BURR STREET ELEMENTARY SCHOOL

FAIRFIELD, CONNECTICUT

KING'S MARK ENVIRONMENTAL REVIEW TEAM REPORT

KING'S MARK RESOURCE CONSERVATION AND DEVELOPMENT AREA, INC.

BURR STREET ELEMENTARY SCHOOL

FAIRFIELD, 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.

for the
Conservation Commission
Fairfield Connecticut

May 2002

CT Environmental Review Teams
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Acknowledgments

This report is an outgrowth of a request from the Fairfield Conservation Commission to the Fairfield County Soil and Water Conservation District (SWCD) and the King's Mark Resource Conservation and Development Area (RC&D) Executive Council for Environmental Review Team assistance. The request was approved and the project reviewed by the King's Mark Environmental Review Team (ERT).

The King's Mark Environmental Review Team Coordinator, Elaine Sych, would like to thank and gratefully acknowledge the following Team members whose professionalism and expertise were invaluable to the completion of this report.

The field review took place on Thursday, March 28, 2002.

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I would also like to thank Annette Jacobson and Thomas Steinke, Fairfield Conservation Department, Kenneth Flatto, first selectman, Pam Ritter, inland wetland commission member, Shirley Paustian, Fairfield Historical Society, Walter Jobst, The Huntington Company LLC, Walter Smith, Skidmore, Owings & Merrill LLP, and Michael Klemens and Judy Slayback, consultants for the applicant, for their cooperation and assistance during this environmental review.

Prior to the review day, each Team member received a summary of the proposed project along with location and soils maps. During the field review Team members were given plans and additional information. Some Team members unable to attend the field review made visits on their own or conducted a plan review. Following the review, reports from each Team member were submitted to the ERT coordinator for compilation and editing into this final report.

This report represents the Team's findings. It is not meant to compete with private consultants by providing site plans or detailed solutions to development problems. The Team does not recommend what final action should be taken on a proposed project - all final decisions rest with the town and applicant. This report identifies the existing resource base and evaluates its significance to the proposed use, and also suggests considerations that should be of concern to the town. The results of this Team action are oriented toward the development of better environmental quality and the long term economics of land use.

The King's Mark RC&D Executive Council hopes you will find this report of value and assistance in the review of this proposed elementary school.

If you require additional information please contact:

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Introduction

Introduction

The Fairfield Conservation Commission has requested assistance from the King's Mark Environmental Review Team in reviewing a proposed elementary school.

The municipally owned parcel is 15.75 acres in size with an adjacent 1.69 acres also owned by the town. The site is located on Burr Street north of Woodhouse Road, south of Townhouse Road and west of the improved portion of Hornbeam Road. The property is wooded and fairly level with a slope to the east. Wetland areas have been identified and flagged in the field. Old remnant farm foundations are present in the southwest area.

The proposal entails construction of a new elementary school building for approximately 500 students, athletic fields, subsurface sewage disposal system, stormwater drainage and detention, and parking and access roads. Public water is available for the site.

Objectives of the ERT Study

The commission has asked for assistance with the review of this project in providing expertise to properly evaluate the following: 1) the wildlife habitat and effects of development on the habitat, 2) the presence of vernal pool obligate species and/or box turtles and other significant wildlife, 3) inland wetland impacts, 4) stormwater management, 5) subsurface sewage disposal, and 5) archaeological/historical significance.

The ERT Process

Through the efforts of the Fairfield Conservation Commission, this environmental review and report was prepared for the town of Fairfield.

This report provides an information base and a series of recommendations and guidelines which cover the topics requested by the town. Team members were able to review maps, plans and supporting documentation provided by the town and applicant.

The review process consisted of four phases:

1. Inventory of the site's natural resources;
2. Assessment of these resources;
3. Identification of resource areas and review of plans; and
4. Presentation of education, management and land use guidelines.

The data collection phase involved both literature and field research. The field review was conducted on Thursday, March 28, 2002. The emphasis of the field review was on the exchange of ideas, concerns and recommendations. Being on site allowed Team members to verify information and to identify other resources. Some Team members made separate and/or additional site visits.

Once Team members had assimilated an adequate data base, they were able to analyze and interpret their findings. Individual Team members then prepared and submitted their reports to the ERT coordinator for compilation into this final ERT report.

Figure 1

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Approximate Location/Topographic Map
Scale 1" = 2000'

Wetland Resources Review

This municipally owned property is located in the north central part of town and encompasses 15.75+ acres, with an additional 1.69 acres abutting along the east corner. The proposed use is the construction of an elementary school. The utilities will consist of public water and an on site septic system. The elevation of this small, completely wooded parcel ranges from over 360 feet along the southeast boundary to a little less than 330 feet at the north corner property boundary. Included on the nearly 17.5 acre site are four wetland areas of interest.

The small hill or rise that runs northwest to southeast through the east side of the parcel, about 250 feet from, and roughly parallel to, the road is the drainage divide between Sasco Brook on the west and Cricker Brook on the east side of the parcel. A little less than 25 percent of the parcel drains into Sasco Brook and the balance, in excess of more than 13 1/2 acres, drains into Cricker Brook..

Generally speaking, the parcel has been studied in depth and reviewed closely in the weeks and months preceding the ERT Team's visit. The wetland areas have been mapped, the vegetation described, and the investigation of vernal pool status is underway. Much of the wetlands documentation is available in the November 29, 2001 letter from Environmental Land Solutions to The Town of Fairfield Inland Wetlands Agency. The Team wetland reviewer's comments on this proposal do not reiterate earlier documentation.

National Wetland Inventory Classification

The U.S. Fish and Wildlife Service has mapped and classified the wetlands and watercourses using a system of codes for all the topographic maps in the state. This parcel occurs on the Westport quadrangle, 1 :24,000 scale National Wetland Inventory (NWI) maps. Because of the scale of mapping, the inventory classifies wetlands that are the largest or most conclusively observed on the aerial photography.

At this location no wetlands were observed and/or mapped as detectable from the aerial photographs.

Water Quality

The surface water quality (which includes the wetlands and watercourses) of the area surrounding the parcel have been mapped by the Department of Environmental Protection as being Class A. Assumptions are made on many of the classifications over the extent of the map and not all surface water gets quality tested. However, with no known sources of major pollutants the wetlands on the site can be assumed to have the water quality classification of A.

In addition, the groundwater classification for the area is also A for the same reasons listed above. The descriptions of these classifications are:

Class A

Designated uses: potential drinking water supply; fish and wildlife habitat; recreational use; agricultural and industrial supply and other legitimate uses including navigation.

Discharge restricted to: same as allowed in AA (i.e.: Discharge restricted to: discharges from public or private drinking water treatment systems, dredging and dewatering, emergency and clean water discharges.).

Class GA
Designated uses: existing private and potential public or private supplies of water suitable for drinking without treatment; base flow for hydraulically connected surface water bodies.

Discharge restricted to: same as for GAA (i.e.: discharges limited to: treated domestic sewage, certain agricultural wastes, certain water treatment wastewaters.) and discharge from septage treatment facilities subject to stringent treatment and discharge requirements, and other wastes of natural origin that easily biodegrade and present no threat to groundwater.

Source: Protection Summary of the Water Quality Standards and Classifications (1997), Connecticut Department of Environmental Protection, Bureau of Water Management.

Soils

Mr. Ed Pawlak of Connecticut Ecosystems, LLC, mapped the wetland soil information for this parcel. During the course of his work he identified three wetland areas on the property and these are delineated on the site map dated November 30, 2001 which the Team received. The plan wetland maps were made from existing SCS County mapping and Mr. Pawlak's fieldwork. In essence, the wetland soils are dominated by soils that are poorly and/or very poorly drained soils.

Comments regarding the Site:

The wetlands the Team observed were dominated by four wetland components.

The largest wetland is a system that is currently fed by down slope drainage from just below the proposed location of the sediment basin. This woodland drainage first appears as a seep at the base of the slope and ultimately feeds into and forms the wetland that dominates the 1.69 abutting acres in the southeast corner of the parcel. This is part of the headwater wetlands system that ultimately flows into Cricker Brook 1.5 miles downstream after leaving the parcel. Cricker Brook flows into Mill River and ultimately into Long Island Sound.

The second large area of concern is the wetland that receives the drainage from the location of the playing fields. This is also a headwater wetland for a tributary to Cricker Brook. The stream that forms from this runoff begins to coalesce just at the property boundary and then flows about one third of a mile where it has a confluence with an unnamed tributary of Cricker Brook. Thus, it is the down slope drainage from this area that contributes to the headwater wetlands of the tributary.

The most isolated wetland and one of key interest was the potential vernal pool along the east border of the parcel. This is near where the sometimes-mapped extension of Hornbeam Road abuts the property. This small pond ranges in size from season to season depending on periodic wetness. It dries out in the summer months and reportedly holds standing water in late winter and into spring according to available moisture. Thus, the pond expands and contracts due to

seasonal moisture. It is mapped at approximately 1,200 square feet on the proposal and measures about 1,400 square feet on a 1990 aerial photograph. This pond was reportedly dry just a few weeks prior to the Team's (March 28th) visit. Interestingly, a review of the 1931 aerial photographs taken in April of the year showed the same pond to be present in the spring of that year as well. Consultant Michael Klemens is investigating the presence of vernal species in the pond and will describe his findings in a separate report for the applicant.

The fourth and smallest wetland is isolated and located towards the western corner of the parcel near a neighboring landowner's property. It exists amid quite similar surroundings of full canopy dominated by red maples with a thin shrub layer. Many of these wetlands visited on the field walk were all forested wetlands with a full overstory of trees and a mixed, often thin, understory of shrubs and herbs.

In all, the wetlands on the site were more notable than first expected. Thinking that the Team would only encounter a series of isolated wetlands, there was an excitement based on the comments in the field about the size and vegetative diversity of the large eastern headwater wetland and stream course and the potential for the vernal pool by the Hornbeam (paper) Road.

Comments Regarding the Proposal

It was the understanding of the Team that if this proposal is not approved another similar proposal will be brought forward or the acreage will be used in another capacity by the town.

Regarding the proposal the Team reviewed, there seems to have been quite a few accommodations made to provide for a variety of earlier comments. In fact the use of the uplands for the development seems to have been efficiently laid out so that all of the wetlands of concern are avoided. And it is applaudable that the proposal has kept the paved surfaces, detention areas and septic system from the wetlands. Wetland buffers are important because of their ability to filter out unwanted materials from the wetlands. Buffers act as final sediment filters that are especially important during construction and while the land surface is being disturbed. They also protect the wetlands from post construction sediments such as road sands and pesticide and fertilizer runoff from yard and garden applications. In Fairfield, the buffer areas are 67 feet in width for wetlands and riparian areas in the Sasco Brook watershed and 72 feet for the Cricker Brook watershed. The buffer lines around the wetlands have been delineated on the plans.

Thus, the primary concern regarding this proposal is the issue of runoff. Due to the impervious nature of the construction (two to two and a half acres proposed impervious surface) the issue of maintaining or mimicking the pre-development drainage after the build out is the key issue.

The proposed detention basin for the plan would have most all stormwater leave the site and enter into the municipal stormwater drainage system. Based on the discussion during the field visit and the nature of the existing drainage which feeds the headwater wetlands on site, it would be encouraging to see a plan that allows the captured stormwater to re-enter the on site wetlands system in such a way that it reflects the preconstruction condition. Currently, the hillside appears to be the lead moisture source for the potential vernal pool and the larger wetland system that flows from the property on the 1.69 abutting acres.

Since this is an educational facility and the opportunity exists to maintain nearly natural drainage this option should be studied. The wetland system now handles the runoff, and this can be closely replicated by use of a timed non-point release from the detention basin. The use of a level spreader as the outfall from the basin, the consideration of roof drain infiltrators, combinations of parking lot trench infiltrators with grit separator passing to level spreaders in lieu of detention basins and various combinations thereof should be explored. The hydrology of these wet areas is not completely understood and thus to minimize any impact to the existing wetlands systems the goal of mimicking the existing drainage should be foremost in the quest for the best possible use, least possible impact to the site. This will serve the double duty of decreasing the burden of the stormwater system whatever the final construction plan may be.

Reviewable, introductory information about infiltration trenches and level spreaders on the Web are as follows:

Infiltration trenches:

http://www.metrocouncil.org/environment/Watershed/bmp/CH3 _ STInfilTrenches.pdf

Some introductory text with graphics about level spreaders:

http://www.lakemac.infohunt.nsw.gov.au/erosion/level s_spreader.htm

http://www.abe.msstate.edu/csd/p-dm/all-chapters/chapter4/chapter4/levelsp.pdf

Soil Resources

Soils Descriptions

CrC - Charlton -Hollis fine sandy loams, very rocky, 3 to 15 percent slopes.

This complex consists of gently sloping and sloping, well-drained and somewhat excessively drained soils on hills and ridges. They have an undulating topography marked with exposed bedrock, a few drainageways, and a few small, wet depressions. Stones and boulders cover 1 to 5 percent of the surface and exposed bedrock up to 10 percent of the surface. The Charlton and Hollis soils are so intermingled on the landscape that it was not practical to map them separately.

Typically, the Charlton soils have a surface layer of very dark brown fine sandy loam 3 inches thick. The subsoil is strong brown and yellowish brown fine sandy loam 26 inches thick. The substratum is light olive brown gravelly sandy loam to a depth of 60 inches or more. Typically the Hollis soils have a surface layer of very dark grayish brown fine sandy loam 3 inches thick. The subsoil is dark yellowish brown fine sandy loam that extends to bedrock at a depth of 17 inches.

Included with this complex are small areas of well drained Paxton soils, moderately well drained Sutton soils, poorly drained Leicester soils, and very poorly drained Adrian soils. Also included are small areas of soils with bedrock at a depth of 20 to 40 inches. These Charlton and Hollis soils have moderate or moderately rapid permeability. Runoff is medium to rapid.

This complex has fair to poor potential for community development. The Charlton soil has fair potential for community development. It is limited mainly by the steepness of slopes and stoniness. The Hollis soil has poor potential for community development. It is limited mainly by the bedrock at a depth of 10 to 20 inches. Very careful planning, site location, design, and installation are necessary to insure that onsite waste disposal systems function satisfactorily. During construction of community developments, conservation measures such as temporary vegetation and siltation basins are frequently needed to prevent excessive runoff, erosion, and siltation.

Woodbridge - WxA - fine sandy loam, 0 to 3 percent slopes.

This nearly level, moderately well drained soil is on the top of drumlins and in slight depressions on hills and ridges on glacial uplands. Included in this soil in mapping are small intermingled areas, generally less than 1 acre in size, of well drained Paxton soils, moderately well drained Sutton soils, and poorly drained Ridgebury soils. Included areas make up 5 to 15 percent of this map unit. Permeability is moderate in the surface layer and subsoil and slow in the substratum. Runoff is slow.

This soil has fair potential for community development. It is limited mainly by the seasonal high water table and by the slowly permeable substratum. Because of the seasonal high water table, excavations are inundated. When the soil is saturated, steep slopes of

excavations are not stable and tend to slump. Waste disposal systems, such as an onsite septic system, will not function satisfactorily with only normal design and installation because of the seasonal high water table and the slowly permeable substratum Very careful and often costly design and installation are required to insure a satisfactory system. During construction of community developments, conservation measures are needed to prevent excessive runoff, erosion, and siltation. Quickly establishing plant cover, mulching, and using siltation basins and diversions help to control erosion and sedimentation during construction.

This soil qualifies as Prime Farmland for the State of Connecticut.

Woodbridge -WzB - extremely stony fine sandy loam, 3 to 8% slopes.

Typically, this soil has a surface layer of very dark fine sandy loam 6 inches thick. The subsoil is yellowish brown fine sandy loam 24 inches thick that is mottled in the lower part. The substratum is firm and brittle, grayish brown, mottled fine sandy loam to a depth of 60 inches or more.

Included with this soil in mapping are small areas of well drained Paxton and Stockbridge soils, moderately well drained Georgia and Sutton soils, and poorly drained Ridgebury soils. Included areas make up about 15% of this map unit. This Woodbridge soil has a seasonal high water table at a depth of about 20 inches from fall until late spring. The permeability of the soil is moderate or moderately rapid in the surface layer and subsoil and slow or very slow in the substratum. The hazard of erosion is moderate.

This soil has a fair potential for community development. The slow or very slow permeability of the substratum, the seasonal high water table, and the stones and boulders on the surface limit the soil for community development. This soil is fairly easy to excavate, but in many areas it has stones and boulders below the surface as well as on the surface. Because of the seasonal high water table, excavations are frequently inundated. Slopes of excavations are unstable when wet, and lawns are soggy from autumn to spring. Waste disposal systems, such as an onsite septic system, will generally not function with only normal design and installation because of the seasonal high water table and the slowly permeable substratum. Very careful and often costly design and installation are required to insure that onsite septic systems function satisfactorily. Particular attention needs
to be given to insure that effluent does not seep to the surface down slope from the system.

The Woodbridge soils were not identified in the reference soils report. They are of particular concern due to the siting of the proposed septic system and crucial to the systems ultimate performance.

Wetland soils

Rn -Ridgebury, Leicester, and Whitman extremely stony fine sandy loams.

This unit consists of poorly drained and very poorly drained soils in depressions and drainageways on uplands and in valleys. Stones and boulders cover 5 to 35 percent of the surface. Slopes range from 0 to 8 percent but are dominantly less than 3 percent.

The mapped acreage of this unit is about 35 percent Ridgebury soils, 30 percent Leicester soils, 20 percent Whitman soils, and 15 percent other soils. The soils were mapped together because they have no major differences in use and management. Some areas of this unit contain only one of the major soils, and some contain two or three.

The major soils in this unit have a seasonal high water table at or near the surface from fall through spring. The permeability of the Ridgebury and Whitman soils is moderate or moderately rapid in the surface layer and subsoil and slow or very slow in the substratum. The permeability of the Leicester soils is moderate or moderately rapid throughout. Runoff is slow on all three, and water is ponded on the surface of some areas of the Whitman soils. The soils of this unit have poor potential for community development. They are limited mainly by their seasonal high water table and stoniness. Quickly establishing plant cover and using siltation basins help to control erosion and sedimentation during construction.

The Ridgebury and Whitman soils are also limited by a slowly permeable substratum. These soils are difficult to excavate because of the high water table and stoniness. These soils have poor potential for building foundations and basements because footings are placed below the depth of the high water table. Because of the high water table much of the year and because of the slowly permeable substratum in the Ridgebury and Whitman soils, waste disposal systems, such as septic tank absorption fields, do not function satisfactorily without very unusual and costly design and installation. Even if carefully designed, they often have a high failure rate.

Typically, the Ridgebury soils have a surface layer of very dark grayish brown fine sandy loam 4 inches thick. The subsoil is brown and light brownish gray, mottled fine sandy loam 14 inches thick. The substratum is grayish brown and dark yellowish brown, mottled fine sandy loam to a depth of 60 inches or more.

Typically, the Whitman soils have a surface layer of very dark gray fine sandy loam 8 inches thick. The subsoil is 16 inches thick. The upper 10 inches is dark grayish brown gravelly fine sandy loam. The lower 6 inches is grayish brown, mottled fine sandy loam. The substratum is very firm, grayish brown, mottled gravelly fine sandy loam to a depth of 60 inches or more. Included with this unit in mapping are small areas of moderately well drained Woodbridge and Sutton soils and very poorly drained Adrian and Scarboro soils. Also included are small areas where stones and boulders cover less than 5 percent of the surface or more than 35 percent and small areas that have slopes of more than 8 percent.

The high water table, ponding, and the stones and boulders on the surface limit these soils for community development. Onsite septic systems require extensive filling and special design and installation because of the high water table. Excavations are commonly filled with

water, and many areas do not have suitable drainage outlets. Quickly establishing plant cover and using siltation basins help to control erosion and sedimentation during construction.

Siting Concerns

Drainage

In the northern area of the property, the proposed area of the septic system and the recreational fields, ground water recharge can be affected by the large relatively impervious surface of the proposed playing fields. Both surface and ground water recharge to the wetland areas must be considered to maintain the integrity of the wetland soils. Increasing the discharge rate could not only contribute to flooding offsite but also could be adverse to the moderating effect of ground water recharge during periods of low precipitation, impacting wetland function and natural vegetation and wildlife.

The soils and surface geology on this site describe a surface and ground water system that is varied and complex. In order to support the natural areas, both on and off site, this complex system must be considered when designing drainage systems. Storm water controls must disperse water as much as possible, not concentrate flows, in order to duplicate as closely as possible the current condition of perched water tables, seeps and surface ponding..

- It is recommended that all runoff be retained on site and that discharge from engineered detention basins is utilized to maintain the hydrologic regime and support natural conditions of perched water tables, seeps and surface runoff.

- Surface runoff from the playing field area should be retained for maximum infiltration. A vegetated swale could be constructed along the east-northeast edge of the fields.

- Post construction runoff volumes to the two respective watershed sub basins should remain proportionally the same.

  Discharge from the detention basin should duplicate the diffuse surface and near surface flows, as now exist, as closely as possible. There are at least two considerations for closely maintaining the existing hydrologic regime upslope of the wetlands.

- Maintain low-flow discharge.

- Maintain the existing dispersed surface and sub-surface flows.

  One possibility for accomplishing this is outlined in "The Town of Fairfield, Staff Review and Recommendation IWPA No. 2001-022" (Page 6). It is suggested that "The stonewall separating the school detention basin from the southeasterly wetlands could be modified to provide a level-lip spreader function along the wall to maintain water flow to the wetlands and thereby eliminate the storm sewer to Hornbeam Road".

The removal of the water from the proposed engineered basin east of the school building via a 12" (or 15" ?) rcp to the Hombeam road r.o.w. would:

- Diminish recharge from the surface and ground water regime upslope of the wetland area by removing water offsite.

- Disrupt the continuity of the woodlands that connect the wetland areas from the southeast and the wetland areas of the northeast. Obligate vernal pool species have been identified, which require contiguous, uninterrupted upland areas for species viability.

- The net loss of runoff to the wetlands could change the long-term moisture conditions of the wetland soils and consequently affect the existing plant and animal communities.

Areas around the westerly wetland tend to retain moisture at or near the surface. Minimizing the disruption of the existing soils and vegetation would help maintain existing hydrologic conditions. Maximizing the distance between the proposed driveway and the wetland area, for example, would create more room for a runoff detention swale that could run parallel to the proposed driveway. This would further support a contiguous woodland area by eliminating the need for the proposed swale along the west -northwest property line.

Site Data

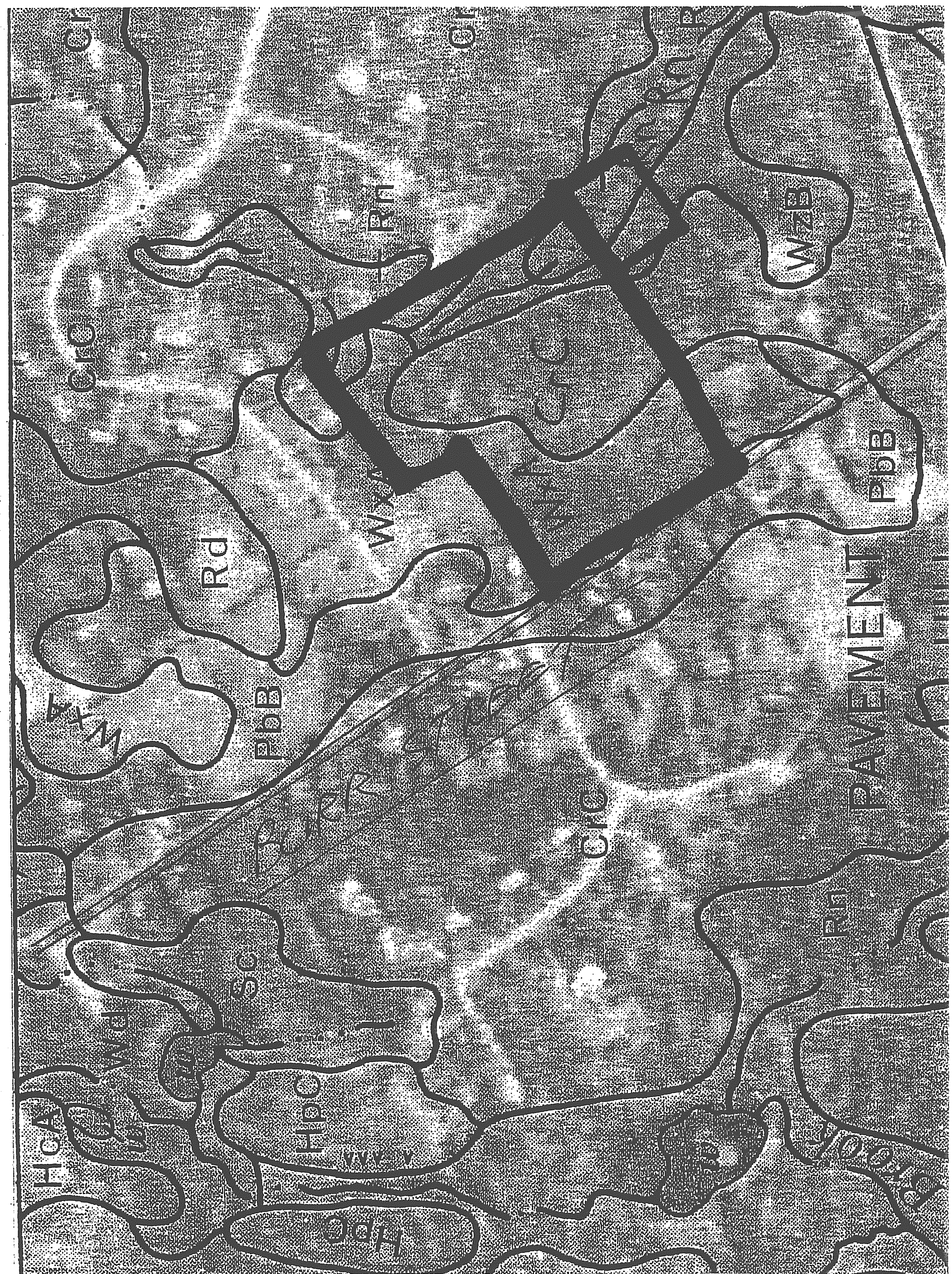
The "Site Survey, Burr Street, Fairfield Connecticut" September 6, 2001; HRP Associates, a-2 Survey, indicates the Hornbeam Road Right of Way approximately 35 feet northward of the Hornbeam Road Right of Way location indicated on SP-1 of the same survey, labeled "Site Plan" This is significant because the Site Plan sheet shows the location of the proposed storm sewer line and based on the A-2 survey, the line's proposed location is through the adjacent flagged wetland.

The site plan map L-101 indicates "existing vegetation" to remain easterly of the proposed playing fields at its minimum to be 140 wide from the easterly property line. The "Habitat Enhancement Plan", L-102, indicates the minimum "Existing Woods to Remain" easterly of the proposed playing fields as approximately 80 feet wide.

Figure 2

Soil Survey Map
Not to Scale

Site Location and Soil Survey Map
Burr Street School Fairfield



Stormwater Permitting

Since the site construction involves the disturbance of over five acres, Connecticut's General Permit for the Discharge of Stormwater and Dewatering Wastewaters ("the permit") will cover the project. The permit requires that the site register with the Department of Environmental Protection (CTDEP) at least 30 days before the start of construction. The registrant must also prepare, submit and keep on site during the construction project a Stormwater Pollution Control Plan ("the Plan").

Due to the size and potential impacts on natural resources of this project, the Department recommends that the plan be submitted 180 days prior to the start construction. If the Department finds that the Plan is inadequate, Connecticut General Statutes Section 22a-430b and general permit Section 7(c) allow the Commissioner to require an individual permit, a process that could delay approval of the project for several months. In order to prevent this and to ensure adequate review time, the Department has requested early submittal of the Plan.

Please note that while this review is based primarily on the permit, many of the erosion and sedimentation issues are included in the Connecticut Guidelines for Soil Erosion and Sediment Control "the guidelines"), and are issues that must be dealt with on a local level before being included in the Plan. It appears that Fairfield's Inland Wetland Commission has provided detailed comments with respect to this project. It should also be noted that the permit requires compliance with the guidelines. The developer must register for the permit, and the contractor and any subcontractors involved in grading must sign the contractor certification statement in the permit. Any registration submitted by anyone other than the developer will be rejected.

Sedimentation and erosion controls must be designed and installed in accordance with the guidelines. Silt fence installation must comply with the guidelines, and may be used only in drainage areas of one acre or less. At a minimum, for discharge points that serve an area with between 2 and 5 disturbed acres at one time, a sediment basin, sediment trap, or other control as may be defined in the guidelines for such drainage area, designed in accordance with the guidelines, shall be designed and installed. Any areas are discharge points that serve an area greater than 5 acres must have a sediment basin. The basin must be designed in accordance with the guidelines and provide a minimum of 134 cubic yards of water storage per acre drained.

The Plan must include a site map as described in Section 6(b)(6)(A) of the General Permit and a copy of the erosion and sedimentation (E & S) control plan for the site. The E & S plan that has been approved by the Town in conjunction with the CTDEP Inland Water Resources Division (IWRD) and the local Soil and Water Conservation District may be included in the Plan. This plan and site map must include specifics on controls that will be used during each phase of construction. Specific site maps and controls must be described in the Plan, as well as construction details for each control used. The permit requires that "the plan shall ensure and demonstrate compliance with" the guidelines.

Due to the amount of soil disturbance, one of the best ways to minimize erosion potential is to phase construction in order to minimize unstable areas. The Plan must be flexible to account for adjustment of controls as necessary to meet field conditions. It should include contingencies

in case the proposed erosion controls measures are not adequate to meet field conditions. At a minimum, the plan must include interior controls appropriate to different phases of construction.

This project has many regulated areas, wetlands and watercourses that must be protected, which makes weekly inspections and modifications to erosion control an important part of this project. The permit (Section 6(b)(6)(D)) requires inspections of all areas at least once every seven calendar days and after every storm of 0.1 inches or greater. The Plan must also allow for the inspector to require additional control measures if the inspection finds them necessary, and should note the qualifications of personnel doing the inspections. In addition, the Plan must include monthly inspections of stabilized areas for at least three months following stabilization and the end of construction. Due to the scope and potential wetland and stream impacts of this project, there must be someone available to design and adjust E&S controls for changing site conditions, who has the authority and resources to ensure that such necessary changes are implemented. Due to the size of the project, the Department during construction may require a full time erosion and sediment control inspector, approved by the Department.

Section 6(b)(6)(C)(ii) of the permit requires the Plan to address dewatering wastewaters that this site may generate. Specific details for construction control during installation of all wetland crossings must be provided.

Particular attention must be paid to the intermittent watercourse on the east side of Burr Street, the confirmed vernal pool adjacent to the Hoffman property, and any identified wetland areas.

Post-construction Stormwater Treatment

The permit (Section 6(b)(6)(C)(iii)) requires that the Plan include a design for post-construction stormwater treatment of 80% of total suspended solids from the completed site. In order to comply with this requirement, the Department recommends incorporating swirl concentrator technology.

Although, swirl concentrators are effective at removing sediment, they require a long-term maintenance commitment from the town than that required for a basin once it is fully grown-in and stabilized. If an in-ground, "black-box" solution is used, swirl-concentrator technology is a minimum requirement. Special attention with respect to post-construction stormwater treatment because of the use of pesticides and fertilizers by the athletic fields will be needed. A turf management plan will be needed to ensure proper attention to pollutants caused by runoff from the fields. Some newer generation swirl concentrators also incorporate filtration systems to address other pollutant issues, but these also require long-term maintenance plans.

Erosion and Sediment Control Notes

General permit stabilization requirements include the following: "where construction activities have permanently ceased or have temporarily been suspended for more than seven days or where final grades are reached in any portion of the site, stabilization practices shall be implemented within three days". Areas that remain disturbed but inactive for at least thirty days

shall receive temporary seeding in accordance with the guidelines. In all cases, stabilization measures shall be implemented as soon as possible in accordance with the guidelines.

Other Issues

The town should be aware that regardless of the storm event size, they would be responsible for remediation of any impacts. Special attention should be taken to evaluate the effects of any storm on any receiving water bodies.

Since the groundwater table is high, care should be taken during designing and placement of sedimentation basins to ensure full storage capacity of basins.

Construction of athletic fields may cause a significant amount runoff and potential erosion of downhill slope. The build up of runoff could cause erosion and potential sedimentation into regulated areas. Adequate stabilization of slopes and phasing of the project should take into account these areas.

This report addresses some of the major issues concerning the project and does not constitute a complete review of the Plans for permitting purposes.

Sewage Disposal

The following is correspondence received 5/22/02 from the Connecticut Department of Health. A copy of the Huntington Company, LLC letter and an earlier CT DOH letter concerning the proposed on-site sewage disposal system may be found in the Appendix.

STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH

May 20, 2002

Eastern Connecticut and King's Mark
Ms. Elaine Sych, ERT Coordinator
P.O. Box 70, 1066 Saybrook Road
Haddam, CT 06438

RE: Burr Street Elementary School, Fairfield, CT

Dear Ms. Sych:

Please note the attached letter dated May 15, 2002 from the Huntington Company, LLC regarding utilizing a sanitary sewer system to provide sewage disposal for the Burr Street Elementary School in Fairfield, CT. Since an on-site subsurface sewage disposal system is no longer proposed at the school, it is no longer necessary that this office review this project.

Please feel free to contact me if you have any questions.

Matthew Pawlik
Sanitary Engineer II
Environmental Engineering Section

cc: Walter H. Jobst Jr., PELS
The Huntington Company, LLC
1150 Post Road
Fairfield, CT 06430

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Telephone Device for the Deaf (860) 509-7191
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The Natural Diversity Data Base

The Natural Diversity Data Base maps and files regarding the project area have been reviewed. According to our information, there are no known extant populations of Federal or State Endangered, Threatened or Special Concern Species that occur at the site in question. Our records indicate that a state species of special concern, the Piedmont Groundwater Amphipod (Stygobromus tenuis tenuis), an amphipod - has been documented in the vicinity of this project.

This amphipod (Stygobromus tenuis tenuis) favors groundwater, wells, and springs (troglobitic). A map of the project site was not reviewed to compare locations, however, the record is in a seep which leads to a hidden pond. If favored habitats like these are going to be affected by this project than the Piedmont Groundwater Amphipod will be affected.

Natural Diversity Data Base information includes all information regarding critical biological resources available to us 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. Consultations with the Data Base should not be substitutes 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. Such new information is incorporated into the Data Base as it becomes available.

Also be advised that this is a preliminary review and not a final determination. A more detailed review may be conducted as part of any subsequent environmental permit applications submitted to DEP for the proposed site.

Wildlife Resource Review

Introduction

This section will focus on potential wildlife impacts for the proposed development and recommendations for reducing wildlife resource impacts for the proposed Burr Street Elementary School, Fairfield, CT.

Wildlife Observations/Site Inspection

The following wildlife were observed during the site visit either directly* or indirectly by identifying calls, tracks, scat or other sign: *whitetailed deer (Odocoileus virginianus), raccoon (Procyon lotor), *gray squirrel (Sciurus caroliniana), woodchuck (Marmota monax), *American crow (Corvus brachyrynchos), *blue jay (Cyanocitta cristata), *American robin (Turdus americana), song sparrow (Melospiza melodia), mourning dove (Zenaida macroura), *black-capped chickadee (Parus atricapillus), *tufted titmouse (Parus bicolor), *hairy woodpecker (Picoides villosus), *red-winged blackbird (Agelaius phoeniceus), *redback salamander (Plethodon cinereus), and eastern garter snake (Thamnophis s. sirtalis). Evidence of deer browsing, deer tracks and deer trails was abundant throughout the property. Skeletal remnants of a young of the year male deer was found on the site walk. It was too decomposed to ascertain its cause of death. It may have been a vehicle strike given its distance from a road. A more detailed review of the property during the four seasons of the year would, undoubtedly, reveal additional wildlife use of the property.

Wildlife Habitat Condition

This 15.75 acre property provides habitat for a variety of forest-dwelling wildlife species for all or some of their life requirements. A small hardwood forest such as this can provide habitat for a variety of generalist wildlife species. Smaller and fragmented forest (less than 50 acres) tend to have more adaptable wildlife species during the nesting seasons. This site inspection was done in March before most of the migratory birds return to Connecticut when it is possible to find a variety of migrating birds using these smaller forests as stopover habitat. It is possible that some forest interior bird species may use some of the property to meet some of their habitat requirements in conjunction with adjoining wooded parcels. A small forest such as this is likely to experience high nest predation and parasitism by brown-headed cowbirds (Molothrus ater). Mammals that are likely to inhabit this small forest include the more adaptable species such as deer, raccoon, skunk, eastern coyote, red fox, woodchuck and gray squirrel. Reptile and amphibian use of this small forest is relatively unknown. Current amphibian surveys being conducted by Michael Klemens may reveal use of vernal pools and wetlands by amphibians (note: a spotted salamander (Ambystoma maculatum) was found in a vernal pool on the property Spring of 2002, Elaine Sych, personal communication). Use of the property by land turtles such as state listed Eastern Box Turtle (Terrapene c. carolina) may be possible (Michael Klemens, personal communication on March 28, 2002). Moderate to heavy browsing of the understory plants is occurring from deer browsing which may lead to a decline in seedling recruitment of overstory trees, plant diversity and vertical structure of the forest.

Non-native Invasives

Noted on the site walk were the following non-natives: winged euonymus (Euonymus alatus), privet (Ligustrum spp.), Japanese honeysuckle (Lonicera japonica), wineberry (Rubus phoenicolasius), Oriental bittersweet (Celastrus orbiculatus), Japanese barberry (Berberis thunbergii) and garlic mustard (Alliaria petiolata). These non-native invasives are introduced species which displace native species by usurping nutrients and sunlight of the location.

Wildlife Impact - Creation of a School, Parking Lot, Septic Field and Other Structures - Forest Fragmentation and Shrinking Forest Size

Forest fragmentation and shrinking forest sizes due to human development are considered major wildlife conservation issues in the northeastern United States (Whitcomb et al. 1981, Asking et al. 1987). This impact is best described or understood from a landscape-level perspective. As more forestland is removed, remaining forest become smaller and further fragmented. As forest and habitat sizes shrink, they are less viable as breeding places for interior forest birds and an increase in predation and parasitism of nest occurs (Blake and Karr 1985). Conversion of forestland to buildings, pavement and mowed grass field will benefit generalist species such as American robins, crows, bluejays, cardinals, and invasive bird species such as house sparrows and European starlings.

Discussion

Connecticut is a densely settled state and its land base is subdivided into smaller and smaller parcels each year. With over 80 percent of the land in Connecticut privately owned, land that is in public ownership has the possibility of the application of long-range conservation measures. Private land, on the other hand, is subject to the variety of development pressures and changes which makes managing and conserving them as habitat less likely. Long range conservation planning is difficult due to the changing ownership and development pressures. Property in the public domain, be it federal, state or municipal, has the opportunity for long term habitat management and conservation. This town-owned property has the opportunity to be managed long term. The decision to develop this property as a school or managed as open space will affect the future conditions for wildlife. The proposed development will alter and fragment 15.75 forested acres. Fairfield's land base is about 19,431 acres and approximately 32 percent is forested (DEP Land Use Statistics using Geographic Information Systems, 1996). Connecticut, overall, is approximately 59 percent forested.

Sewered Land versus Non-sewered Land

Given that this property is not sewered, it will require a septic field and reserve area. The need for a septic field area requires more forested area to be removed than if a sewered property was utilized. Are there any alternative properties available for development that are sewered?

Effect of Urbanization to Herptiles

Modification of natural habitat is the major factor that effects reptiles and amphibians. As landscapes continue to be developed, natural cover, breeding sites, travel corridors, microhabitats such as seeps and hibernation areas get degraded or lost through filling, grading, or dewatering through site engineering modifications.

Landscaping and Plantings for Schoolyards

In reviewing the planting plans for the site, it is commendable that no non-native invasives were proposed and mostly native species are on the planting list (see Appendix for non-native invasives plant list for Connecticut). The proposed plants will provide wildlife habitat value and a possible learning exhibit for students, teachers, faculty and parents. The Team wildlife biologist would recommend the following plants for the purposes of their butterfly values: Hackberry (Celtis occidentalis) and Butterfly Weed (Aesclepias tuberosa).

Concluding Remarks

This 15.75 acre forested property provides wildlife habitat in a rapidly urbanizing section of Connecticut. This publicly owned property provides habitat for wildlife especially many of the generalist species. Although it may not have the size requirements to make it an important interior forest habitat, it provides some wildlife with most or part of their life requirements for habitat. The site's value to amphibians is currently being studied. A vernal pool study is being conducted by the applicant's consultant and its findings are still preliminary. Wildlife habitat in the Fairfield area that is 15 acres or larger is mostly in private ownership, which makes this publicly owned parcel unique and valuable as a natural habitat. The future of wildlife habitat will depend on the actions taken by private landowners but, in this case, a public entity - the Town of Fairfield. Are there more feasible and prudent alternatives for this publicly owned parcel? From a wildlife conservation perspective, there are more feasible and prudent alternatives. If the town decides to develop this land for a school, the Team wildlife biologist is available for further consultation for nature trail development or habitat enhancement recommendations.

References Cited

Blake, J. G. and J. R. Karr. 1984. Species composition of bird communities and the conservation benefit of large versus small forests. Biological Conserv. 30:173-187.

Klemens, Michael W. 1993. Amphibians and Reptiles of Connecticut and Adjacent Regions. Bulletin No. 112. State Geological and Natural History Survey of Connecticut. American Museum of Natural History, NY, NY.

Whitcomb, R. F., Robbins, C. S. Lynch, J. F., Whitcomb, B. L. Klimkiewicz, Brystrak, D. 1981. Effects of forest fragmentation on avifauna of eastern deciduous forest. In Burgess, R. L., Sharpe, D. M. (eds.) Forest Island Dynamics in man-dominated landscapes. Springer-Verlag, New York.

Archaeological/Historical Review

A review of the State of Connecticut Archaeological Site files and maps shows no known archaeological site in the project area. In addition, field review indicates that topographical and environmental features of the project area suggest only a moderate sensitivity toward undiscovered archaeological resources. Nonetheless, the property is located in an historic section of Fairfield, and, does contain the ruins of a barn feature. The barn appears to be late 19th/early 20th century, and, may not be historically significant. In addition, the site is situated in the southwest corner of the property and within the established buffers from Burr Street and the south property boundary.

Nonetheless, the Office of State Archaeology (OSA) has the following recommendation. The barn area should be left intact by avoidance and burial. The OSA recommends that fill be placed over the site to bury the stone and cement features not more than a foot below surface. This avoidance and burial procedure will save the site, yet, ensure that elementary school children do not hurt themselves on the broken glass and rusted metal fragments associated with the barn. In addition, the site will be available for future educational opportunities whenever teachers decide to use the barn as an outdoor history laboratory. The barn would make a good teaching site because the students can learn archaeological field techniques while not impacting an earlier colonial site.

Historic usage of the property appears to have been fields for pasturing and other farming activities. The project area does contain farming debris, primarily equipment parts and dumps, all of which appear to be of early 20th-century origin. In addition, it is suggested that the property has a low-to-moderate sensitivity for disturbing undiscovered prehistoric archaeological sites.

The Office of State Archaeology recommends that the barn feature in the southwest corner of the property be avoided and secured for possible future use as an educational outdoor laboratory for students by burial of clean fill only to a depth of a foot of soil.

Appendix

SB GROUP

The Huntington Company, LLC

A member of the SB Group of Companies.

1150 Post Road • Fairfield, CT 06430
203 259 1091 • fax 203 255 9192
e-mail: huntllc@spath-bjorklund.com

May 15, 2002

Mr. Matthew Pawlic
410 Capital Avenue MS#51SEW
P.O. Box 340308
Hartford, CT 06134-0308

Re: Burr Street Elementary School
Burr Street
Fairfield, Conn.

Dear Matt:

Please be informed that the concept of installing a septic system for the above mentioned project has been abandoned in favor of the installation of a sanitary sewer system for the project.

If you have any questions please contact our office.

Very truly yours,

The Huntington Company LLC

Walter H. Jobst Jr. PELS

STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH

March 26, 2002

Arthur J. Leffert, Director of Health
Fairfield Health Department
Sullivan Independence Hall
725 Old Post Road
Fairfield, CT 06430

RE: BURR STREET ELEMENTARY SCHOOL, FAIRFIELD, CT

Dear Arthur:

As you know, you submitted plans to our office for review back in December for proposed development of the Burr Street Elementary School located on Burr Street just North of the Merit Parkway. Plans were prepared by the Huntington Company and submitted to our office for review pursuant to Section 19-13-B103d (c) of the Public Health Code. On December 26, I contacted Walter Jobst of the Huntington Company to discuss several comments with respect to the preliminary design plan. Of major concern was the hydraulic potential for this site to handle projected sewage flows.

After review of the water data provided, it was agreed that the basis of design could be reduce to five or six gallons per pupil providing a 1.5 safety factor was employed. Secondly, it was critical Mr. Jobst demonstrate how they proposed leaching area could disperse the estimated design flow. Because of the significant reduction in design flow, it is important a hydraulic analysis be performed to confirm suitability. Other minor technical items included the need for more percolation tests in the primary and reserve areas, the use of a 3000 gallon septic tank followed by a 1500 gallon septic tank in series, specification of an outlet filter, inclusion of specifications for fill material, specification of pipes to be used, location of the proposed water service line and the seal and signature of the design engineer.

With some small systems, we have allowed the consideration for separation of leaching system components more than 50 feet apart to double the potential MLSS calculations. However, on a project as important as a public school, it is critical that we be assured the soils will not be over loaded in the proposed primary and reserve leaching areas. For that reason, it was recommended Mr. Jobst consider the widest application of leaching system possible and the providing of hydraulic analysis to assure the soil will not become over saturated.

To date, we have not received any additional information or response from the Huntington Company. As you know, I will be leaving state service on April 1, 2002 and request that you forward any additional information concerning this project to Robert Scully or Matthew Pawlik for their continued involvement with the final review and response. If you have nay questions or would like to further discuss this matter please contact them.

Very truly yours

Frank A. Schaub
Supervising Sanitary Engineer
Environmental Engineering Section

FAS/jm
c: John McMahon, RS
Walter Jobst, Huntington Company,
Elaine Sych, Eastern CT
Robert W. Scully, PE

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KEY

LIFEFORMS

T = tree
S = shrub
V = vine
H = herbaceous plant
G = grass
A = aquatic

HABITATS

U = uplands (all upland habitats including closed-canopy forests, second-growth woods, fields, grasslands, ridge tops, sand barrens, pitch pine scrublands etc.)
O = open areas (fields, grasslands, sand barrens, dry meadows etc.)
W = wetlands (swamps, marshes, wet meadows, fens, bogs, flood plains, flood plain forests, pond and stream shores)
L = lakes (ponds, in impounded water)
R = rivers (streams, in running water)
C = coast (sand dunes, rocky headlands, upper edges of salt water tidal marshes)

This list and the criteria for listing were developed by the George Safford Torrey Herbarium, University of Connecticut, in conjunction with the State Geological and Natural History Survey of Connecticut and the Connecticut Invasive Plant Working Group. For a copy of the Criteria, please visit the Invasive Plant Working Group web page **http://www.eeb.uconn.edu/invasives**.

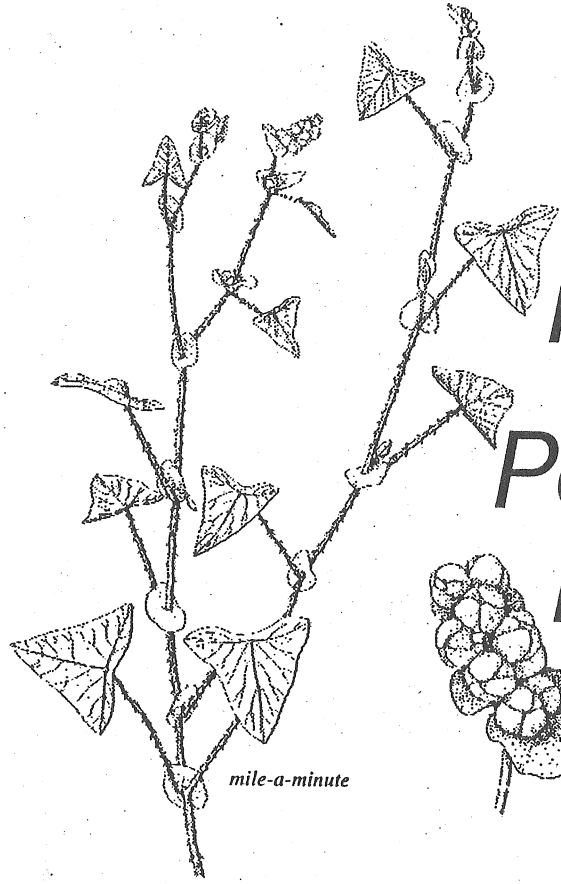
For more information on these species visit the New England Invasive Plant Atlas web page **http:/www.eeb.uconn.edu/invasives/neipa.htm**.

This list should be cited: Mehrhoff, L.J., K.J. Metzler, & E.E. Corrigan. 2001. Non-native and potentially invasive vascular plants in Connecticut. Center for Conservation and Biodiversity, University of Connecticut, Storrs.

CENTER FOR CONSERVATION & BIODIVERSITY • UNIVERSITY OF CONNECTICUT •

CONNECTICUT DEPARTMENT • ENVIRONMENTAL PROTECTION •

USDA



Non-native *Invasive* and *Potentially Invasive* Vascular Plants in Connecticut

This is a list of species whose intentional introduction into minimally managed habitats (preserves, sanctuaries, parks, wildlife management areas and other natural areas) should be discouraged. Species on the list are either **potentially invasive** or **invasive.** Invasive species are either **widespread** or have a **restricted** range in Connecticut. These two terms are geographic descriptors and do not imply degree of invasiveness. The list is intended to be an educational tool, is not static and will be reevaluated on an annual basis. A species as listed here includes all subspecies, varieties, forms, cultivars and synonyms. Life forms and broad habitat descriptors for habitats that are primarily threatened are noted.

MARCH 2001

WIDESPREAD AND INVASIVE

SCIENTIFIC NAME	COMMON NAME	LIFEFORM	HABITAT
Ailanthus altissima (Mill.) Swingle	Tree-of-heaven	T	U
Alliaria petiolata (Bieb.) Cavara & Grande	Garlic Mustard	H	U
Berberis thunbergii DC.	Japanese Barberry	S	U
Cardamine impatiens L.		H	U
Celastrus orbiculatus Thunb.	Asiatic Bittersweet	V	U
Centaurea maculosa Lam. syn. Centaurea biebersteinii DC.	Spotted Knapweed	H	O
Elaeagnus umbellata Thunb.	Autumn Olive	S	O
Euonymus alatus (Thunb.) Sieb.	Winged Euonymus	S	U
Euphorbia cyparissias L.	Cypress Spurge	H	O
Fallopia japonica (Houtt.) Decraene syn. Polygonum cuspidatum Sieb. & Zucc.	Japanese Knotweed	H	U, W
Frangula alnus Mill. syn. Rhamnus frangula L.	European Buckthorn	S	U
Hesperis matronalis L.	Dame's Rocket	H	U
Lonicera X bella Zabel	Bella Honeysuckle	S	U, W
Lonicera japonica Thunb.	Japanese Honeysuckle	V	U, W
Lonicera morrowii A. Gray	Morrow's Honeysuckle	S	U, W
Lythrum salicaria L.	Purple Loosestrife	H	W
Nasturtium officinale R. Br.	Watercress	H	W
Phragmites australis (Cav.) Trin.	Common Reed	G	U, W
Potamogeton crispus L.	Crispy-leaved Pondweed	A	R, L
Rhamnus cathartica L.	Buckthorn	S	U
Robinia pseudoacacia L.	Black Locust	T	U
Rosa multiflora Thunb.	Multiflora Rose	S	U
Vincetoxicum nigrum (L.) Moench syn. Cynanchum nigrum (L.) Pers. Cynanchum louiseae Kartesz & Gandhi	Black Swallow-wort	H,V	U
Vincetoxicum rossicum (Kleo.) Barb. syn. Cynanchum rossicum (Kleo.) Borhidi	Swallow-wort	H,V	U

RESTRICTED AND INVASIVE

SCIENTIFIC NAME	COMMON NAME	LIFEFORM	HABITAT
Ampelopsis brevipedunculata (Maxim.)	Porcelain berry	V	U
Cabomba caroliniana A. Gray	Fanwort	A	L, R
Egeria densa Planchon	Brazilian Water-weed	A	L, R
Froelichia gracilis (Hook.) Moq.	Cottonweed	H	O
Humulus japonicus Sieb. & Zucc.	Japanese Hops	H,V	W, U
Hydrilla verticillata (L. f.) Royle	Hydrilla	A	L, R
Iris pseudacorus L.	Yellow Iris	H	W
Lepidium latifolium L.	Tall Pepperwort	H	C, O
Lysimachia vulgaris L.	Garden Loosestrife	H	W
Microstegium vimineum (Trin.) A. Camus	Japanese Stilt Grass	G	U
Myriophyllum heterophyllum Michx.	Variable Water-milfoil	A	L, R
Myriophyllum spicatum L.	European Water-milfoil	A	L, R
Polygonum perfoliatum L..	Mile-a-minute vine	V, H	U
Ranunculus ficaria L..	Lesser celandine	H	UW
Rubus phoenicolasius Maxim.	Wineberry	S	U
Trapa natans L.	Water Chestnut	A	L, R
Tussilago farfara L.	Coltsfoot	H	U, W

POTENTIALLY INVASIVE

SCIENTIFIC NAME	COMMON NAME	LIFEFORM	HABITAT
Acer ginnala L.	Amur Maple	T	U
Acer platanoides L.	Norway Maple	T	U
Acer pseudoplatanus L.	Sycamore Maple	T	U
Aegopodium podagraria L.	Goutweed	H	W
Aira caryophyllea L.	Silver Hairgrass	G	O
Allium vineale L.	Wild Garlic	H	U
Amorpha fruticosa L.	False Indigo	S	W
Arthraxon hispidus (Thunb.) Makino		G	O, W
Berberis vulgaris L.	Barberry	S	U
Bromus tectorum L.	Drooping Brome-grass	G	O
Butomus umbellatus L.	Flowering-rush	H	W
Callitriche stagnalis Scop.		A	R, W
Cirsium arvense (L.) Scop.	Canada Thistle	H	O
Datura stramonium L.	Jimson-weed	H	C
Elaeagnus angustifolia L.	Russian Olive	S	U
Elsholtzia ciliata (Thunb.) Hylander	Elsholtzia	H	U
Euphorbia esula L.	Leafy Spurge	H	O
Geranium nepalense Sweet	Nepalese Crane's-bill	H	U
Glechoma hederacea L.	Gill-over-the-ground	H	W
Glyceria maxima (Hartman) Holmburg	Tall mannagrass	G	W
Impatiens glandulifera Royle	Tall impatiens	H	W
Kochia scoparia (L.) Schrader	Summer Cypress	H	C
Ligustrum obtusifolium Sieb. & Zucc.	Border Privet	S	U
Ligustrum ovalifolium Hassk.	California Privet	S	U
Ligustrum vulgare L.	European Privet	S	U
Lonicera maackii (Rupr.) Maxim.	Amur Honeysuckle	S	U
Lonicera tatarica L.	Tatarian Honeysuckle	S	U
Lonicera xylosteum L.	European Fly-honeysuckle	S	U
Lychnis flos-cuculi L.	Ragged Robin	H	O
Lysimachia nummularia L.	Moneywort	H	W
Marsilea quadrifolia L.	Water Shamrock	H	L
Miscanthus sinensis Anderss.	Eulalia	G	O
Myosotis scorpioides L.	Forget-me-not	H	W
Myriophyllum aquaticum (Vell.) Verdc.	Parrotfeather	A	L
Nelumbo lutea (Willd.) Pers.	American Water Lotus	A	L
Najas minor Allioni	Eutrophic Water-nymph	A	L
Nymphoides peltata (Gmel.) Kuntze	Yellow floating heart	A	L
Onopordum acanthium L.	Scotch thistle	H	C
Ornithogalum umbellatum L.	Star of Bethlehem	H	U
Paulownia tomentosa (Thunb.) Steudel	Empress-tree	T	U, C
Phalaris arundinacea L.	Reed Canary-grass	G	W
Poa compressa L.	Canada Blue-grass	G	U
Polygonum caespitosum Blume		H	U
Populus alba L.	White Poplar	T	U
Pueraria lobata (Willd.) Owhi	Kudzu-vine	V	U
Rosa rugosa Thunb.	Japanese Rose	S	C
Rumex acetosella L.	Sheep Sorrel	H	U
Silphium perfoliatum L.	Cup-plant	H	U
Solanum dulcamara L.	Climbing Nightshade	H, V	U, W
Valeriana officinalis L.	Garden-heliotrope	H	U
Veronica beccabunga L.	Brooklime	H	W

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 and 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 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 in the review of sites proposed for major land use activities or natural resource inventories for critical areas. 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 recreation/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 landowner/developer allowing the Team to enter the property for the purposes of a review and a statement identifying the specific areas of concern the Team members should investigate. When this request is reviewed by the local Soil and Water Conservation District and approved by the King's Mark RC&D Executive Council, the Team will undertake the review. At present, the ERT can undertake approximately two reviews per month depending on scheduling and Team member availability.

For additional information regarding the Environmental Review Team, please contact the King's Mark ERT Coordinator, Connecticut Environmental Review Team, P.O. Box 70, Haddam, CT 06438. The telephone number is 860-345-3977.