort should be made to protect them.

Hydrology

Drainage from the site flows into the central wetlands and Cedar Swamp. Cedar Swamp Brook drains to the Nepaug River. The unnamed streamcourse flowing through Lots 38, 42 and 49 was turbid on the field review day. Erosion and sediment control measures are extremely important for this site. Groundwater is classified as GAA, and surface waters are classified AA. Public sewer and water lines will reduce the potential for groundwater contamination, and it is recommended that fuel storage tanks be built above ground. Development of the site will cause increases in runoff. Although the hydrologic calculations show the increase in runoff, the central wetlands have the ability to store the water and reduce the peak flows. Flooding should not be a concern, and on-site detention will not be required. House foundations should be protected by footing drains tied into the stormwater system. A detailed erosion and sediment control plan should be developed and implemented. According to the plans, 2 small areas of wetlands will be disturbed by the sewer lines. Efforts should be made to disturb the smallest area possible, reclaim the wetlands as fast as possible and work during the dry time of the year. Lots 6-11 and 14 are small and contain wetlands which creates the potential for subtle filling to expand dry yard space.

Soil Resources

The major soil limitations on the site are inland wetlands and hardpan soils. Limiting factors for development are wetness, flooding, ponding and settling for the wetland soils and steep slopes and cuts that seep for the upland soils. These limitations do not preclude development, but indicate the need for precise planning and review.

Erosion and Sediment Control

Recommendations for the erosion and sediment control plan include using silt fence rather than haybales, maintaining silt fence until all construction activity is complete, providing silt fence for Lot 6, providing construction entrances and properly installing and maintaining all erosion and sediment controls. The proposed activities should not adversely impact the soil resources, provided the management recommendations are considered and the controls carefully monitored.

Wildlife Considerations

Habitat on the site includes hardwood forests, softwood forests, wetlands and old fields. The site offers a variety of food and cover to wildlife, including deer, grouse, weasel, raccoon, beaver, otter, fox, coyote, various birds, reptiles and amphibians. The site offers good to excellent wildlife habitat because of the degree of interspersion of habitats, including wetlands and uplands.

As with any development, the impact on wildlife habitat will be negative. Wildlife habitat will be broken up and lost with the construction of roads, driveways, offices, parking areas and homes. Other impacts include the creation of lawns and

the presence of humans, traffic, dogs and cats. Certain species, which can adapt to the changes, may become nuisances. These species include pigeons, starlings, raccoons and deer. The developer proposes clustering the development and preserving approximately half of the land, including the wetlands, as open space. Cluster housing leaves more land for wildlife habitat. Wildlife management will be easier. The beaver activity in the wetlands will continue as long as the wood supply lasts. Beaver can cause problems by plugging culverts, cutting trees and raising water levels. Development should be setback from these wetlands, and crossings should be minimized. Development close to wetlands represents a substantial impact. Development of the ridgetop between the wetlands will negatively impact Cedar Swamp. It is recommended that the lots on this ridge be eliminated. Several plunge pools are proposed for the site. These pools are located in the uplands, which is preferable to placing them in wetlands. These pools will have little or no value for wildlife. Wetlands require protection after development. A buffer strip to preserve vegetation can increase the usefulness to wildlife.

Islands of open space should be avoided. Open space should be connected to provide travel paths for wildlife. Many steps can be taken to make the area more suitable for wildlife. These include buffer strips, natural landscaping techniques, maintaining forest wildlife requirements and providing nesting boxes for birds.

Threatened and Endangered Plant and Animal Species

According to the DEP - Natural Diversity Database, there are no Federally listed Endangered Species or Connecticut "Species of Special Concern" on the site. Cedar Swamp is a Natural Area Inventory site. While being a Natural Area Inventory site does not impart legal protection, it does identify areas that should receive consideration before development is approved.

Archaeological Resources

The site is located in an environmental zone similar to those where significant archaeological resources have been excavated. These resources represent some of the oldest sites uncovered in Connecticut. The hills surrounding Cedar Swamp are potentially important to the understanding of prehistoric settlement and subsistence systems. It is strongly recommended that all feasible efforts be undertaken to identify and ensure the preservation and conservation of the cultural resources on the site.

Planning Considerations

The site is zoned R-15 which allows a minimum lot size of 15,000 square feet. The proposal was submitted under the Torrington cluster zoning provisions. Land use in the area consists of undeveloped farmland, woodland, wetlands and medium to low density residential. Provided sufficient environmental controls are implemented, the subdivision is generally compatible with adjacent land uses and zoning.

The State Policies Plan for the Conservation and Development of Connecticut identifies the wetlands as a preservation area and the uplands as a conservation area. The project is consistent with the State Plan, provided water quality protection measures are implemented for Cedar Swamp. The LHCEO encourages housing which retains community character and which protects areas which are environmentally unsuited to development. The project is consistent with this goal, provided care is taken to minimize the disturbance to wetlands and maintain water quality. The Torrington draft Plan of Development specifies protection of wetlands, allows development in the Nepaug Watershed only with measures to protect water quality, encourages cluster development to preserve environmentally sensitive areas and promotes cluster for affordable housing. The project is consistent with the Plan, provided care is taken to protect the wetlands and water quality.

Cluster development is advocated by land use planners as a way to provide open space. The density of this project is less than would be allowed under the current zoning regulations. Consideration should be given to sharing driveways where they will significantly lessen the amount of paving. A limited amount of land could be considered for a community playground. The City is encouraged to coordinate with Ducks Unlimited in the use and management of the open space.

Traffic Considerations

The traffic generated by the subdivision will be minor relative to theoretical road capacity. The traffic study provides for an increase in traffic and alludes to further traffic generated by other subdivisions in the area. The new Plan of Development should address the impact of all development in the area and consider which improvements will be required in the future.

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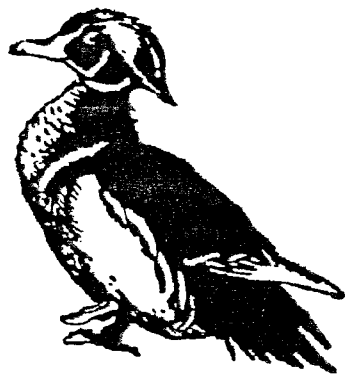


INTRODUCTION

The Torrington Planning and Zoning Commission has requested that an environmental review be conducted on Cedar Hill Subdivision, a 77-acre parcel proposed for a 77-lot subdivision. The site is mostly second growth forest and contains a portion of Cedar Swamp and several areas of wetlands. There are steep slopes in the central portions of the site. The site is zoned R-15 which allows single-family homes on a minimum of 15,000 square feet. Torrington's cluster regulations allow the same number of lots on half the space with the other half preserved as open space. The site is located in the northeast corner of Torrington on the New Hartford Town Line and lies within a public water supply watershed. The site will be served by municipal sewer and water. Access is provided by Cedar Lane.

The developer proposes a 77 single-family home cluster with a small loop road and 3 cul-de-sacs on approximately half of the site. The rest of the site will be preserved as open space. Lot sizes range from 7,500 square feet to 51,769 square feet. The proposed open space includes most of the wetlands and half of the central ridge. During the field review, the developer stated that the Department of Environmental Protection (DEP) and Ducks Unlimited were interested in purchasing the entire ridge and the wetlands. This would reduce the number of lots to 52.

The City is concerned with the impacts of this proposal on stormwater drainage, water quality and hydrology, erosion and sedimentation, wildlife, traffic, access and design and land use considerations. The primary goal of this ERT is to provide planning information for the current proposal. Specific objectives include:

1) Assess geologic and hydrologic development limitations and opportunities;

2) Assess the impact of stormwater runoff on water quality;

3) Determine the suitability of existing soils to support the proposed development;

4) Discuss soil erosion and sedimentation concerns;

5) Assess the impact of the development on wildlife in the area of Cedar Swamp;

6) Assess traffic and access issues; and

7) Assess planning and land use issues, including recreation.

THE ERT PROCESS

Through the efforts of the Torrington Planning and Zoning Commission, the developer's representative and the King's Mark ERT, this environmental review and report was prepared for the City. This report primarily provides a description of on-site natural resources and presents planning and land use guidelines. The review process consisted of 4 phases:

1) Inventory of the site's natural resources (collection of data);

2) Assessment of these resources (analysis of data);

3) Identification of resource problem areas; and

4) Presentation of planning and land use guidelines.

The data collection phase involved both literature and field research. The ERT field review took place on October 11, 1989. Field review and inspection of the proposed development site proved to be a most valuable component of this phase. The emphasis of the field review was on the exchange of ideas, concerns or alternatives. Mapped data or technical reports were also perused, and specific information concerning the site was collected. Being on-site also allowed Team members to check and confirm mapped information and identify other resources.

Once Team members had assimilated an adequate data base, they were able to analyze and interpret their findings. The results of this analysis enabled the Team

members to arrive at an informed assessment of the site's natural resource development opportunities and limitations. Individual Team members then prepared and submitted their reports to the ERT Coordinator for compilation into the final ERT report.

Figure 1

LOCATION OF STUDY SITE

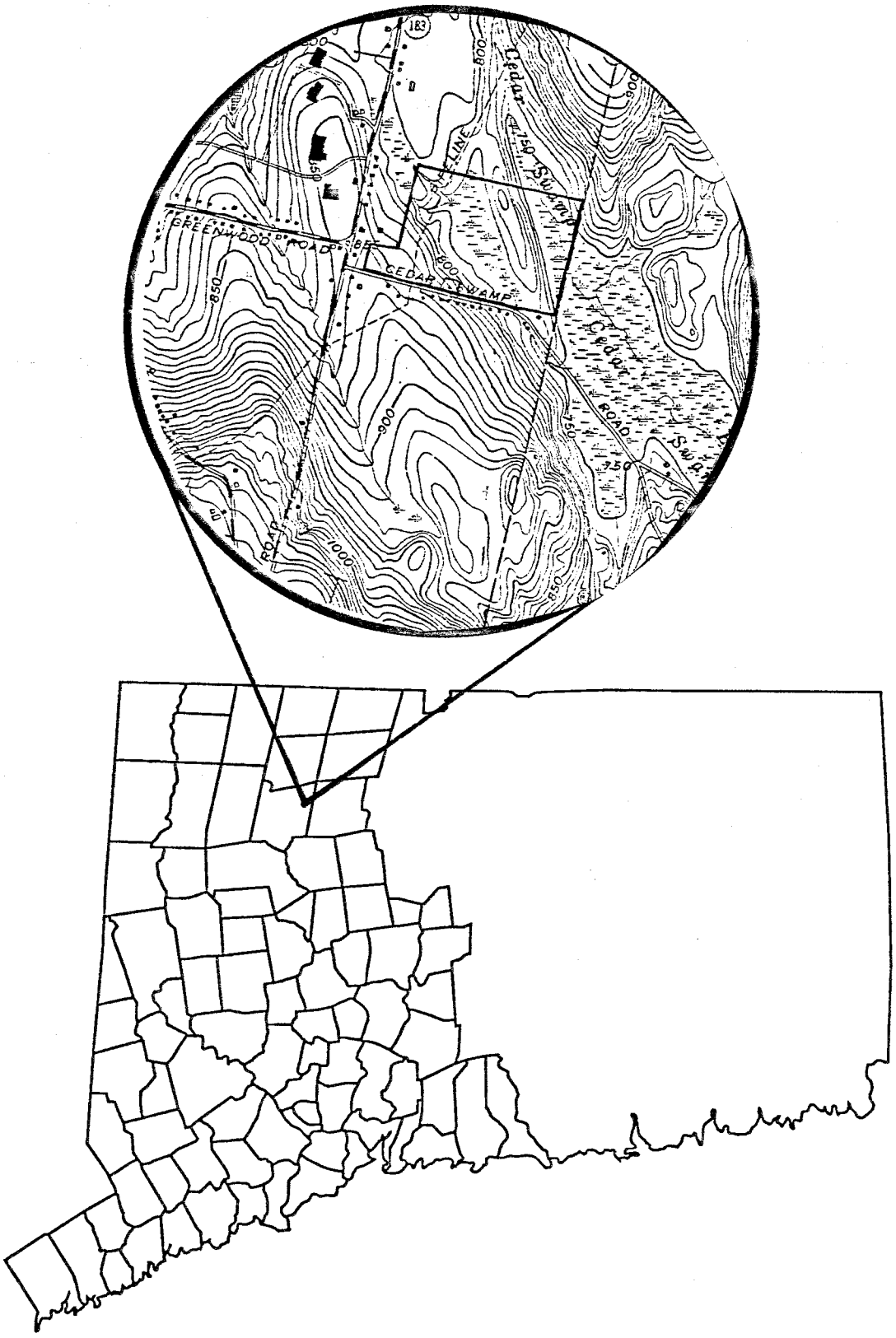


Figure 2

N/F DOUGLAS R. & AARON W. MASON

N/F THOMAS O. & DORIS M. MURPHY

N/F RAYMOND F. & MILDRED S. REVAS

N/F GEORGE F. JR. & DIANA M. CARROLL

N/F BOY SCOUTS OF AMERICA - QUINNIPIAC COUNCIL

N/F DAVID W. & SY

PROPOSED SANITARY SEWER PUMP STATION

PROPOSED PLUNGE POOL (SEE EROSION CONTROL OVERALL SHEET)

PROPOSED PLUNGE POOL (SEE EROSION CONTROL DETAIL SHEET)

PROP. PLUNGE POOL (SEE EROSION CONTROL DETAIL SHEET)

THIS AREA IS TO BE DEDICATED IN PERPETUITY FOR OPEN SPACE PURPOSES

MAY LANE

MEGAN DRIVE

TOWN LINE ROAD

CEDAR LANE

EXISTING WATERCOURSE FROM DRAINAGE TO BE ELIMINATED

EXISTING RUN-OFF FROM STREET TO BE PICKED UP BY PROP. C.B.'S & R.C.P.

PROPOSED SAN. SEWER PUMP STATION

TOTAL PARCEL AREA = 77.04 ACRES

NOTES:

1) ALL LOTS ARE MINIMUM 7,500 SQ. FT.
2) ALL LOTS ARE TO BE SERVICED WITH PUBLIC WATER AND SANITARY SEWERS.
3) LAND IS IN R-15 ZONE - CLUSTER SUBDIVISION (USE R-G SETBACKS)
4) ALL LOT DIMENSIONS ARE SCALED
5) MAP REFERENCE BOUNDARY INFORMATION FOR THIS MAP WAS TAKEN FROM A MAP ENTITLED "MAP PREPARED FOR EMIL SCHIPUL, TRUSTEE AT TORRINGTON, CT. APRIL 20, 1989, SCALE 1" = 100'", BY JOHN M. FARNSWORTH, L.S. #3743.
6) OPEN SPACE IS COMPRISED OF THE FOLLOWING: 31.8 ± ACRES WETLANDS
12.1 ± ACRES DRYLANDS
43.9 ± ACRES TOTAL
7) HAYBALE FILTERS TO BE INSTALLED AT ALL CATCH BASINS. (SEE GENERAL EROSION CONTROL NOTES.)

Information from Subdivision Plan by R. J. Desrosiers and Associates

CEDAR HILL SUBDIVISION

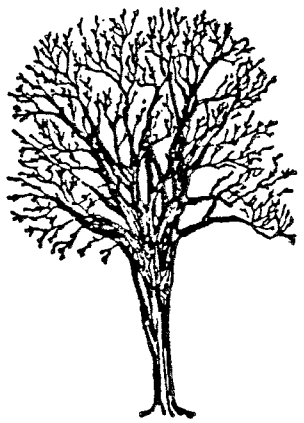
TORRINGTON, CONNECTICUT

King's Mark Environmental Review Team

Scale: 1" = 200'

Proposed Site Plan

PHYSICAL CHARACTERISTICS



SETTING, ZONING AND LAND USE

The proposed residential subdivision is located on 77 acres in the northeast corner of Torrington. An 11-acre portion of Cedar Swamp, a significant wetland in the area, occurs at the northeast corner of the site. Another large wetland area, approximately 18 acres in size, drains to Cedar Swamp and bisects the central parts of the site in a northwest-southeast direction. A long, narrow streamlined hill, which is probably a drumlin, separates the 2 wetlands. The southeast corner of the site comprises old pasture land and slopes towards the wetland in the central parts. Except for the former pasture land, which is open, the majority of the site is wooded.

The site is bordered by Cedar Lane on the south, residential properties that front on Torringford Street on the west, private, undeveloped land that is wooded on the north and the New Hartford Town Line on the east. A gas transmission line bisects the central parts of the site.

The site is zoned R-15 which allows single-family homes on a minimum of 15,000 square feet. By using Torrington's cluster regulations, which allow for the same number of lots on half the acreage with the other half preserved as open space, lots will be 7,500 square feet minimum rather than 15,000 square feet. Present plans include 77 lots that range in size from 7,500 square feet to 51,769 square feet. The subdivision will be served by public sewers made available by the City of Torrington and public water by the Torrington Water Company.

Mixed land uses occur in the surrounding area. An industrial park is located northwest of the site. Medium density, single-family homes characterize the frontage along Torringford Street and Cedar Lane. A non-conforming commercial land-use, consisting of pre-fabricated concrete structures, is located south of the entrance to the proposed Town Line Road.

TOPOGRAPHY

The site contains 2 upland areas: the former pasture land in the southwest corner of the site and the long and narrow streamlined hill in the westcentral parts. The upland areas are separated by 2 large wetlands that are relatively flat. The ground surface in the southwest corner slopes moderately (about 9%) to the wetlands bisecting the central parts. The streamlined hill in the west central parts has slopes that range from flat on its tableland to steep on its east flank. Gentle slopes prevail on the west flank of the hill (see Figure 3).

GEOLOGY

The subdivision site is located entirely within the Torrington topographic quadrangle. A surficial geologic map (GQ939, by R.B. Colton, 1971) and a bedrock geologic map (by C.W. Martin, 1970) for the quadrangle have been published by the U.S. Geological Survey and the Connecticut Geological and Natural History Survey, respectively. The Bedrock Geological Map of Connecticut (John Rodgers, 1985), the Soil Survey of Litchfield County and technical information supplied by the applicant were also referenced.

Rodgers identifies the bedrock underlying the site as Hoosac Schist, a gray, rusty weathering, fine- to medium-grained schist (see Figure 4). Schists are metamorphic rocks (rocks that have been geologically altered) that are typically light to dark and are strongly to very strongly layered. Generally, the layering in rock is defined by the parallel alignment of mica minerals (muscovite and biotite).

Depth to the bedrock surface on the site varies widely. According to the drillers log, a domestic water supply well on Greenwood Road west of the site penetrated 50 feet of till before encountering bedrock. Till is probably less than 20 feet thick in most

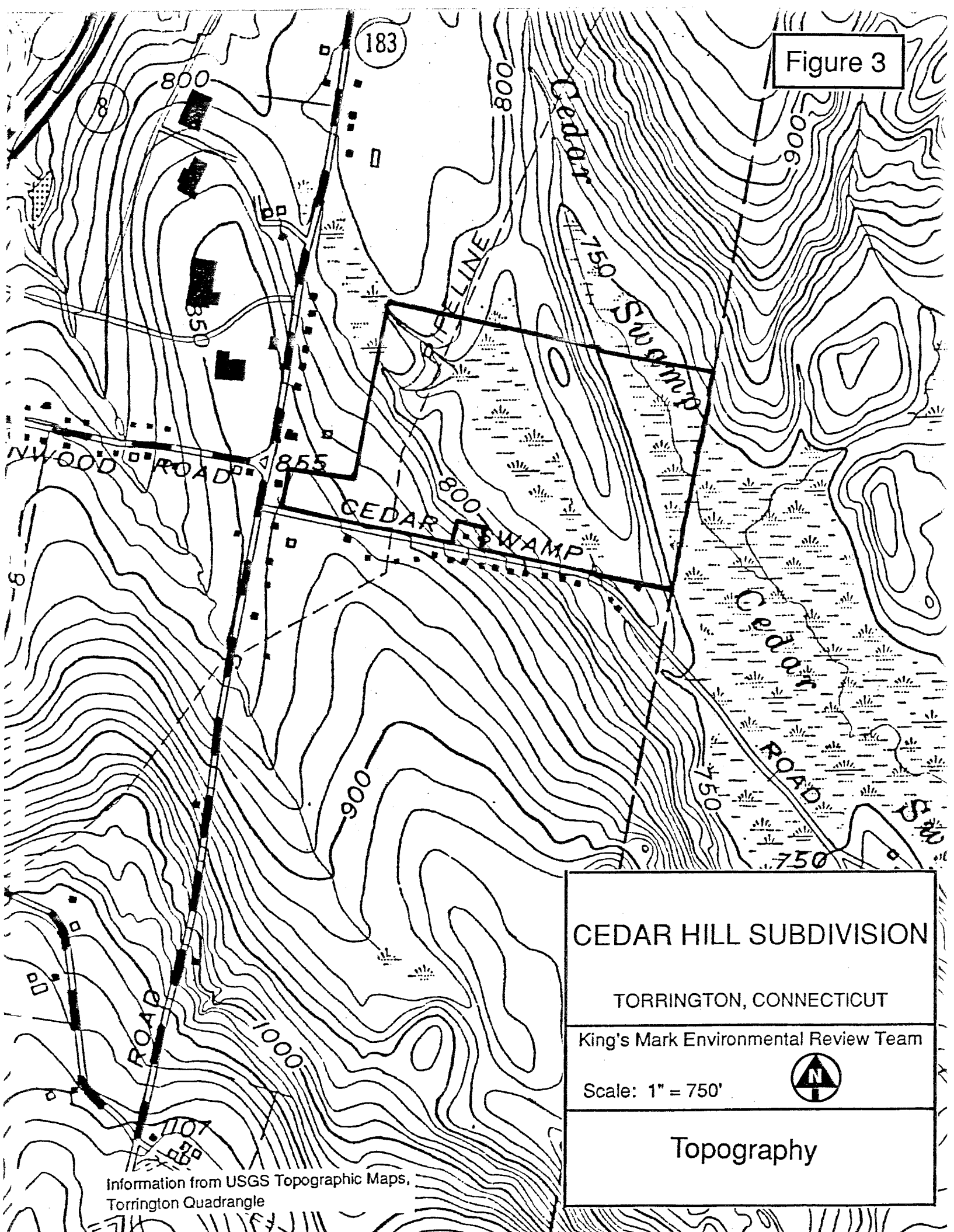


Figure 3
183
800
850
855
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1107
Cedar Swamp
POWERLINE
NWOOD ROAD
CEDAR SWAMP
ROAD
CEDAR HILL SUBDIVISION
TORRINGTON, CONNECTICUT
King's Mark Environmental Review Team
Scale: 1" = 750'
N
Topography
Information from USGS Topographic Maps,
Torrington Quadrangle

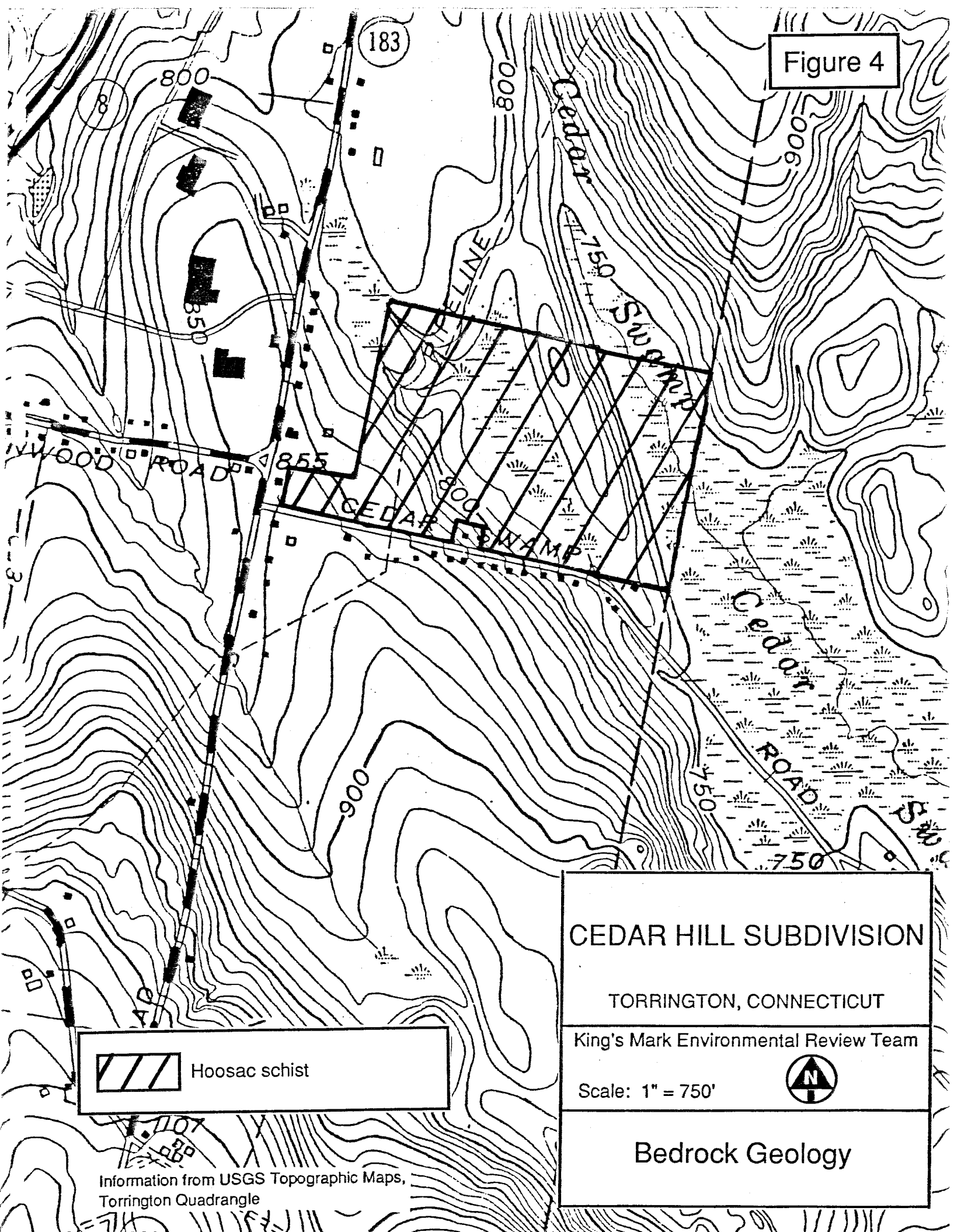
Figure 4
183
800
900
750
855
Cedar Swamp
Cedar Swamp
WOOD ROAD
CEDAR SWAMP
Cedar
ROAD
Hoosac schist
CEDAR HILL SUBDIVISION
TORRINGTON, CONNECTICUT
King's Mark Environmental Review Team
Scale: 1" = 750'
N
Bedrock Geology
Information from USGS Topographic Maps,
Torrington Quadrangle

places on the site. The underlying bedrock should not pose any major problems for the proposed subdivision, unless it is encountered during excavation for roads, foundations, utility lines, etc. If bedrock is encountered, blasting may be required or large, earth moving equipment may be utilized. Based on soil and geologic mapping data and the proposed roadway layout, blasting will probably not be necessary.

A blanket of glacial sediment, called till, covers bedrock on the site (see Figure 5). It consists of a gray to light gray mixture of sediments, containing approximately 5% clay, 25% silt, 50% sand, 15% pebbles and 5% cobbles and boulders. In general, the till is mixed together in a complex fashion. The majority of the till on the site is characterized by a hardpan layer or compact zone which tends to impede the downward movement of groundwater. This condition often results in a seasonally high watertable condition. These soils are identified as Paxton soils on the plans.

Seasonally high watertables indicate the need for building footing drains if full basements are used and proper erosion and sediment control measures for stabilizing slopes to prevent the slumping of hardpan soils in cut areas. In addition, control drains and grading may be necessary for road and driveway cuts.

Post glacial sediments consisting of swamp deposits overlie the till in the west central and northeast corner of the site. These deposits consist of grayish-brown peat mixed or interbedded with silt, sand and clay. They are generally 5-10 feet thick, but locally may be as much as 25 feet thick. The swamp deposits or regulated wetland soils on the site have been delineated and flagged by the applicant's certified soil scientist.

Because of their size, these wetlands as a whole serve important hydrological functions, including stream flow regulation, erosion control and surface water quality protection. They also serve valuable ecological functions. Every effort should be made to protect the wetlands on the site by maintaining a 50-foot minimum undisturbed buffer around all wetlands, protecting wetlands from road drainage that

may be laden with salts, automobile residue, road sand and hydrocarbons and properly constructing energy dissipators (plunge pools) that do not discharge directly to wetlands.

HYDROLOGY

Approximately 73% of the site, which constitutes the land west of the main axis of the streamlined hill in the eastern parts, drains to the large wetland in the central parts of the site (see Figure 6). The outlet stream for the wetland passes through a 72-inch reinforced concrete pipe under Cedar Lane and ultimately discharges into Cedar Swamp. At its intersection with the road, the unnamed streamcourse drains about 112 acres. The eastern limits of the site drain eastward to Cedar Swamp. Cedar Swamp Brook is the outlet stream for Cedar Swamp and is tributary to Nepaug River. The unnamed streamcourse that traverses Lots 38, 42 and 49 was quite turbid (silt-laden) during the field review. Erosion and sediment control measures and practices for this subdivision are extremely important, especially considering the site's hydrogeologic characteristics and topography.

Groundwater at the site has been classified by the DEP as GAA which means it is within a public water supply reservoir watershed area (Nepaug Reservoir). The groundwater is presumed suitable for direct human consumption. The State's goal is to maintain that condition by banning almost all discharges to groundwater.

The surface waters have not been classified, but are considered Class AA water resources because they are tributary to a public drinking water supply reservoir. Class AA water resources may be suitable for drinking, recreational or other uses and may be subject to absolute restrictions on the discharge of pollutants, although certain discharges may be permitted.

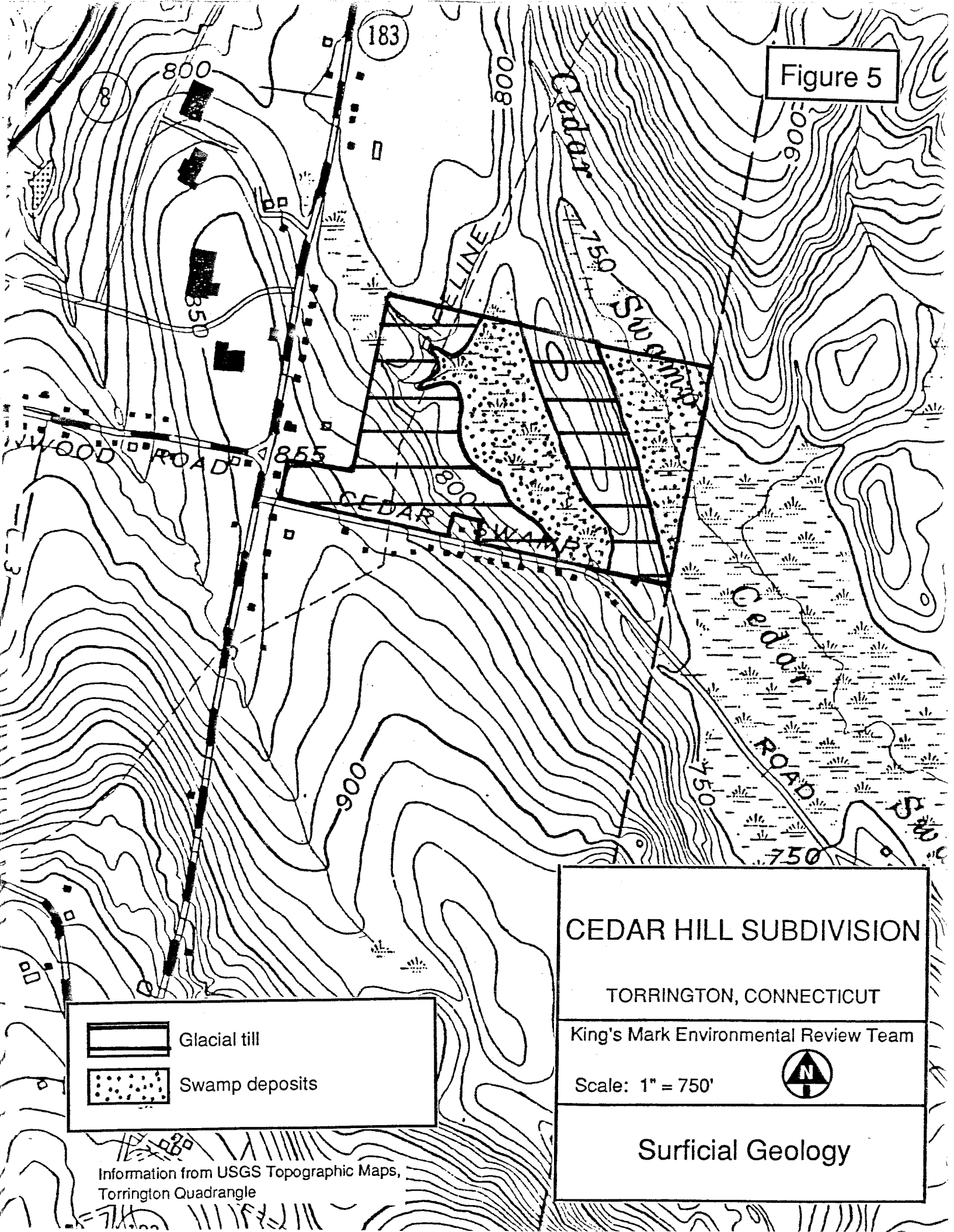
Figure 5
183
800
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900
Cedar
Swamp
E LINE
750
850
WOOD ROAD
855
800
CEDAR SWAMP
Cedar
ROAD
900
750
750
Glacial till
Swamp deposits
CEDAR HILL SUBDIVISION
TORRINGTON, CONNECTICUT
King's Mark Environmental Review Team
Scale: 1" = 750'
N
Surficial Geology
Information from USGS Topographic Maps,
Torrington Quadrangle

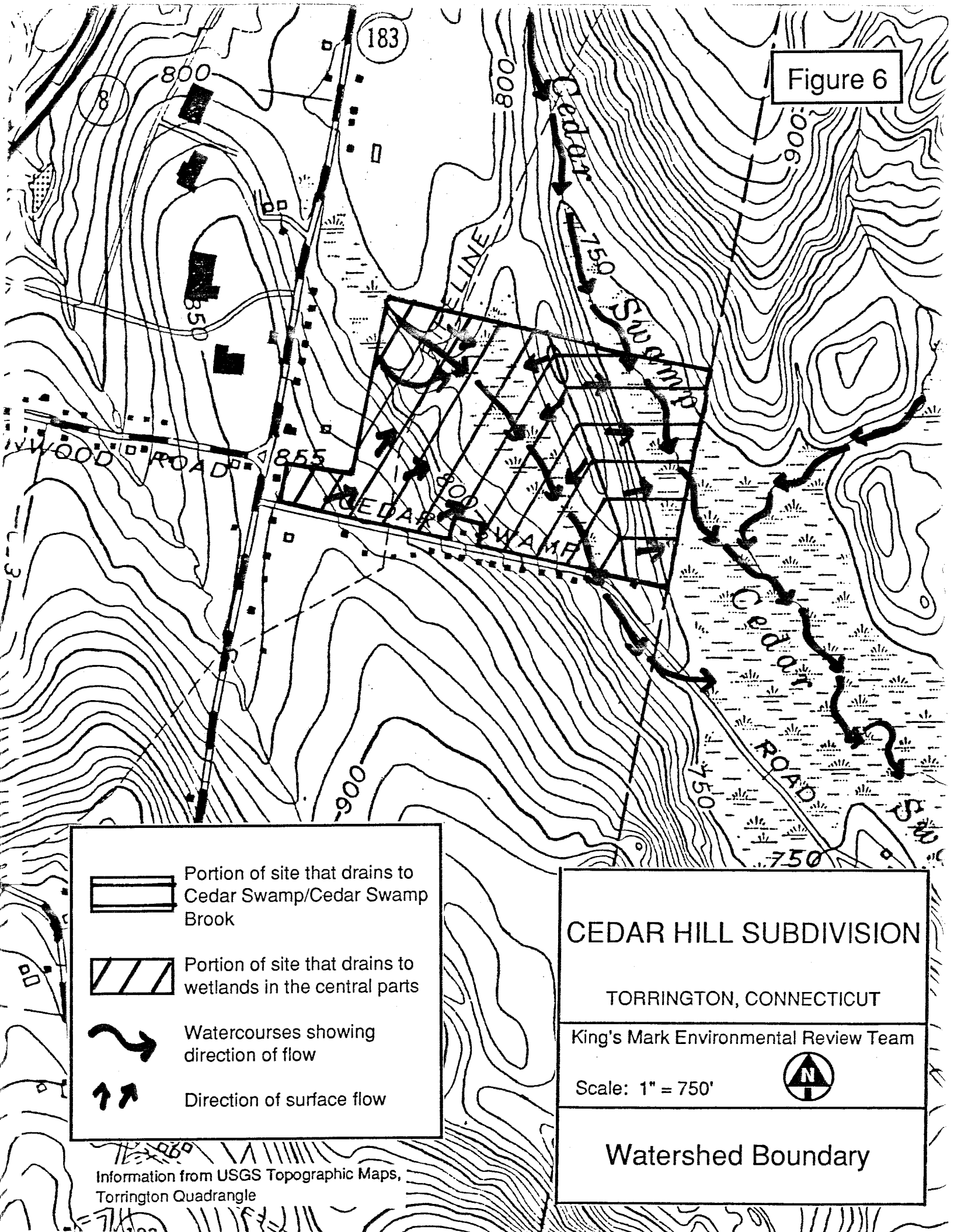


Figure 6
183
800
800
900
Cedar
Swamp
750
LINE
855
WOOD ROAD
855
800
CEDAR SWAMP
Cedar
ROAD
900
750
750
Portion of site that drains to Cedar Swamp/Cedar Swamp Brook
Portion of site that drains to wetlands in the central parts
Watercourses showing direction of flow
Direction of surface flow
CEDAR HILL SUBDIVISION
TORRINGTON, CONNECTICUT
King's Mark Environmental Review Team
Scale: 1" = 750'
N
Watershed Boundary
Information from USGS Topographic Maps, Torrington Quadrangle

A copy of Section 19-13-32 Sanitation of Watersheds is found in Appendix A. Subsections (f) through (i) inclusive are pertinent to the proposed subdivision. The availability of public sewers and water mains will reduce the potential for groundwater contamination. It is recommended that residential underground fuel storage tanks be prohibited on the proposed subdivision because they are a potential groundwater contaminant and could threaten the existing GAA water resources of the site.

Development of the site will increase the amount of runoff shed from the site. These increases will result from the creation of impervious surfaces such as roads and rooftops, the removal of vegetation and the compaction of soil. The major concerns with increased runoff are the potential for flooding to downstream areas and streambank erosion.

Although the engineer's hydrologic calculations show an increase in post-development peak flows for the 25-year storm, the 18-acre wetland in the central parts of the site has the ability to store surface water and reduce peak flows because of its size. Additionally, the 72-inch reinforced concrete pipe under Cedar Lane has the capacity to pass 4.5 times the anticipated post-development flows of 44 cfs. Therefore, flooding is not a concern to downstream areas, and on-site detention basins will not be required for the subdivision. If the Town Line Road section of the subdivision is not developed, a further reduction in post-development flows is expected.

All house foundations should be protected by building footing drains which should be tied into the storm drainage system rather than daylighting the pipe(s) on each lot. This will reduce drainage/water problems to abutting properties and ice conditions on driveways or roads in the subdivision.

Because of the proposed high density of homes, the large area of land which will be disturbed, the presence of till soils that may have a high silt and clay content, the

presence of AA and GAA water resources and the presence of high quality wetlands close to the proposed subdivision, the installation and maintenance of proper erosion and sediment control measures is essential for maintaining the existing water quality of runoff from the site during and following construction. Therefore, a comprehensive soil erosion and sediment control plan should be implemented, and control measures should be monitored from time to time by City officials, especially following periods of precipitation. An inspection program should also be implemented.

During construction, control measures, including silt fences, hay bales, sediment basins which allow settling time for suspended solids, anti-tracking devices, etc., should be used to reduce the potential environmental damage to wetlands and watercourses on- and off-site. Connecticut Guidelines for Soil Erosion and Sediment Control (1985, as revised) should be closely followed with respect to the erosion and sediment control plan.

The boundaries of all wetland soils, which are regulated under the Inland Wetlands and Watercourses Act (Section 22a-36 through 22a-45 of the Connecticut General Statutes), have been delineated and flagged on the site. These boundaries have been superimposed onto the subdivision plan. According to present plans, the road layout will not cross regulated wetland soils. The major disturbance to wetlands are temporary disturbances for sewer line installation in 2 areas. Every effort should be made to disturb the smallest area possible, expeditiously reclaim the area to pre-disturbance conditions and conduct the work during the dry time of the year when watertables are lowest. Erosion and sediment control measures are important for these seepage areas because they feed the central wetlands.

Lots 6 through 11 and Lot 14 are small, and according to the plans, half of these lots comprise regulated wetland soils. This creates a potential for subtle, illegal wetland fillings on these lots to expand dry yard space.

SOIL RESOURCES

The soils within the proposed Cedar Hill Subdivision include Leicester, Paxton and Peat and Muck. These soils are described below:

1) Leicester (Lg) soils are inland wetland soils. Flooding and wetness are major limiting features for development.

2) Paxton soils are well-drained, with a dense layer (hardpan) at about 24 inches in depth. This hardpan can cause engineering limitations for, but not limited to, basements, roads and excavations. Slope is a major limiting feature for development. Cut slopes in this soil are likely to have seeps flowing out during wet periods, and subsurface drainage may be required. Expanded soil information for Paxton, such as specific soil map units, including percent slope, was not provided within the plan. The map units for the proposed subdivision, taken from the Soil Survey for Litchfield County (1970), indicate a range of slope for Paxton from 3-25%. This information should be considered and used as basic planning information and may or may not accurately represent on-site conditions.

3) Peak and muck soils are inland wetland soils. Ponding (standing water) and subsiding (settling) are major limiting features for development.

These soils are further described in the Soil Survey of Litchfield County. The soil limitations which are identified do not preclude development. They do, however, indicate the need for precise planning and review of proposed project components. In some cases, the costs may greatly exceed the benefits.

EROSION AND SEDIMENT CONTROL

The following comments and recommendations refer to the soil erosion and sediment (E&S) control plan for this proposed subdivision dated May 12, 1989 (revised: May 22, 1989; August 14, 1989).

1) Wetlands

   a) Use silt fencing, rather than hay bales, as the primary E&S control adjacent to and within wetlands.

b) Retain and maintain silt fencing, adjacent to and within wetlands, until all construction activities in these areas are completed and the disturbance has been stabilized.

c) Provide silt fencing to protect the wetland associated with Lot 6.

d) Provide the 100-year flood boundary associated with Cedar Swamp Brook in the eastern portion of the subdivision on the plan. The extreme eastern portions of Lots 68, 69 and 70 **may** be within Zone A of the flood boundary. This zone indicates that base flood elevations and flood hazard factors have not been determined. Refer to Flood Insurance Rate Map, Town of New Hartford, Community Panel #0900480005B (February 1982) for additional information.

2) Provide construction entrances at the beginning of proposed Melissa Drive, Megan Drive and Town Line Road prior to any construction disturbance on the site. This will prevent sediment from being tracked onto Cedar Lane during construction.

3) Indicate **directly** onto the plan items such as, but not limited to:

a) Construction entrance locations and details and

b) Location(s) of stockpiled topsoil.

4) The recommended dates for establishing **permanent** vegetation include:

April 15 through June 15
August 15 through September 15

5) The recommended dates for establishing **temporary** vegetation, specifically annual ryegrass, include:

March 1 through June 15
August 1 through October 1

6) The key to successful E&S is proper installation and maintenance. This is extremely important, considering the existing or potential erosion hazards associated with steep slopes and wetlands protection.

The proposed activities associated with Cedar Hill Subdivision should not adversely impact the soil resources, provided the management recommendations are considered and incorporated within the planning process, and compliance is achieved on-site.

The soil E&S plan is basically adequate. However, construction activities such as, but not limited to, those associated with steep slopes or adjacent to wetlands must be carefully monitored to protect the soil resources from erosion or sediment damage.

BIOLOGICAL RESOURCES

WILDLIFE CONSIDERATIONS

Description of Area/Habitats

The 77-acre site proposed for a 77-lot subdivision contains a variety of habitats, including hardwood forest, softwood forest, wetlands (including a portion of Cedar Swamp) and an old reverting field. For the most part, the land is gently sloping, but there are some steep slopes in the central portion of the site.

Wildlife habitat is the complex of vegetative and physical characteristics that provide for all the requirements of wildlife, including food, shelter, resting, nesting and escape cover, water and space. Generally, the greater the habitat diversity and degree of interspersion of various habitat types, the greater the variety of wildlife there is using an area. Because of the variety of habitats and the high degree of mixing of these habitat types, the site provides good to excellent wildlife habitat. The abundance and variety of wetlands on the site increases the site's value for wildlife.

A wide variety of wildlife species is expected to use this site to serve all their needs, while many more species find it a place to meet some requirements. These species include deer, ruffed grouse, weasel, raccoon, beaver, otter, fox, coyote, various hawks, owls, ducks, wading birds, catbirds, sparrows, juncos, chickadees and a variety of reptiles and amphibians.

Forest: A major portion of the area is covered by softwood or evergreen forest composed of hemlock and white pine. Hardwood species found within the softwood forest include American beech, sugar and red maple, black and yellow birch, white ash, shagbark hickory, various oaks and many others.

Forests provide wildlife with cover, food, nesting places, denning sites and roosting places. Softwood stands provide important year-round cover for species, including turkey, grouse and various songbirds. Stands of hemlocks are preferred

nesting sites for species such as the veery and junco. The winged seeds produced by the hemlock are readily sought by red squirrel, pine siskin and chickadees.

The snag trees in the area (dead trees) are a source of insects which serve as food for many species, including woodpeckers and chickadees. Den trees or trees with cavities can serve as a nesting or denning place for animals such as squirrels and raccoons.

Old Field: The old field type habitat found along the gas pipeline and old pasture provides early successional stage habitat, an important type of habitat because it contains a variety of plant communities, including grass, herbaceous plants, shrubs and young trees. The abundant growth of a variety of shrubs such as blueberry, multiflora rose and dogwood and trees such as cherry and birch provide abundant cover and a food source for a variety of wildlife. Small mammals, including mice and voles, inhabit areas of old field. These areas are used as hunting grounds for species such as hawks, owls, foxes and coyotes.

Open and reverting old field habitat are important types of habitat and are sometimes lacking or diminished in supply, partly because they are often the first type of habitat to be developed. These areas not only increase the overall diversity of the site, but they also increase the "edge" or "edge effect." Edge effect is the phenomena that occurs where vegetational types meet with a high degree of interspersion and vegetational diversity or richness is achieved and the needs of a wide variety of wildlife can best be met.

Wetlands: Because wetlands increase the habitat diversity of an area and offer a variety of food and cover to wildlife, they are important areas to consider for preservation. Acre for acre wetlands and their associated riparian zones exceed all other land types in wildlife productivity. In addition to their value as wildlife habitat, wetlands serve other valuable functions, including water recharge, sediment

filtering, flood storage, etc. For these reasons, the development of, filling in and/or crossing of wetlands should be avoided or limited whenever possible.

The site contains 2 major wetland areas. The wetland area located in the central portion of the site is dominated by hemlock and red maple. It contains a variety of other species, including birch, elm, winterberry holly and various dogwoods. This wetland area provides habitat for a variety of wildlife species. The brook that flows out of this wetland area and crosses under Cedar Lane enters into Cedar Swamp. Brooks can provide important corridors of travel for a variety of species of wildlife.

A portion of Cedar Swamp is contained on the site. Cedar Swamp is a diverse wetland, containing shrubs, herbaceous growth, emergents and trees along the edge. The major portion of the wetland is located north of Cedar Lane in New Hartford, and a small portion is located south of the road. A 57.53-acre portion of this wetland, located on the north side of Cedar Lane, was recently purchased by the DEP in cooperation with Ducks Unlimited because of its value as wildlife habitat, among other things. (Appendix B contains a letter from the DEP/Deputy Commissioner date July 19, 1989 submitted to the Torrington Inland Wetlands Commission.) Cedar Swamp offers good to excellent habitat for a number of wildlife species, including beaver, otter, a number of other mammals, wading birds such as the blue heron, various species of ducks and a wide variety of songbirds. An array of reptiles and amphibians also utilize this area. Because of the diversity of the wetlands found on the site and in close proximity to the site, a variety of habitat is provided for a wide range of species. Mammals such as the fox and raccoon use wetlands to forage and hunt. Browsers such as deer feed in wetlands because of their diversity of vegetation. Wetlands are attractive areas for a variety of birds because of the abundant food in the form of berries, seeds and catkins. Waterfowl use wetlands for nesting, stopover and feeding areas.

Wildlife Habitat/Recommendations

Any development of an undeveloped area has a negative impact on wildlife. The impact at this site will probably be fairly extensive because of the density of the development, addition of roads and proximity to wetlands. Large portions of habitat will be broken up and lost in the construction of homes, roads, parking lots and walkways. Additionally, habitat will be altered where cover is cleared for lawns and landscaping. Another impact is the increased human presence, vehicular traffic and number of free roaming children, dogs and cats. This could drive the less tolerant species from the site, even in areas where there has been no physical change. The value of the site for wildlife habitat will decrease as the amount of development increases.

Certain species which are adaptable to man's activities may increase due to his presence, and associated nuisances may occur. Typical species which can become a nuisance include pigeons, starlings and raccoons. Species sensitive to man's presence or the changes made at the site will either move away or perish.

Deer will be a common occurrence in the area and in the backyards of residents. New residents should understand that successfully growing gardens or certain ornamental shrubs will probably require repellents, which have only limited effectiveness, and fencing, which can be unsightly.

The developer has proposed clustering homes on half the land and preserving roughly half, including the wetlands, as open space. Cluster housing leaves more land for wildlife habitat. Clustering homes and leaving open space also makes wildlife management easier in contrast to conventional small houselot development. For example, the best opportunity for control of deer (and thus the problems they can potentially cause to homeowners) is through hunting. Large open spaces free of housing provide for an opportunity to utilize hunting.

The beaver activity observed in the upper portion of Cedar Swamp is expected to continue as long as the wood supply (trees, shrubs and some emergents) lasts. Beaver build dams, raise water levels and take down trees. Beaver activity probably increases the diversity of the wetland vegetation. Often times beaver can cause problems by plugging culverts, cutting trees, raising water levels onto lawns, etc. Therefore, it is recommended that development be set back well away from wetlands likely to be occupied by beaver, and that wetland crossings in these areas be minimized.

Despite the proposed open space, development close to both areas of wetlands represents a substantial impact to the value of the wildlife habitat. Cedar Swamp is considered a valuable wetland area for wildlife habitat. Development of the ridgetop (Lots 63 through 77) will negatively impact Cedar Swamp by increasing disturbance to wildlife and habitat from residents, increasing siltation into the wetlands, increasing runoff of water containing pollutants (i.e., salt, fertilizers, etc.) and losing upland habitat close to a valuable wetland. For these reasons, it is recommended that the ridgetop area between the wetlands not be developed.

The same impacts can be expected in the wetlands area located in the central portion of the site. Negative impacts to this wetland such as increased runoff containing contaminants could eventually reach Cedar Swamp via the brook connection.

Wetlands are important to wildlife, are limited in quantity in Connecticut and continue to dwindle on an almost daily basis. Therefore, it is always preferable to chose the option or path of development that least impacts wetlands. The value of wetlands increases as the quantity of the resource diminishes. At the least, the development in the uplands should be designed so that wetlands receive no silt, no runoff water of questionable quality, and the development, including lawns, should be at least 100 feet away from the wetland.

Several plunge pools are proposed for the site. These plunge pools are proposed for upland areas, which is preferable to placing them in the wetlands. As proposed, these pools will probably have little value as wildlife habitat. Shallow grassed-in and rip-rapped pools with no vegetation provide little wildlife habitat. Pools replanted with wetland vegetation may offer something to a few species of wildlife, but typically will not duplicate the function of a naturally created wetland with its own unique hydrology and vegetational diversity. If the plunge pools are not maintained and became silted in, growth of planted vegetation might be stopped or limited. Plans for sediment control should be incorporated into the design.

Wetlands require protection after development also. Activities such as pasturing animals in a wetland or filling them in for extra lawn and/or garden should be restricted. Additionally, a buffer of 100 feet around any wetland to preserve the vegetation can increase the usefulness of a wetland after development.

Whatever type or combination of habitat types set aside for open space, setting aside an "island of open space" surrounded by development is the least desirable for wildlife. Open space areas should be connected and ideally should be connected with open space areas outside of the development site. Open space areas should have natural travel pathways for wildlife (i.e., streams, valleys and ridgetops) to enter and exit to other open space areas outside the development. An open space area is more valuable if not traversed by roads which may impede the movements of wildlife. Setting aside a combination of habitat types in conjunction with wetlands is desirable.

In a small but heavily developed and populated State like Connecticut, where available habitat continues to decline on a daily basis, it is critical to maintain and enhance where possible existing wildlife habitat.

In planning and constructing a development, there are steps that should be considered to minimize adverse impacts on wildlife. Despite these measures,

wildlife habitat will increasingly be adversely impacted as the amount of development increases on a site. These measures include:

1) Maintain a 100-foot (minimum) wide buffer zone of natural vegetation around all wetland/riparian areas to filter and trap silt and sediments and to provide some habitat for wildlife.

2) Utilize natural landscaping techniques (avoiding lawns and chemical runoff) to reduce acreage of habitat lost and possible wetland contamination.

3) Stone walls, shrubs and trees should be maintained along field borders.

4) Early successional stage vegetation (i.e., field) is an important habitat type and should be maintained, if possible.

5) During land clearing, care should be taken to maintain certain forest wildlife requirements:

    a) Encourage mast producing trees (i.e., oak, hickory, beech). A minimum of 5 oaks per acre, 14 inches dbh or greater should remain.

    b) Leave 5 to 7 snag/den trees per acre because they are used by birds and mammals for nesting, roosting and feeding.

    c) Exceptionally tall trees, used by raptors as perching and nesting sites, should be encouraged.

    d) Brush debris from tree clearing should be piled to provide cover for small mammals, birds, amphibians and reptiles.

    e) Shrubs, vines and trees which produce fruit should be encouraged (or can be planted as part of the landscaping in conjunction with the development), especially those that produce fruit which persists through the winter (winterberry). Appendix C contains a list of suggested shrub and tree species that can be encouraged and/or planted to benefit wildlife.

THREATENED AND ENDANGERED PLANT AND ANIMAL SPECIES

According to the Natural Resources Data Base, there are no known extant populations of Federally Endangered and Threatened species or Connecticut "Species of Special Concern" occurring at the site.

The site includes a portion of the Cedar Swamp Natural Area Inventory site. In 1972, the Connecticut Forest and Park Association, Inc. prepared Natural Area Inventory which included 459 sites. These sites were nominated as significant sites for one or more of the following attributes: geologic, hydrologic, biologic, archaeologic, cultural, aesthetic, research/educational. Being listed as a Natural Areas Inventory site does not impart any restrictions or provide legal protection, but rather identifies areas that should receive consideration before any proposed development is approved.

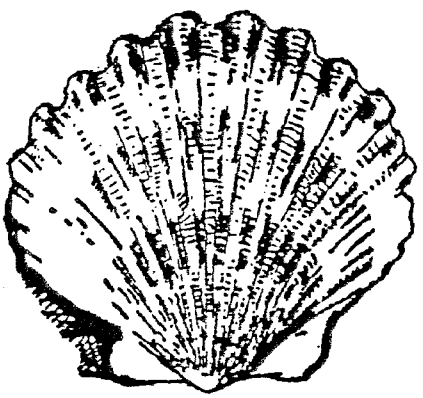
1972 file information: "An extensive hardwood swamp, probably has potential value for education and research. Area is very important as aquifer recharge area (headwaters of Nepaug River, a public water supply). Wildlife and birdlife abundant due to swamp and surrounding forested upland and nearby agricultural land."

1981 file information: "This is an extensive wet meadow type wetland. Some of the scattered red maple snags are beginning to come back which suggests that beaver are no longer active in the area. Some areas are dominated by cattail-sedge vegetation while others are shrubbier. The latter are predominantly older-willow thickets, with seaplebush, meadowsweet, Joe Pye-weed, ferns..."

Natural Diversity Data Base information includes all information regarding critical biologic resources available at the time of the request. This information is a compilation of data collected over the years by the Natural Resources Center's Geological and Natural History Survey and cooperating units of DEP, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations.

Consultation with the Data Base should not be substituted for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as enhance existing data. New information is incorporated into the Data Base as it becomes available.

ARCHAEOLOGICAL RESOURCES



ARCHAEOLOGICAL RESOURCES

The site contains the northwest point of Cedar Swamp which is similar to other large wetland systems in Litchfield County. Archaeological research conducted at Robbins Swamp, Canaan, and Bantam Lake, Litchfield, has produced a series of significant prehistoric sites demonstrating Indian settlements over the last 10,000 years. A review of the State of Connecticut Archaeological Site Files and Maps show no prehistoric sites in this area of Cedar Swamp. However, this omission is because no archaeologist has had the opportunity to systematically test the area, rather than because there are no prehistoric archaeological remains. Elevated knolls and well-drained soils surrounding swamps were most critical to Indian settlement systems.

The Office of State Archaeology strongly recommends an archaeological reconnaissance survey for the elevated areas surrounding the Cedar Swamp wetlands to locate and identify all prehistoric cultural resources which might exist on the site (see Figure 7). All archaeological studies should be undertaken in accordance with the Connecticut Historical Commission's Environmental Review Primer for Connecticut's Archaeological Resources.

In summary, the site is located in an environmental zone similar to those where significant archaeological resources have been excavated. These resources represent some of the oldest sites uncovered in Connecticut. The hills surrounding Cedar Swamp are potentially important to the understanding of prehistoric settlement and subsistence systems. It is strongly recommended that all feasible efforts be undertaken to identify and ensure the preservation and conservation of the cultural resources on the site. The Office of State Archaeology is prepared to offer technical assistance to the City of Torrington, landowners and developers in preserving the archaeological resources surrounding Cedar Swamp.

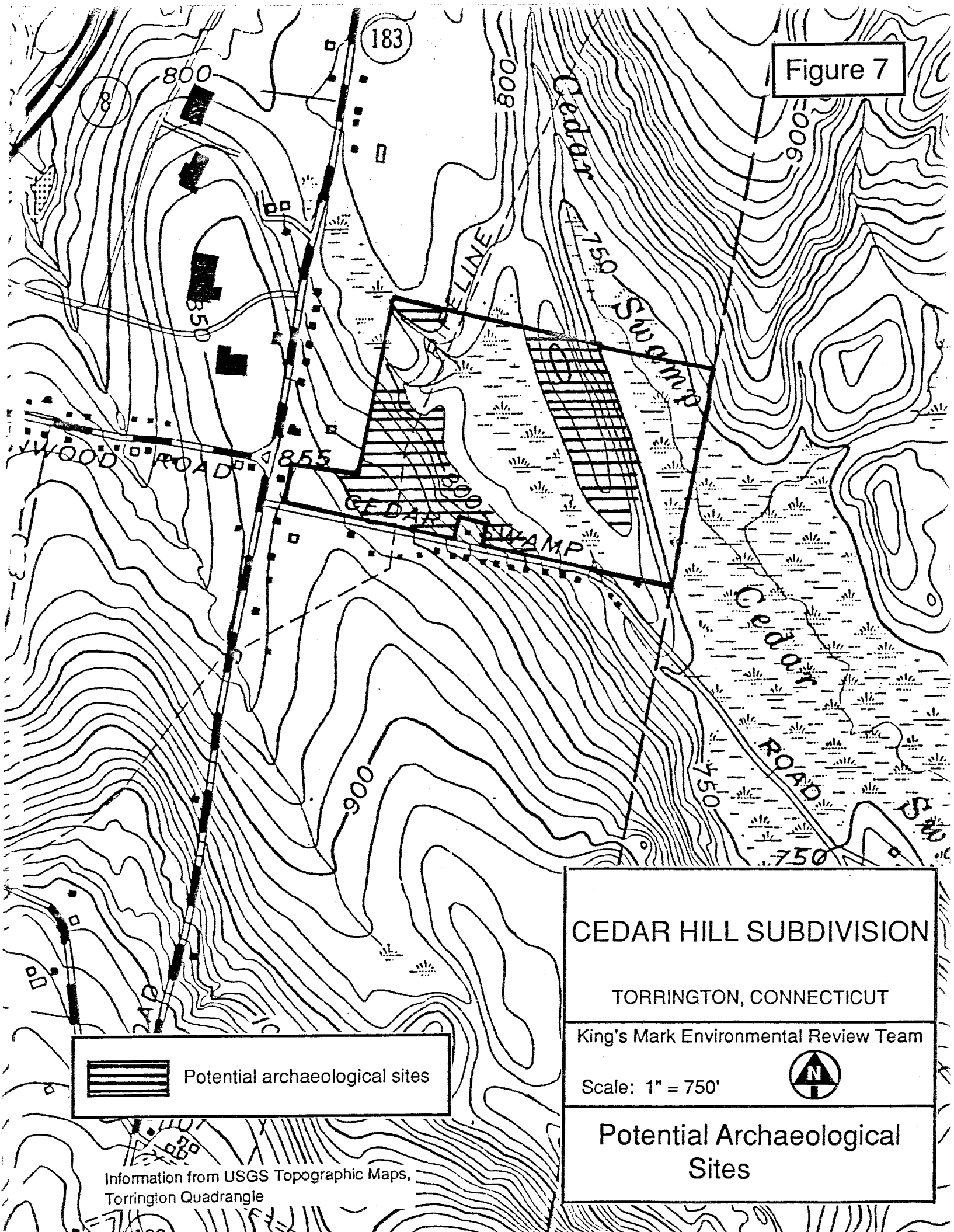


Figure 7
183
800
850
855
900
750
WOOD ROAD
CEDAR SWAMP
Cedar Swamp
Cedar Road
CEDAR HILL SUBDIVISION
TORRINGTON, CONNECTICUT
King's Mark Environmental Review Team
Scale: 1" = 750'
N
Potential Archaeological Sites
Potential archaeological sites
Information from USGS Topographic Maps, Torrington Quadrangle

LAND USE AND PLANNING CONSIDERATIONS

PLANNING CONSIDERATIONS

Zoning and Compatibility of Proposed Project with Surrounding Land Uses

The site is located within a R-15 zone where the minimum lot size is 15,000 square feet. The proposed subdivision was submitted under the City of Torrington's cluster zoning provisions which allows a modified lot area requirement of 7,500 square feet. The draft City Master Plan for this portion of Torrington calls for upzoning the area to R-25 which would require minimum lot size of 25,000 square feet.

Land use to the east of the site in the Town of New Hartford consists of undeveloped woodland and wetland. The majority of Cedar Swamp, a valuable natural area, is located adjacent to the eastern border of the site. Land to the north of the site is also predominantly undeveloped and consists of a mix of farmland, woodland and wetland. Land use to the south and west of the site is predominantly medium to low density residential. A large condominium project is presently under construction near the southern border of the site, and a number of other residential development projects are proposed along Route 183 in this area of the City.

Provided sufficient environmental controls are implemented to protect the Cedar Swamp wetland, the proposed subdivision is generally compatible with adjacent land uses and zoning. The open space dedicated of the eastern portion of the site will protect Cedar Swamp, and the 40-foot greenbelt zone along Cedar Lane will soften the transition between the proposed subdivision and existing residences along Cedar Lane. Although traffic along Cedar Lane will increase with project implementation, a traffic engineer for the applicant has documented that the proposed subdivision "will not adversely impact the area roadway system and can be satisfactorily accommodated in terms of traffic operations, capacity, and safety."

Consistency of Project with State, Regional and Local Plans

The State Policies Plan for the Conservation and Development of Connecticut 1987-1992 is a statement of the growth, resource management and public investment policies of the State. The Plan was prepared by the Office of Policy and Management (OPM) and adopted by the Connecticut General Assembly in 1987. The objective of the Plan is to give a balanced response to human, environmental and economical needs in a manner which best suits the future of Connecticut. Regional Planning organizations and local governments have been encouraged by OPM to foster implementation of the Plan at the local level.

According to the Locational Guide Map that accompanies the State Plan, the wetlands portion of the site is classified as a preservation area, and the remainder of the site is classified as a conservation area. The State action strategy for preservation areas is to foster their identification, advocate their protection and avoid support of structural development, except as directly consistent with preservation values. The State action strategy for conservation areas is to plan and manage for the long term public benefit the lands contributing to the State's need for food, fiber, water and other resources, open space, recreation and environmental quality and insure that changes in use are compatible with the identified conservation value. The site has been classified as a conservation area, partly because it is located within a public water supply watershed. Provided adequate water quality protection measures are implemented for Cedar Swamp, the proposed subdivision is compatible with the goals established by the State Plan.

The Litchfield Hills Council of Elected Officials (LHCEO) is the official regional planning organization for the Litchfield Hills Region which includes the City of Torrington. The LHCEO has adopted a preliminary housing policy which, among other objectives, encourages housing which retains community character and preserves environmentally sensitive areas, discourages residential development on

wetlands, floodplains, steep slopes and other areas which for environmental reasons are unsuitable for housing, promotes the provision of meaningful open space and recreation areas with future residential development and specifically encourages the development of more affordable housing. The proposed subdivision is consistent with the goals of LHCEO's preliminary housing policy, provided care is taken to minimize disturbance to wetlands and maintain water quality with project implementation.

The Torrington Planning and Zoning Commission has prepared a 1989 Plan of Development which is now in draft form and was recently the subject of a public hearing. The draft plan specifies that "wetlands and streams need to be protected not only because of their intrinsic value but because of their importance in managing stormwater runoff and protecting public water supplies." The draft Plan also specifically establishes the following policies: 1) "In the Nepaug reservoir watershed allow only residential development or industrial development with safeguards adequate to protect the watershed;" 2) "Encourage clustering of development in order to preserve environmentally sensitive areas and open space;" and 3) "continue to promote the use of cluster to foster affordable housing." The proposed subdivision is generally consistent with the goals and objectives of the draft local plan, provided wetland disturbance is minimized and the protection of water quality is assured.

Design Considerations

Based on a preliminary review of the proposed plot plan for "Cedar Hill" as revised to Aug. 14, 1989, the following comments on subdivision design are offered for consideration:

1) Through the cluster development approach, a significant amount of the site will be permanently protected as open space. The applicant has indicated that a joint venture between the DEP and Ducks Unlimited will provide for the acquisition of approximately 53 acres of the 77-acre site, including 32 acres of wetland and 21 acres of upland. Cluster development is widely advocated by land use planning professionals as a way to provide meaningful amounts of open space in an area targeted for development. By allowing somewhat more intensive development within a limited area of

the site, significant open space areas can be permanently protected for wildlife habitat, passive recreation and natural resource protection. The alternative to the cluster approach is the conventional subdivision which could disturb a greater amount of the property and result in a suburban sprawl type of development. Importantly, the overall density of the proposed subdivision is less than what might be allowed under a conventional subdivision with the current R-15 zoning of the parcel.

2) If the proposed subdivision is approved, consideration should be given to requiring the sharing of driveways where they will significantly lessen the amount of paving for the project. By reducing the amount of paved surface, stormwater runoff flow will be reduced, and more front lawn space will be available for the individual residences.

3) Consideration should be given to providing a limited amount of land for the development of a community playground. While the dedication of open space under this project is exemplary, no provision has been made for the active recreation needs of the future residents. The upland area in the northwest corner of the site could be utilized for this purpose. This area is currently proposed for open space and the existing Tenneco right-of-way could be used to provide pedestrian access over the long term.

4) The City of Torrington is encouraged to coordinate with Ducks Unlimited in the use and management of the open space dedicated under this proposal. At a minimum, the creation of a hiking trail loop and small pull-off parking area should be encouraged to facilitate the use and enjoyment of this area by residents in the surrounding area.

TRAFFIC CONSIDERATIONS

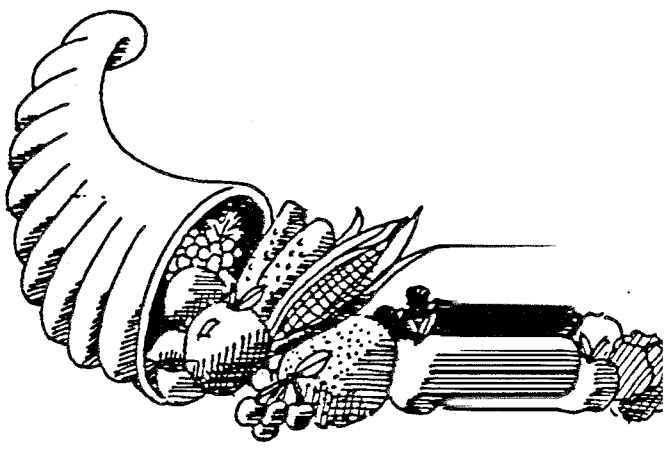
The traffic generated by the subdivision will be minor, relative to theoretical roadway capacity (approximately 2,800 vehicles per day in both directions). Traffic on Route 183 will increase between 3 and 5% per year. The applicant's traffic study provides for an increase in traffic and further alludes to traffic that may be generated by other subdivisions that would have access to Cedar Lane. The study indicates that 624 trips will be generated by this subdivision. The peak hour splits of 47 a.m. trips and 62 p.m. trips are reasonable.

Relative to future traffic operations, the City of Torrington is in the process of developing a new Plan of Development. The transportation element of the new plan

should address the transportation impact of development on the local road network and consider which improvements will be required in the future. A review of a single small subdivision only describes a single land use change in isolation. Where significant land use change is occurring, the regional and local land use plans must consider short and long range transportation needs relative to physical and financial requirements to allow for the orderly management of the transportation system.

The traffic study addresses traffic generated by the subdivision, but does not analyze the future development in this portion of Torrington. Until a standard analytical process is available, this single point analysis is acceptable.

APPENDICIES



Appendix A: Sanitation of Watersheds

Sanitation of Watersheds

Sec. 19-13-B32. Sanitation of Watersheds. Unless specifically limited, the following regulations apply to land and watercourses tributary to a public water supply including both surface and ground water sources.

(a) As used in this section, "sewage" shall have the meaning found in section 19-13-B20(a) of the public health code: "Toxic metals" shall be arsenic, barium, cadmium, chromium, lead, mercury and silver and the salts thereof; "high water mark" shall be the upper limit of any land area which water may cover, either standing or flowing, at any time during the year and "watershed" shall mean land which drains by natural or man-made causes to a public drinking water supply intake.

(b) No sewage disposal system, cesspool, privy or other place for the deposit or storage of sewage shall be located within one hundred feet of the high water mark of any reservoir or within fifty feet of the high water mark of any stream, brook, or watercourse, flowing into any reservoir for drinking purposes.

(c) No sewage disposal system, cesspool, privy or other place for the deposit or storage of sewage shall be located on any watershed, unless such facility is so constructed that no portion of the contents can escape or be washed into the stream or reservoir.

(d) No sewage shall be discharged on the surface of the ground on any watershed.

(e) No stable, pigpen, chicken house or other structure where the excrement of animals or fowls is allowed to accumulate shall be located within one hundred feet of the high water mark of a reservoir or within fifty feet of the high water mark of any watercourse as above mentioned, and no such structure shall be located on any watershed unless provision is made in a manner acceptable to the commissioner of health services for preventing manure or other polluting materials from flowing or being washed into such waters.

(f) No toxic metals, gasoline, oil or any pesticide shall be disposed of as a waste into any watercourse tributary to a public drinking water supply or to any ground water identified as supplying a public water supply well.

(g) Where fertilizer is identified as a significant contributing factor to nitrate nitrogen occurring in excess of 8mg/l in a public water supply, fertilizer application shall be made only under current guidelines established by the commissioner of health in cooperation with the state commissioner of agriculture, the college of agriculture of the University of Connecticut and

the Connecticut agricultural experiment station in order to prevent exceeding the maximum allowable limit in public drinking water of 10.0 mg/l for nitrite plus nitrate nitrogen.

(h) Where sodium occurs in excess of 15 mg/l in a public drinking water supply, no sodium chloride shall be used for maintenance of roads, driveways or parking areas draining to that water supply except under application rates approved by the commissioner of health, designed to prevent the sodium content of the public drinking water from exceeding 20 mg/l.

(i) The design of storm water drainage facilities shall be such as to minimize soil erosion and maximize absorption of pollutants by the soil. Storm water drain pipes, except for crossing culverts, shall terminate at least one hundred feet from the edge of an established watercourse unless such termination is impractical, the discharge arrangement is so constructed as to dissipate the flow energy in a way that will minimize the possibility of soil erosion, and the commissioner of.health finds that a discharge at a lesser distance is advantageous to stream quality. Special precautions shall be taken to protect stream quality during construction.

Appendix B: DEP Wildlife Bureau Correspondence

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

WILDLIFE BUREAU
ROOM 254

July 19, 1989

Mr. Raymond Hubert
Torrington Inland-Wetland Commission
City Hall
140 Main Street
Torrington, CT 06790

Re: Subdivision Plan for Cedar Hill

Dear Chairman Hubert:

The Wildlife Bureau of the Department of Environmental Protection has taken substantial interest in the wetlands known as Cedar Swamp located in Torrington and New Hartford, along Cedar Swamp Road.

In 1985, the DEP formed an agreement with Ducks Unlimited, a private, nonprofit organization dedicated to conserving wetland habitat for waterfowl and other wildlife, in order to participate in D.U.'s M.A.R.S.H. program. M.A.R.S.H. is an acronym for "Matching Aid to Restore States Habitat" and the program provides money for wetland acquisition and/or enhancement to state fish and wildlife agencies based on DU's income within that state.

After a statewide search, the Cedar Swamp Area in New Hartford was identified and approved by DEP and DU as a M.A.R.S.H. project site. The particular area was chosen for many values including the extent of wetland wildlife habitat and diversity of wildlife species, potential for further enhancing wildlife by implementing various wildlife management techniques, its value as it forms the headwaters of the Nepaug River, potential for wildlife based recreational use, and its scenic and aesthetic amenities. The State of Connecticut and Ducks Unlimited have recently purchased a 57.53 acre tract in Cedar Swamp formerly owned by Amelia M. Marsh. This is the first DU M.A.R.S.H. project to be dedicated in the State of Connecticut. The property has been designated as a Wildlife Management Area and will be managed to enhance its value to wildlife and wildlife users.

The DEP has hopes of protecting this Wildlife Area from encroachment by development through additional acquisitions and/or management agreements with landowners in the immediate area. This wetland is virtually undisturbed except for Cedar Swamp Road and the immediate limited number of roadside houses.

Phone: 566-4683
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As other developments are being built within this watershed, additional run-off into Cedar Swamp is certain to occur as a result. The cumulative effect of additional developments will have a negative impact on the wetlands of Cedar Swamp. Enforcement of best management practices for sediment and erosion control on several developments in the north end of Torrington have not prevented erosion or sedimentation of the Still River. For this reason, we have concerns with the current plan for the Cedar Hill subdivision.

The Cedar Hill plan as proposed, admirably, is prepared to donate 43.9 acres as open space. The extreme density of R-6 zoning is also offset somewhat by sewer and water supplied by the Torrington sewer and water system. However, storm run-off for housing at this density will add additional flows to Cedar Swamp. Calculations and plans submitted by the developer should be carefully reviewed. Planning for the 25-year flood conditions is inadequate for high-density development. The cumulative downstream effect of many high-density developments in the area is of great concern. Not only will this proposed development negatively impact the wildlife and wildlife habitat, but it will once again urbanize another remote and "wild" portion of our state. This plan will also impact the State of Connecticut's ability to expand on its wildlife Management Area in order to protect and ensure its availability for wildlife and future generations to enjoy.

Our recommendations relative to this proposal include (1) Planning storm drainage for at least the 50-year flood. (2) A 50 ft. buffer zone between property lines and wetlands. (3) Eliminate from the proposal the units located on the high ground surrounded by wetlands (Lots 64-78). (4) Donate the open space to the State of Connecticut as an addition to the state-owned Cedar Swamp Wildlife Management Area. This will insure uniform planning and habitat management practices for the benefit of the natural resources of Cedar Swamp. (5) Implementation and enforcement of "Best Management Practices" for erosion and sedimentation control that will prevent damage to Cedar Swamp.

Thank you for the opportunity to offer comments on the Cedar Hill subdivision proposal.

Sincerely,

Dennis P. DeCarli
Deputy Commissioner

DPD:POB/mg

Appendix C: Suitable Planting Materials for Wildlife Food and Cover

SUITABLE PLANTING MATERIALS FOR WILDLIFE FOOD AND COVER

Herbaceous/Vines	Shrubs	Small Trees
Panicgrass	Sumac	Hawthorn
Timothy	Dogwood	Cherry
Trumpet creeper	Elderberry	Serviceberry
Grape	Winterberry	Cedar
Birdsfoot trefoil	Autumn olive	Crabapple
Virginia creeper	Blackberry	
Switchgrass	Raspberry	
Lespedeza	Honeysuckle	
Bittersweet	Cranberrybush	
Boston ivy		

NOTES

ABOUT THE TEAM

The King's Mark Environmental Review Team (ERT) is a group of environmental professionals drawn together from a variety of federal, state and regional agencies. Specialists on the Team include geologists, biologists, soil scientists, foresters, climatologists, landscape architects, recreational specialists, engineers and planners. The ERT operates with state funding under the aegis of the King's Mark Resource Conservation and Development (RC&D) Area - an 83-town area serving western Connecticut.

As a public service activity, the Team is available to serve towns and/or developers within the King's Mark RC&D Area - free of charge.

Purpose of the Environmental Review Team

The Environmental Review Team is available to assist towns and/or developers in the review of sites proposed for major land use activities. For example, the ERT has been involved in the review of a wide range of significant land use activities including subdivisions, sanitary landfills, commercial and industrial developments and recreational/open space projects.

Reviews are conducted in the interest of providing information and analysis that will assist towns and developers in environmentally sound decision-making. This is done through identifying the natural resource base of the site and highlighting opportunities and limitations for the proposed land use.

Requesting an Environmental Review

Environmental Reviews may be requested by the chief elected official of a municipality or the chairman of an administrative agency such as planning and zoning, conservation or inland wetlands. Environmental Review Request Forms are available at your local Soil and Water Conservation District and through the King's Mark ERT Coordinator. This request form must include a summary of the proposed project, a location map of the project site, written permission from the land owner/ developer allowing the Team to enter the property for purposes of review and a statement identifying the specific areas of concern the Team should investigate. When this request is approved by the local Soil and Water Conservation District and King's Mark RC&D Executive Committee, the Team will undertake the review. At present, the ERT can undertake approximately two (2) reviews per month.

For additional information regarding the Environmental Review Team, please contact your local Soil and Water Conservation District or Nancy Ferlow, ERT Coordinator, King's Mark Environmental Review Team, King's Mark RC&D Area, 322 North Main Street, Wallingford, Connecticut 06492. King's Mark ERT phone number is 265-6695.