Perillo
Queen Street Development

Southington, Connecticut

King's Mark Environmental Review Team Report

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

Perillo Queen Street Development

Southington, 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

Inland Wetland Agency
Southington, Connecticut

August 2005

Report #333

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Acknowledgments

This report is an outgrowth of a request from the Southington Inland Wetlands and Watercourses Commission to the Southwest Conservation District (SWCD) and the King's Mark Resource Conservation and Development Area (RC&D) Council for their consideration and approval. The request was approved and the measure 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, July 13, 2005.

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I would also like to thank David Lavallee, environmental planner, Dennis Palmieri, conservation commission member, Lou Perillo, applicant, Andrew Quirk and Severino Bovino, engineering consultants for the applicant and David Lord, soil scientist 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 with location and soils maps. During the field review Team members were given plans and additional information. Some Team members conducted a plan review only. 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 landowner/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 commercial building with associated wetland activity and mitigation.

If you require additional information please contact:

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Table of Contents

Introduction

Introduction

The Southington Inland Wetland Agency has requested Environmental Review Team (ERT) assistance in reviewing a proposed commercial development with associated wetland impacts and mitigation.

The proposed project is located at 210 and 218 Queen Street on 4.69 acres on the east side of the Quinnipiac River. The site is partially located in the floodplain and wetlands associated with the River which lies to the west of the property. The existing properties consist of buildings, parking areas and travel ways used for a florist and a dog kennel. The proposal is to remove the existing buildings and to construct one 10,000 square foot building with associated parking and travel lanes. Floodplain filling is necessary to construct the building above the floodplain elevation of 156.0'. To compensate for the proposed floodplain filling and to mitigate wetland disturbances, a portion of the floodplain on a separate parcel, also owned by the applicant, north of the site on the west side of the river, will be excavated to provide floodplain storage and an area for wetland creation. (See Appendix for Existing Drainage Areas Plan, Proposed Drainage Areas Plan and Proposed Excavation and Wetland Mitigation Plan.)

Objectives of the ERT Study

The town has requested the ERT to assist in review of this project because of concerns with the following issues: effect of the project on the natural resources; site sustainability; riparian zone impacts; and floodplain integrity. They also requested suggestions and recommendations to minimize impacts and their concerns with erosion and sedimentation control, water quality, wetlands habitat, and site design compatibility.

The ERT Process

Through the efforts of the Southington Inland Wetlands Agency this environmental review and report was prepared for the Town of Southington.

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 applicant.

The review process consisted of four phases:

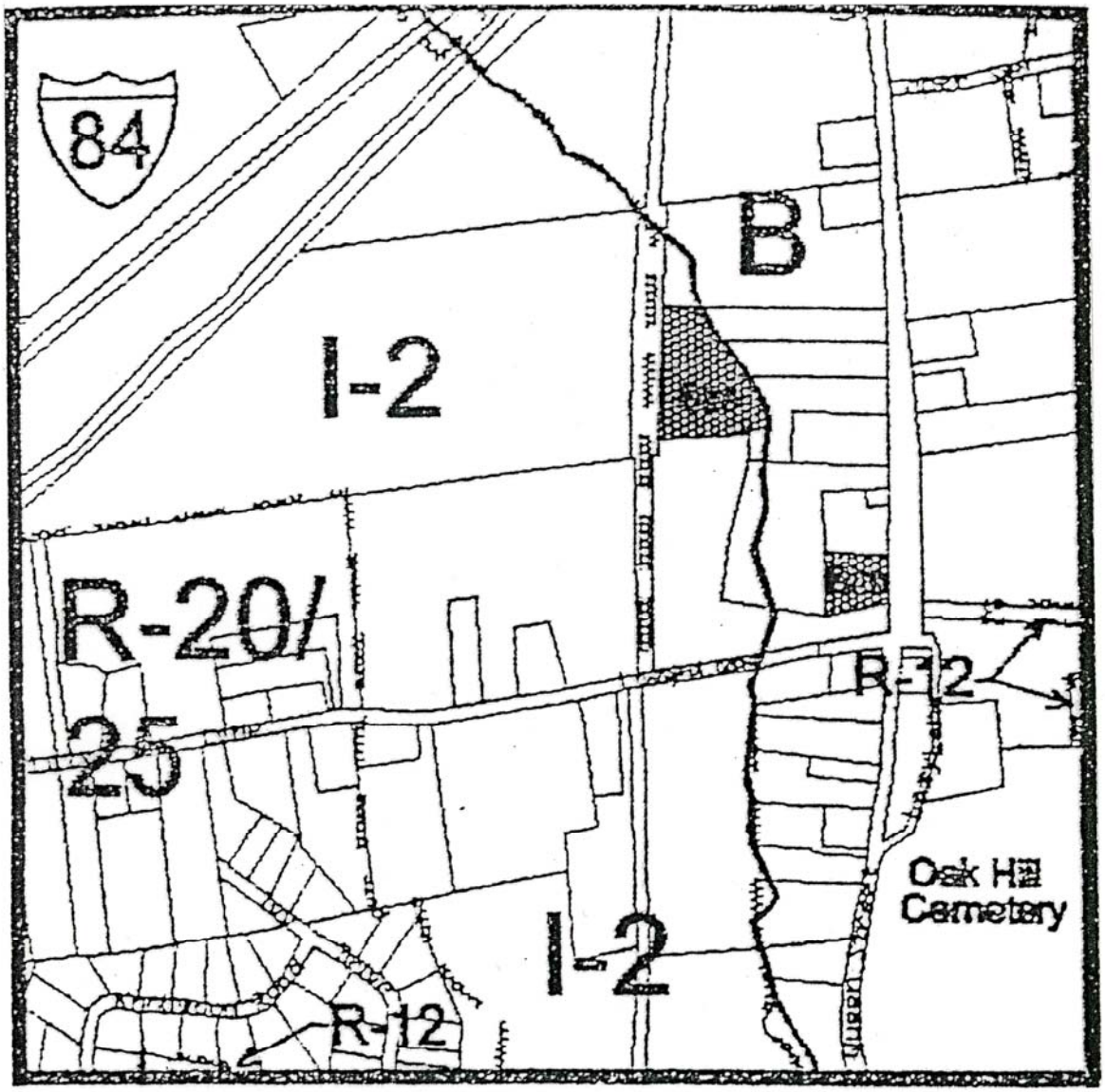
1. Inventory of the site's natural resources;
2. Assessment of these resources;
3. Identification of resource areas and review of plans; and
4. Presentation of education, management and land use guidelines.

The data collection phase involved both literature and field research. The field review was conducted Wednesday, July 13, 2005. 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.

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.

Location Map

Not to Scale



A Watershed Perspective

These recommendations to the Town of Southington are given from the perspective of improving water quality and maintaining and supporting designated uses of the waters of the State in accordance with Connecticut's Water Quality Standards[1]. These recommendations also reflect the Connecticut Department of Environmental Protection's (CTDEP) growing commitment to address water quality concerns from a watershed perspective, taking into account the cumulative impact of numerous activities within a given watershed that may affect water quality.

The Watershed

A watershed is the land area that drains to a common receiving water body such as a stream, lake or wetlands. It is an easily identifiable landscape unit that ties together terrestrial, aquatic, geologic, and atmospheric processes. The Quinnipiac River Subregional basin (#5200) is a highly developed watershed that falls mostly within the towns of Plainville, Southington, Cheshire, Meriden, Wallingford, North Haven, and New Haven. It covers approximately 72 square miles, of which nearly 40% is impervious area (e.g. roadways, rooftops, parking lots, etc.). The amount of imperviousness present in a watershed has been correlated to the degree of surface water quality degradation. Generally speaking, where imperviousness exceeds 10 - 25%, surface water quality may be impaired. Greater than 25% imperviousness, surface water quality is degraded. As a result of urbanization and historical development along the Quinnipiac main stem and its major tributaries, the culmination of stormwater runoff, point source discharges, and loss of riparian buffers due to encroachment have degraded water quality and exacerbated flooding, erosion and sedimentation in downstream areas.

[1] State of Connecticut, Department of Environmental Protection. Effective 1996 & 2002. Water Quality Standards. Bureau of Water Management – Planning and Standards Division. Hartford, CT.

Water Quality

The surface water quality designation for the Quinnipiac River is Class C with a goal of Class B (C/B). Class B surface waters are designated for: habitat for fish and other aquatic life and wildlife; recreation; navigation; and industrial and agricultural water supply. Class C/B surface waters presently do not meet the criteria or are not supporting of one or more designated uses assigned to Class B waters, due to pollution from point or non-point sources. Class B designated uses are identical to Class A designated uses, except that they do not include potential drinking water supplies.

The groundwater designation for the site is Class GA, which has the following designated uses: existing private and potential public or private supplies of water suitable for drinking without treatment; baseflow for hydraulically connected surface water bodies.

To determine whether the State's surface water resources are meeting designated uses, CTDEP monitors or collects samples from selected water bodies throughout the state. Generally, water quality is assessed based on the following three uses: fish consumption, aquatic life support, and primary contact (i.e. direct exposure) for recreation. The degree to which the water body is suitable for that use is assigned one of the following use support descriptors: fully supporting, threatened (fully supporting but threatened by impairment), partially supporting, not supporting, not attainable, or not assessed. The degree to which these different uses are supported by the water body determines the "overall use support."[2]

For this reach of the Quinnipiac River in Southington, the water quality assessment is not supporting for fish consumption; partially supporting for aquatic life support;

[2] State of Connecticut, Department of Environmental Protection. April, 2004. 2004 Water Quality Report to Congress. Planning and Standards Division, Bureau of Water Management. Hartford, CT.

fully supporting for primary contact (recreation); and not supporting for overall use support.

Suspected causes of impairment are: unknown, flow alteration, organic enrichment/low dissolved, oxygen nutrients, PCBs, and siltation. The suspected sources of these impairments are: construction, flow modification, ground water withdrawals, hydromodification, land development, land disposal, landfills, municipal point sources, waste storage/storage tank leaks, and other unknown sources.

Project Background

The proposed project involves redevelopment of two existing, adjoining commercial/retail parcels; expanding the site's footprint of development by roughly half and requiring the placement of fill within the FEMA (Federal Emergency Management Agency) 100-year flood zone, in addition to approximately 1/3-acre of wetlands associated with the Quinnipiac River. As mitigation for the proposed impacts, the applicant proposes to excavate an area upstream on the opposite side of the river to create wetlands and provide compensatory floodplain storage. Before mitigation should be considered, the applicant should demonstrate that impacts to wetlands and watercourses have been avoided and minimized to the greatest practical extent, and have evaluated prudent and feasible alternatives. Upon satisfying this burden, if the impacts are deemed acceptable, then mitigation may be appropriate for compensating for the unavoidable impacts.

Floodplain

The site is within the FEMA shaded flood Zone X. This flood area has a 0.2% annual chance of flood, or a 1% annual chance of flood with average depths of less than 1 foot. Zone X (formerly shown as Zones B and C on FEMA maps), represents an area of moderate or minimal hazard from flood, however, buildings in this zone could be flooded by severe, concentrated rainfall coupled with inadequate local drainage systems.

Property owners and developers who intend to place structures in the 1% annual chance floodplain may need to demonstrate to the local officials before construction that proposed structures will be above the base flood elevation. If the elevation of structures on earthen fill is the sole component of the project (i.e., there is no associated channelization, culvert construction, etc., that would alter flood elevations) and there is no fill placed in the regulatory floodway, they can request from FEMA a Conditional Letter of Map Revision (CLOMR) based on fill, or a CLOMR-F. A CLOMR is FEMA's formal review and comment as to whether a proposed project, when constructed, would change the floodplain delineation in an acceptable manner. In areas that fall within the 1% annual chance floodplain, but are outside the floodway, development will, by definition, cause no more than 1.0 foot increase in the 1% annual chance water-surface elevation over the FEMA base flood elevation.

While obtaining a CLOMR may be desired, as it would demonstrate that the area of the building could be removed from the floodplain, obtaining conditional approval is not required by National Flood Insurance Program (NFIP) regulations for all projects in the 1% annual chance floodplain. A CLOMR is required only for those projects that will result in significant changes in the delineation of the 1% annual chance mapped floodplain. The technical data needed to support a CLOMR request generally involve detailed topography and/or hydrologic and hydraulic analyses. Requests for CLOMRs should be made by the community and addressed to the Mitigation Division Director at the FEMA Region 1 Office in Boston, MA.

In order to calculate the change to the water-surface elevation, the computer modeling program HEC-RAS version 3.1.3 or 3.1.2 should be used. Using FEMA's cross section data, a comparison is made between the FEMA model and existing conditions, and then compared to proposed conditions with project development. The latest FEMA maps are dated April 15, 2002. For additional information on

performing a hydraulic analysis, see the CTDEP website for the following guidance document:
http://www.dep.state.ct.us/pao/download/watrdown/iwrdhydraulicguidance.pdf.

Mitigation

Because the mitigation site is not within the same hydraulic cross section as the area of impact, it is not known if the proposed excavated floodplain storage will effectively mitigate any increase to water-surface elevations which could occur as a result of the project. Therefore, a hydraulic analysis should be conducted to ensure that the proposed development will not result in an unacceptable increase over the 1-foot allowed by FEMA, or cause adverse effects to other properties. A demonstration of no significant impact now may abate future disputes as to the project's effect on future flooding.

Although the proposed mitigation site is not located within wetlands or watercourses, the destruction of an existing mature forest within an intact riparian corridor in order to provide floodplain storage and wetlands creation as compensation for the expansion of an existing use, does not seem justified. Albeit the proposed wetlands mitigation plan is well-planned, if the hydraulic analysis can demonstrate that impacts from the proposed development without floodplain storage compensation are acceptable, then an alternative form of wetlands mitigation may be more appropriate. Impact concerns to the Quinnipiac River are not solely limited to hydraulics; avoidance of loss and alteration of floodplain habitat and the riparian buffer is *critical* in this highly developed watershed.

Buffers

CTDEP supports and recommends the use of buffers to protect surface water resources from environmental impacts. Leaving a vegetated strip helps protect surface and groundwater quality, and fish and wildlife habitats from nonpoint source pollution. Buffers can trap road sands, contaminants and other pollutants contained

in stormwater runoff generated from roadways, parking lots, roof tops, and other impervious surfaces, as well as eroded sediments occurring from natural scour or land moving activities such as site development and other soil disturbances, including farming activities. A 50 foot vegetated buffer is typical, but widths can vary depending on such factors as topography, the erosivity of the soil, and the value or sensitivity of the water resource.

The riparian corridor is the area immediately adjacent to a watercourse that typically contains wetlands and acts as a buffer to the watercourse. In addition to the benefits described above, riparian buffers provide valuable wildlife habitat, flood attenuation, water quality renovation, and groundwater recharge. Riparian buffers also help moderate the temperature of stormwater runoff before it enters the watercourse, thereby reducing thermal impacts to aquatic wildlife. Preserving and maintaining an intact riparian corridor, especially in such a highly developed watershed.

To protect riparian buffers from noise, human encroachment, and other development impacts, including stormwater runoff, the CTDEP Fisheries Division recommends a 100-foot buffer zone along perennial streams, and a 50-foot buffer zone along intermittent streams[3] measured from the outer edge of any riparian wetlands. CTDEP Fisheries further recommends that this buffer zone remain in a naturally vegetated and undisturbed condition.

Stormwater

CTDEP's new guidance document, the 2004 Connecticut Stormwater Quality Manual[4] discusses in detail the "what"s, "why"s, "how"s, and "where"s of stormwater management. As development occurs, impervious area increases and new sources of stormwater pollutants are introduced, accumulating pollutants between storm

[3] CTDEP Fisheries Division. 1991. Policy Statement – Riparian Corridor Protection; Position Statement – Utilization of 100-Foot Buffer Zones to Protect Riparian Areas in Connecticut.
[4] Connecticut Department of Environmental Protection. 2004. 2004 Connecticut Stormwater Quality Manual. Hartford, CT.

events. As it rains and snowmelt rolls over the ground surface, it picks up pollutants and contaminants (even thermal effects), which may then subsequently be collected by a stormwater conveyance system and quickly discharged to receiving waters, causing environmental pollution and adverse impacts to fish and wildlife and their habitats. Impervious areas, such as roadways, rooftops, paved driveways, and sidewalks, decrease the amount of precipitation that percolates through the ground to recharge aquifers, thus allowing for their slow release as base flow in streams during low flow periods. By contrast, in undeveloped areas, natural processes such as infiltration, interception, depression storage, filtration by vegetation, and evaporation, reduce the quantity of stormwater runoff, and act to remove pollutants. The increased volume and velocity of stormwater runoff often exceeds the physical ability of the receiving water body to handle such flows, thereby causing flooding, erosion and sedimentation, and physically altering the aquatic habitat. Examples of such stormwater impacts include:

- Increased runoff volume (as a result of less infiltration)
- Increased peak discharges (relating to the timing and magnitude of the runoff occurring from a specific storm event) and velocity
- Reduced groundwater recharge
    - reduced stream baseflow
- Increased frequency of bankfull and overbank floods
    - channel scour, widening, and downcutting of the receiving stream
    - streambank erosion and increased sediment loads
    - loss of pool/riffle structure within streams (important habitat areas)
- Destruction of freshwater wetlands, riparian buffers and springs, and burying of stream substrate
    - settling of suspended sediments carried or eroded by stormwater discharges can destroy benthic habitat, thus impacting the food chain
- Reduction in the diversity, richness, and abundance of the stream community (aquatic insects, fish, amphibians)

- discharge of excess nutrients from lawn fertilizers, detergents, grass clippings, leaves, pet wastes, and atmospheric deposition can cause excessive algal growth, depleting oxygen from the water and stressing or suffocating aquatic life
- discharge of other contaminants such as automobile oils and fluids, vehicle and tire wear, pesticides, and atmospheric deposition of air-borne pollutants can adversely affect the aquatic ecosystem
- impacts to the aquatic biota due to stress caused by the increased temperature of stormwater runoff

Stormwater treatment practices remove pollutants from stormwater through various physical, chemical, and biological mechanisms. Since many pollutants in stormwater runoff are attached to solid particles, treatment practices designed to remove suspended solids from runoff will remove other pollutants as well. Exceptions to this rule include nutrients, which are often in a dissolved form, soluble metals and organics, and extremely fine particulates that can only be removed by treatment practices other than traditional separation methods. It is generally recommended that reducing and treating runoff from all developed sites and reducing the amount of impervious surfaces, where feasible, is the best way to manage stormwater runoff. By promoting infiltration, the volume is reduced and impacts to water quality and quantity are minimized. Thus, stormwater must be addressed with appropriate Best Management Practices.

The new 2004 Connecticut Stormwater Quality Manual describes both primary treatment practices, which provide demonstrated, acceptable levels of water quality treatment, and secondary treatment practices which are not suitable as stand-alone treatment facilities but can be used for pretreatment or as supplemental practices. The Manual provides guidance on the measures necessary to protect the waters of the state from the adverse impacts of post-construction stormwater runoff. Focusing on site planning, source control and pollution prevention, and stormwater treatment practices, it is intended for use as a planning tool and design guidance document by

the regulated and regulatory communities involved in stormwater quality management. It also includes innovative and emerging technologies as secondary treatment practices. For more information on how to control stormwater, the new 2004 Connecticut Stormwater Quality Manual is now available on CTDEP's website at: http://www.dep.state.ct.us/wtr/stormwater/strmwtrman.htm.

Pursuant to the CTDEP General Permit for Stormwater from Small Municipal Separate Storm Sewer Systems (MS4), the Town of Southington must comply with six Minimum Control Measures, including managing post-construction stormwater from new development and redevelopment:

- ensure that controls are implemented to require appropriate infiltration practices, reduction of impervious surfaces, creation of or conversion to sheet flow, measures and/or structures to reduce sediment discharges and any other innovative measures that will prevent or minimize water quality impacts;
- develop and implement strategies which include a combination of structural and/or non-structural best management practices (BMPs) appropriate;
- use of an ordinance or other regulatory mechanism to address the elements regarding post-construction runoff from new development and redevelopment projects to the extent allowable under State or local law; and
- ensure adequate long-term operation and maintenance of BMPs.

See further comments provided by CTDEP’s Karen Allen regarding the project’s stormwater management plan.

Conservation District Review

Soils Resources

This soils report applies to the Queen Street Development project. The tract of land is a 4.69 acre site located in the north central sector of Southington. The site is bounded by Route 10 to the east, the Quinnipiac River to the west and an array of commercial/industrial businesses to its immediate northern and southern borders. The redevelopment of the site involves the raising of two existing buildings and constructing a larger commercial building that would encroach upon wetlands and floodplain with a wetland loss compensation area approximately double the area of proposed wetland filling. This proposed off-site compensation is located upstream on the westside of the Quinnipiac River and approximately 550' northwest of the proposed building lot.

The site can be found on sheet #54 of the USDA Hartford County Soil Survey from 1962. (See following map.)

Wetland Soils

Mapping Units

1) RuA - Rumney fine sandy loam.

This soil mapping unit has been renamed to **Rippowam (Ro)** and its slopes are generally less than 3 percent. This nearly level, poorly drained soil is on flood plains of major streams and their tributaries. They formed in alluvial sediments. Typically, these soils have fine sandy textures overlying stratified sand and gravel to a depth of 60 inches or more.

This soil is subject to frequent flooding and has a seasonal high watertable at a depth of 6 inches from fall until late spring. This soil has **poor potential** for community development. Permeability is moderate to moderately rapid in the surface layer and subsoil and **rapid or very rapid in the substratum. Runoff is slow or very slow.**

Non-Wetland Soils

Mapping Units

2) HfA - Hartford fine sandy loam.
This map unit consists of Hartford soils on 0 to 3 percent slopes. Hartford soils are very deep, somewhat excessively drained soils formed in sandy and gravelly glacial fluvial deposits derived mainly from red Triassic rocks. Typically, they have a fine sandy loam or sandy loam surface layer and subsoil over a stratified sandy and gravelly substratum that extends to a depth of 60 inches or more.

Permeability is rapid in the surface layer and subsoil and very rapid in the substratum. Because the substratum is very rapidly permeable, caution is needed to prevent the pollution of ground water. Intensive conservation measures are needed to prevent excessive runoff, erosion and siltation during periods of construction.

Siting Concerns

1) The loss of wetlands and flood plain storage in a region with a high concentration of impervious surface warrants careful review and requires a more accurate characterization of the sub-watershed upstream of the abandoned trestle. This watershed has changed dramatically in its land use and cover over the years.

- It would be prudent for the developer and the Town of Southington to perform a more detailed assessment of this river corridor and upper watershed.

2) The proposed building and associated parking area encroach on the wetlands buffer and property sidelines, which have been established by Southington's IW and P&Z regulations. This proposal even exceeds the property boundary shown in the A2 survey provided for this review.

- The proposed redevelopment of this site should be within the confines of the property, which is dictated by the existing conditions and not reliant on the modification of wetlands, floodplains.

- The layout proposal should work within the physical constraints and attributes of the combined properties. The principles of site planning encompass two critical ideas, which revolve around planning a development to fit environmental conditions and keeping land disturbance to a minimum. These principles are detailed in Section #3, page 3-7 of the 2002 CT Guidelines for Sedimentation and Erosion Control. (See copy following.)

Wetland and Floodplain Mitigation Area

This proposal for compensation and mitigation involves work in the floodplain, aquifer protection area, disturbance of the **wetland soil RuA** (see aforementioned description) and an upland soil with slopes ranging from 8 to 15 percent. These upland soils were mined several years ago and the area has since recovered and stabilized with vegetative cover.

MgC - Manchester gravelly sandy loam, 8 to 15 percent.
Manchester soils are very deep, excessively drained, and formed in sandy and gravelly glacial fluvial deposits, derived mainly from red Triassic rocks. Typically, they have a gravelly fine sandy loam or gravelly sandy loam surface layer and upper subsoil over a stratified very gravelly loamy sand and a very gravelly sand lower subsoil and substratum. The substratum extends to a depth of 60 inches or more.

This soil is mainly on the edges of terrace breaks and of outwash terraces where the terraces adjoin the glacial till uplands. **Permeability is rapid in the surface layer and subsoil and very rapid in the substratum.** Mainly its steep slopes and droughtiness limit this soil. The substratum is very permeable; caution is needed to prevent the pollution of ground water. Intensive conservation measures are needed to prevent excessive runoff, erosion and siltation during construction.

Off-site Wetland Compensation Concerns

This proposed activity occurs in a currently undisturbed floodplain, aquifer protection area (see following map, *Groundwater Yields for Selected Stratified Drift Areas in CT, 1986, DEP, the 2005 DEP Aquifer Protection Areas Map for Southington shows the project site just outside of an aquifer protection area*) and a river corridor with sensitive terrestrial and aquatic habitats. The modification of stable land and subjecting it to any construction process increases the risk of ground water, on-site and off-site contamination plus the loss of habitat.

- Subjecting this area's natural resources to the threat of contamination from the operation of equipment, access to the site, staging needs regarding hazardous materials contaminants, refueling, and general operation would seem to be unnecessary and counter productive.

Should the filling of wetlands and compensation for loss be allowed, the Commissions should consider banking the cost of compensation for other more critical area mitigation, mitigating another area or enhancing stormwater renovation opportunities at this site or other facilities along the river.

Stormwater Management

The proposed stormwater infrastructure should provide a higher level of raw water renovation prior to discharge to the wetlands, aquifer and the watercourse. Minimum design criteria should be increased to a 25 yr storm event.

1) The proposed loading dock in the rear of the building should be required to have an oil & grit separator with a 125% spill containment capability.

2) Minimum catch basin design prior to discharge should be designed to have a 4'-0" minimum sump and a hooded outlet. This will increase sediment-trapping capacity and sequester floatables. Pretreated stormwater can then be discharged to a vegetated infiltration swale, adequately sized Level Spreader, which will promote the recharge in this area.

- Optional swirl separator such as an adequately sized Downstream Defender, Vortechnics Unit or similar best available technological unit could be used. These units generally are quite costly.

- Optional engineered, dual baffle catch basin with adequate storage capacity can be designed and produced at a quarter of the price of the aforementioned units.

Note: These types of facilities only function properly if the regularly scheduled inspection and maintenance procedures are adhered to.

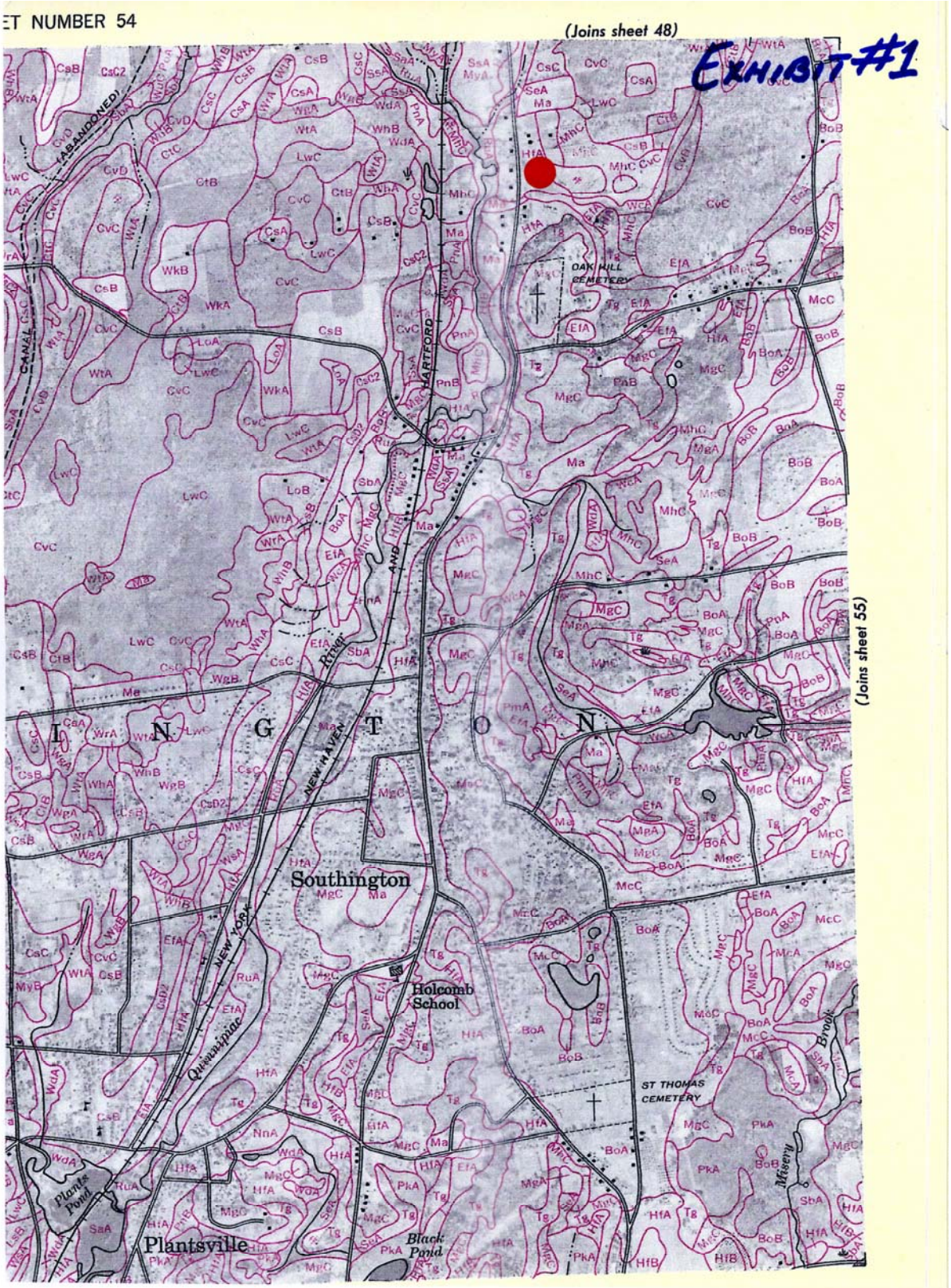
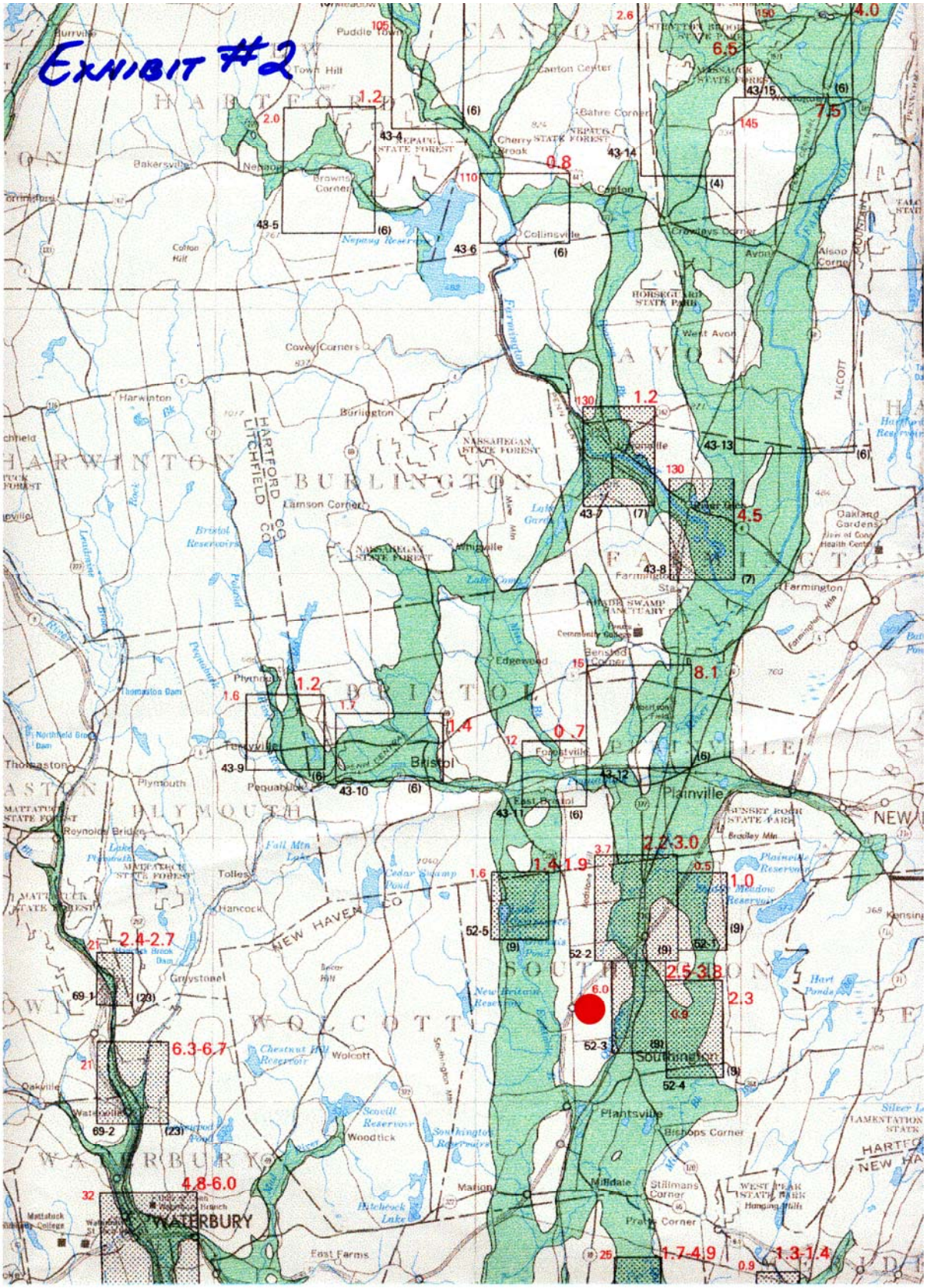

ET NUMBER 54
(Joins sheet 48)
EXHIBIT #1
(Joins sheet 55)
ABANDONED
CANAL
HARTFORD
AND
NEW HAVEN
NEW YORK
River
Quinnipiac
OAK HILL CEMETERY
ST THOMAS CEMETERY
Southington
Holcomb School
Plantsville
Plants Pond
Black Pond
Misery Brook
I N G T O N

Exhibit #2


Burrville
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Town Hill
CANTON
Canton Center
Barbe Corner
STRATTON BROOK STATE PARK
MASSACOE STATE FOREST
Weatogue
HARTFORD
Bakersville
Nepaug
Browns Corner
NEPAUG STATE FOREST
Cherry Brook
NEPAUG STATE FOREST
Canton
Collinsville
Nepaug Reservoir
Cotton Hill
Crowleys Corner
Avon
Alsop Corner
HORSEGUARD STATE PARK
West Avon
AVON
Farmington
Covey Corners
TALCOTT
Harwinton
Burlington
HARTFORD CO
LITCHFIELD CO
NASSAHEGAN STATE FOREST
HARWINTON
BURLINGTON
Lamson Corner
Bristol Reservoirs
Whigville
Lake Garda
Lake Compo
FARMINGTON
Farmington Sta
Oakland Gardens
Farmington
SHADE SWAMP SANCTUARY
Community College
Edgewood
Bensted Corner
Plymouth
Thomaston Dam
Northfield Brook Dam
Terryville
BRISTOL
Bristol
Forestville
Pequabuck
Thomaston
PLYMOUTH
Plymouth
PLAINVILLE
Plainville
East Bristol
SUNSET ROCK STATE PARK
MATTATUCK STATE FOREST
Reynolds Bridge
Lake Plymouth
Fall Mtn Lake
Tolles
Cedar Swamp Pond
Hancock
NEW HAVEN CO
Plainville Reservoir
Shuttle Meadow Reservoir
Kensington
Greystone
New Britain Reservoir
SOUTHINGTON
Southington
Hart Ponds
WOLCOTT
Wolcott
Chestnut Hill Reservoir
Oakville
Watertown
Scovill Reservoir
Woodtick
Southington Reservoirs
Plantsville
Bishops Corner
WATERBURY
Marion
Milldale
Stillmans Corner
WEST PEAK STATE PARK
Hitchcock Lake
Waterbury
Mattatuck College
Pratts Corner
East Farms
43-4
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6.3-6.7
21
4.8-6.0
32
25
1.7-4.9
0.9
1.3-1.4
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(9)
(23)

Minimize direct impact to coastal resources and other sensitive areas.

When the project is located in a public drinking water supply watershed area review the DEP's publications Protecting Connecticut's Water-Supply Watersheds, A Guide For Local Officials, January 1993, and Protecting Connecticut's Groundwater. A Guide For Local Officials, January 1997, DEP Publication * 26. **Identify** measures needed to reduce potential impacts to the public water supply caused by the development activities. It is suggested that a copy of the plan be submitted to the water utility for their review and comments.

Adjacent Areas: Investigate areas adjacent to the site which will either impact or *be* impacted by the project. Features such as perennial and intermittent streams, roads, houses or other buildings, or wooded areas should be shown. Wetlands, watercourses and downstream culverts which will receive runoff from the site should be located and surveyed to determine their ability to retain or discharge projected runoff. **Identify** sensitive downstream areas, such as existing stream bank erosion, hydraulic constraints, public water supply reservoirs, Aquifer Protection Areas, and in-stream recreation areas. **Identify** approved and future development site(s) in the upper watershed area.

In addition to the hydraulic concerns raised in the Drainage Patterns subsection, **evaluate** the environmental conditions in areas clown slope and up slope from the construction project. The potential for sediment deposition on down slope properties should be analyzed so that appropriate erosion and sediment controls can be planned. Down slope wetlands and watercourses (especially those containing drinking water reservoirs or cold water fisheries habitat) which will receive runoff from the site are concerns.

Drainage conditions up slope or off site from a proposed embankment cut need to be checked to insure that the cut does not eliminate a hydrologic and hydrogeologic feature. These features could be providing for flood storage and/or water quality renovation on or adjacent to the site. Additionally, drainage swales and depressions that traverse the cut area will require an engineered design to ensure channel stability both on and off site.

Principles of Site Planning for Erosion and Sediment Control

The primary function of erosion and sedimentation controls is to absorb erosional energies and reduce runoff velocities that force the detachment and transport of soil and/or encourage the deposition of eroded soil particles before they reach any sensitive area. Erosion and sedimentation control principles are all formulated on the premise that it is easier, cheaper and less environmentally damaging to reduce soil detachment in the first place than it is to control its transport and deposition or to remediate damage after it occurs. Specific control measures are discussed in detail in Chapter 5 of these Guidelines.

After reviewing the data and determining the site limitations, the planner can then develop a site plan. This plan is based upon basic erosion and sediment control principles. These principles are as follows:

Plan Development to Fit Environmental Conditions

Start by selecting a site that is suitable for a specific proposed activity. Sites with resource limitations should be developed in conformance with the capacity of the site to support such development, rather than by attempting to modify a site to conform to a proposed activity.

- O *Utilize the existing topography.*
- O *Align roads on the contour wherever possible and use them to divert surface water, thereby reducing slope lengths.*
- O *Concentrate development on flattest area of the site to avoid excessive slope cuts or fills where possible.*
- O *Avoid steep slopes and soils with severe limitations for the intended uses. If there are no feasible alternatives to avoiding steep slopes and/or erodible soils, sound engineering practices should he employed to overcome the site limitations. For example, long steep slopes need to he broken up by benching, terracing or diversions to avoid erosion problems. Seeps emanating from cut slopes will need provisions for internal drainage to prevent slope failure.*
- O *Avoid flood prone areas, wetlands, beaches, dunes and other sensitive areas and when possible keep floodplains free of fill or obstructions.*
- O *Keep stockpiles, borrow areas, access roads and other land-disturbing activities away from critical areas (such as steep slopes and highly erodible soils) that drain directly into wetlands and water bodies.*
- O *Avoid siting buildings in drainage ways, over watercourses and over storm drainage systems.*
- O *Utilize the natural drainage system whenever possible. If the natural drainage system of a site can be preserved instead of being replaced with piped storm sewers or concrete channels, the potential for downstream damages from increased runoff can be minimized, making compliance with storm water management criteria easier.*

Keep Land Disturbance to a Minimum

The more land that is kept in vegetative cover, the more surface water will infiltrate into the soil, thus minimizing stormwater runoff and potential erosion. Keeping land disturbance to a minimum not only involves minimizing the extent of exposure at any one time, but also the duration of exposure. Phasing, sequencing and construction scheduling are interrelated. **Phasing** divides a large project into distinct sections where construction work over a specific area occurs over distinct periods of time and each phase is not dependent upon a subsequent phase in order to be functional. A **sequence** is the order in which construction activities are to occur during any particular phase. A sequence should be developed on the

Wetland Review

The ERT was presented with a proposal to remove two existing buildings along Route 10 and replace them with one, 10,000 square foot structure. To accommodate the new building and its necessary parking, a total 91,800 cubic feet of the Quinnipiac River floodplain is proposed to be filled.

To mitigate this floodplain filling and the resulting loss of flood storage, it is further proposed to increase the floodplain by 151,200 cubic feet by excavating into a floodplain-abutting hillside upstream on another site.

As part of the field visit the Team walked due west of the proposed construction site across the floodplain to the Quinnipiac River. The flood plain, damp under foot at the time of the visit, is forested wetland with a full canopy of red maples (*Acer rubrum*), little shrub layer and herb layer dominated by jewelweed (*Impatiens capensis*) and Poison ivy (*Toxicodendron radicans*).

Historic use of the floodplain has been agriculture. A decades-old trolley line once crossed the river just north of Lazy Lane. The brownstone bridge abutments are testament to the craftsmanship of the day. The river however is constricted here by the abutments, and it is clear that flooding inundates the area of proposed fill.

The team also visited the proposed mitigation site and found it to be typical of floodplain forest - but atypical because there is so little floodplain left along the Quinnipiac River drainage.

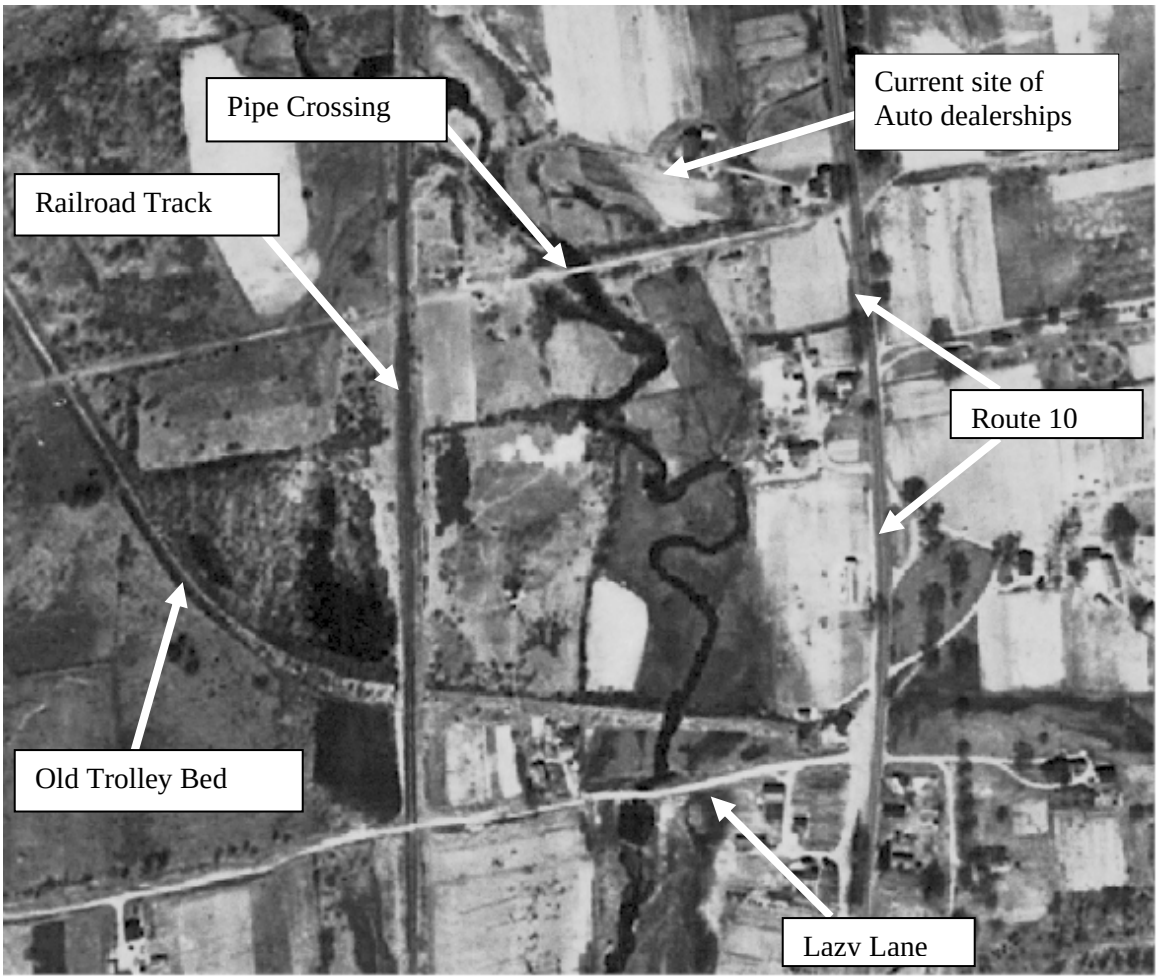
Concern: Avoiding impacts to upstream floodplain

The Team as a whole came away with the sentiment, and this reviewer concurred, that all means should be exhausted to avoid impacts to the off-site, upstream floodplain location. It seemed counterproductive to impact this existing, stable floodplain forest with the heavy equipment needed for constructing the mitigation area. The proposed mitigation construction work will compact the floodplain soils, increase the opportunity for erosion and sedimentation problems, and potentially invite invasive plants into the area.

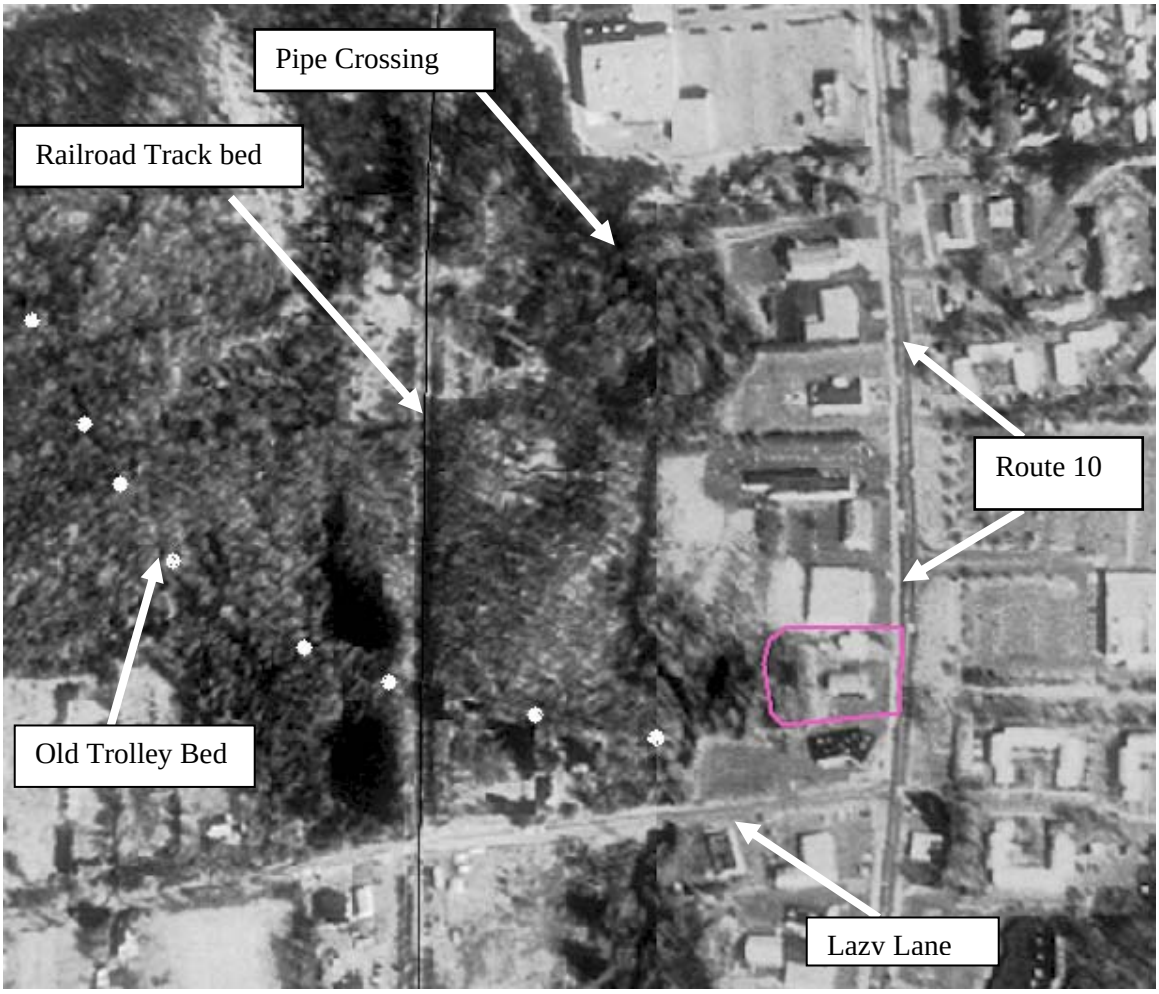
Concern: Use of the floodplain for parking area.

The Team felt that all means should be exhausted to do away with the need for off-site mitigation. To do this, discussion toward minimizing the disturbance at the building site included:

- Lowering the base elevation of the building to decrease the fill volume;
- Sloping the rear driveway lower still to further decrease fill volume (this would be to an elevation that could be inundated by the 100 year storm event but not the annual spring runoff);
- Decrease the size of the footprint of the building, which would dictate less parking need, thus less on-site floodplain fill;
- Alter the parking-per-square-foot-of-building regulations of the town to decrease need to fill floodplain;
- Work a lease or other type of agreement with the landholder to the south (the parcel abutting Lazy Lane) for overflow parking. A ramp or walkway could easily be constructed for foot traffic between the two lots.



This 1934 aerial photograph shows the Quinnipiac River floodplain almost completely surrounded by agriculture. That explains the similar age of the trees on the floodplain today. The estimated river length from the 'Pipe Crossing' to Lazy Lane is ~1,960 feet. Note how freely the river meandered across the floodplain.



In this 1990 photograph of the same area, the floodplain is all in trees and commercial development. The length of the river has been reduced by channelization to approximately 1,275 feet in length, a decrease of ~683 feet, or more than 33% of both its length, and in-bank flood storage in this small reach of river.

Discussion

The engineering calculations indicate that the proposed construction and floodplain fill would yield a negligible loss of flood storage for the 100 year flood event with no downstream effect at the bridge at Lazy Lane.

However, regulations dictate that the floodplain loss must be mitigated on-site. The Team felt, and this reviewer concurs, that the proposed mitigation parcel is actually, and functionally, offsite – though it is owned by the same individual.

That conclusion then begged the question that if Southington is prepared to allow this offsite, same-owner mitigation, is there ***other*** work in the watershed that can be done to satisfy the flood storage mitigation needs? Certainly in this heavily impacted drainage there are other locations that can be excavated without impacting an existing high-quality forested upland with questionable accessibility. Other wetland mitigation that offers ease of access and results that are more measurable would be the goal.

Conclusion

The consensus of the ERT Team involved in the review of this proposal is to avoid impacting the upstream area targeted as the mitigation site. It is hoped that the developer and the appropriate town offices will work together using a combination of ideas to avoid damaging existing upstream floodplain to mitigate this proposal.

Stormwater Review

The proposed project will replace two existing buildings with one new building and additional parking at the parcel identified as Site 1. The plan requires the filling of approximately 14,000 sq ft of alluvial wetlands and an increase of 14,775 sq ft of impervious surface at the site. The applicant also proposes to excavate an area north of the site, west of the Quinnipiac River (Site 2), for floodplain storage and wetlands creation and to compensate for the increase in peak stormwater flow from Site 1.

Stormwater Permitting

Activities at both sites will disturb one or more acres so the projects must comply with the requirements of Connecticut's *General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities* (general permit) issued 10/1/02 and modified 4/8/04. Because activities will not disturb five or more acres at either site, a registration under the construction general permit is not required as long as the project receives town review and written approval of the erosion and sediment control plan. If there is no town review, then the developer must register under the construction general permit. If the developer must register under the general permit, two separate registrations would be needed because Site 1 and Site 2 are not contiguous.

Stormwater Pollution Control Plan

The Stormwater Pollution Control Plan (plan) must include a site map as described in Section 6(b)(6) of the permit, a description of the erosion and sediment controls that will be used during each phase of construction, details of each control used, details of all outlet structures and velocity dissipation controls, and a description of procedures to maintain all erosion and sediment control measures. Specific dewatering procedures must be addressed. Section 6(b)(6)(C)(ii) recommends that dewatering wastewater be infiltrated into the ground where feasible, but if the

discharge must be directed to a surface water then measures must be taken to minimize discoloration of the receiving stream. The locations of all stockpiled materials must be shown along with necessary erosion control measures. The permit requires inspections by qualified personnel provided by the permittee at least once every seven calendar days and after every storm of 0.1 inches or greater. In addition, the Plan must include monthly inspections of stabilized areas for at least three months *following* stabilization. The plan should note the qualifications of personnel doing the inspections and must allow for the inspector to require additional erosion and sediment control measures as necessary.

The plan must be maintained on site during construction and be updated as necessary.

Endangered/Threatened Species

Section 3(b)(2) of the general permit contains the following statement: “Such activity must not threaten the continued existence of any species listed pursuant to Section 26-306 of the Connecticut General Statutes as endangered or threatened and must not result in the destruction or adverse modification of habitat designated as essential to such species.” As discussed during the 7/13/05 Environmental Review Team (ERT) meeting at Southington Town Hall, the proposed sites are located within a Natural Diversity Database Area indicating the presence of endangered or threatened species. Please refer to the Natural Diversity Data Base section of this report and the developer must contact Dawn McKay of the DEP’s Geological and Natural History Survey office at 860-424-3592 for additional information.

Erosion and Sediment Control Notes

SITE 1

The following comments are directed to the erosion and sediment control notes provided with the proposal materials:

1. Section 6(b)(6)(C) of the general permit requires that soil stabilization measures be implemented within three days (not the 7 days noted in the Plan) of reaching final grade or if construction activities have permanently ceased or are temporarily suspended for more than seven days.

2. Erosion and sediment controls must be inspected within 24 hours of the end of a storm of 0.1 inches or greater.

3. Areas that will remain disturbed but inactive for 30 days, including stockpiles, must receive temporary seeding in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control (Guidelines).

4. Catch basins in paved areas that may receive sediment from construction activities must be protected with silt sacks or filter fabric wrapped under the grate and in front of the catch basin throat.

5. The plan must include provisions for the discharge of dewatering wastewaters.

SITE 2

The proposed excavation and wetland mitigation plan notes mention the installation of sedimentation basins. The plan must show more detail about how runoff will be directed into the basins, whether the basins will be equipped with outlets and how outlets will be stabilized, when the basins should be cleaned out, and dewatering procedures if applicable.

Post-Construction Stormwater Treatment

Site 1 is in a commercial/retail zone and the developer anticipates that the property will be used for a restaurant. Therefore, most stormwater contamination will result from winter sand and salt application, and leaks and drips of automotive fluids. According to the proposed site plan, the entrance drive will be graded to minimize

stormwater run-on to the property from Queen Street. The plan shows that runoff from the front and sides of the building and the roof will discharge to hooded catch basins (with 4 ft. sumps, per 7/13/05 meeting), through piping to rip-rapped stilling basin/sediment traps, to grassed swales and to another rip-rapped stilling basin/sediment trap, prior to discharging to the wetlands. Runoff from the back of the building, including the two loading dock areas, will sheet flow over rip rap then down the slope to the grassed swales. The stormwater system has been sized for a 25-year storm.

Catch basin sumps with hooded outlets can trap coarse particles and floatables such as trash, debris, and oil and grease. These sumps can capture sediment to a level up to 50% of the sump volume, but the sediment can be scoured out during larger storms so accumulated sediment must be removed on a regular basis. The rip rapped stilling basins will also trap some sediment, and the grassed swales will provide some sediment and nutrient removal. The developer should review the need for salt tolerant vegetation on the slope and in the grassed swale if salt will be applied to the parking and loading dock areas during winter months. Along with regular catch basin cleanout, the plan must include an inspection and maintenance schedule for the rip rapped areas and the grassed swale. The slope should also be inspected over time for erosion and for areas where stormwater runoff may be concentrating at the edge of the parking lot.

The building will be equipped with two loading areas. The plan does not show catch basins in the loading areas and the grading indicates that any runoff from the loading area would sheet flow towards the back of the site. Even though the building is not slated for industrial use, building management should adopt spill control and prevention procedures to address the possibility of spills at the loading areas, particularly if permeable pavement is installed.

The proposed site plan for Site 1 shows a yard drain to catch runoff from the adjacent property to the south (n/f Scanni, LLC). The developer should clarify if this is a dry well or if the yard drain will be connected into the proposed storm sewer system.

Alternative Proposals

During the 7/13/05 meeting, the developer's consultants discussed the use of gabions to create a retaining wall to reduce the impact to the wetlands by 4000 square feet. Although this proposal minimizes the wetlands impact, it also eliminates the majority of the features that would provide stormwater renovation and velocity dissipation. If this alternative were pursued, stormwater would be directed into catch basins and piped to the wetlands. In this case, the developer must provide additional stormwater treatment, such as a swirl concentrator or catch basin inserts, and review the options for velocity dissipation.

The possibility of using permeable paving materials to minimize the impervious surface at the site should be investigated considering site-specific factors such traffic volume, soil permeability, sediment loads, and maintenance.

The Natural Diversity Data Base

The Natural diversity Data Base maps and files regarding the project sites have been reviewed. According to our information, there are known extant populations of State Special Concern *Terrapene carolina carolina* (eastern box turtle) and *Heterdon platirhinos* (eastern hognose snake) from the vicinity of this project site.

Eastern box turtles require old field and deciduous forest habitats, which can include power lines and logged woodlands. They are often found near small streams and ponds, the adults are completely terrestrial but the young may be semi-aquatic, and hibernate on land by digging down in the soil from October to April. They have an extremely small home range and can usually be found in the same area year after year.

Eastern hognose snakes favor dry sandy areas with well drained gravelly soils. These species have recently been negatively impacted by the loss of suitable habitat.

If Eastern box turtle or Eastern hognose snake habitat exists on the proposed site, the Wildlife Division recommends that a herpetologist familiar with the habitat requirements of this species conduct surveys between April and September to see if they are present. A report summarizing the results of such surveys should include habitat descriptions, reptile species list and a statement/resume giving the herpetologist's qualifications. The DEP doesn't maintain a list of qualified herpetologists. A DEP Wildlife Division permit may be required by the herpetologist to conduct survey work; you should ask if your herpetologist has one. The results of this investigation can be forwarded to the Wildlife Division and, after evaluation, recommendations for additional surveys, if any, will be made.

Please be advised that the DEP Wildlife Division has not made a field inspection of the project site nor have they seen detailed timetables for work to be done. Should state permits be required or should state involvement occur in some other fashion, specific restrictions or conditions relating to the species discussed above may apply. In this situation, additional evaluation of the proposal by the DEP Wildlife Division should be requested.

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.

Aquatic Resources

Site Description

A single mixed-use (commercial, office) building is proposed for two adjoining lots located at 210 and 218 Queen Street. The 4.69-acre site easterly along floodplain wetlands of the Quinnipiac River; the river itself is approximately 100 to 120 feet from the parking lot of the proposed structure. The river channel within the vicinity of the site is roughly 50 feet in top of bank width and has an average flow depth of 1 to 2 feet. The low to moderate grade channel creates surface flow predominated by moving pool interspersed by riffle. Stream substrate is composed of cobble, gravel, coarse sand, and sand-silt fines.

Despite extensive development in the watershed, a broad expanse of hardwoods and woody shrubs predominate as riparian vegetation, thereby providing the Quinnipiac River with a nearly complete canopy. The water depth in pools, undercut banks, and fallen or overhanging riparian vegetation provides physical in-stream habitat.

Point and non-point discharges coupled with consumptive and non-consumptive water diversion associated with extensive watershed development has impacted Quinnipiac River water quality. The Department of Environmental Protection classifies the Quinnipiac River mainstem within the bounds of the proposed building site as *Class C/B* surface waters. Designated uses for surface water of this classification are certain fish and wildlife habitat, certain recreational activities, agricultural, industrial and other legitimate uses including navigation; swimming may be precluded. Surface waters so designated are presently not meeting one or more designated uses due to pollution. Although not currently meeting water quality criteria, the goal for *Class C/B* surface waters may be *Class A,* or *B,* depending upon uses designated for the watercourse.

Fisheries Resources

The Quinnipiac River reach westerly of the proposed building has the physical characteristics of a coldwater stream. The Inland Fisheries Division (the "Division") has conducted fish surveys of the Quinnipiac River within the vicinity of the Mill Street bridge located approximately ¾ mile south of the proposed building. The surveys of confirmed the presence of a diverse coldwater stream fish community of the following species: native brook trout *(Salvelinus fontinalis)*, wild brown trout *(Salmo trutta)*, blacknose dace *(Rhinichthys atratulus)*, common shiner *(Luxilus cornutus)*, tessellated darter *(Etheostoma olmstedi)*, and white sucker *(Catostomus commersoni)*.

The Division liberates adult brook, brown and rainbow trout into the Quinnipiac River for recreational angling. The trout had historically been distributed throughout a number of river segments in Wallingford, Meriden, Cheshire and Southington. Several years ago the Division had suspended trout stocking in the river from the Meriden-Cheshire town line northerly through Plainville due to the detection of PCB (polychlorinated biphenyl) contamination in a number of fish species including trout. The Connecticut Department of Public Health and the Department of Environmental Protection have issued an advisory that fish from the Quinnipiac River northerly of the Meriden-Cheshire town line not be consumed.

Beginning in 2001, the Division implemented a new trout management plan for streams and rivers in Connecticut. In this plan, the Division identified a number of watercourses with particularly good potential for improvement of the trout populations and fisheries. One of the watercourses included in the trout management plan is the portion of the Quinnipiac River from the Cheshire - Meriden town line northerly through all of Southington (the area currently under the fish consumption advisory). PCB contamination notwithstanding, the elimination or upgrade of wastewater effluent discharging to the river have improved water quality which has resulted in a marked increase of the wild trout

population and a subsequent increase in recreational angler usage. This river segment is now managed as a *Class 1 Wild Trout Management Area*. Fishing is allowed year-round however, anglers are required to release all trout caught. Fishing is limited to barbless single-hook artificial lures and flies.

Impacts

The proposed building and associated parking will encroach into the Quinnipiac River floodplain, however, there will be no modification to the river channel or its immediate riparian habitat. The site redevelopment will increase the amount of impervious area and will contribute to the cumulative impacts associated with urbanization on a watershed-wide scale. The literature reports of studies in Maryland that noted incremental deterioration in stream water quality and physical habitat with increased percentages of impervious surface within the watershed. Watersheds with 10-15% impervious surface coverage were found to cause slight degradations of physical stream habitat with significant impacts occurring as the percentage of impervious surface progresses from 25-50% total watershed coverage.

Recent studies by the U.S. Geological Survey indicate a trend in higher peak flows within the Quinnipiac River. A similar impact was noted in Maryland streams with watersheds containing 25% or greater coverage of impervious surface. Higher peak flows in the Quinnipiac River can induce river bank failure, produce excessive channel scour or sediment deposition and interfere with certain critical life activities of aquatic species (including both fish and insects) such as spawning, egg incubation or juvenile development.

Recommendations

It is recommended that there be a modification to the current site design to reduce the amount of impervious surface and to avoid encroachment into the river's floodplain. Suggested site modifications include:

- Place office space above commercial space as a second story.
- Develop parking beneath all or a portion of the structure.
- Utilize permeable pavement or interlocking block pavers in parking areas to the fullest extent possible.

Literature Reviewed

MacBroom, James Grant, *The River Book*. Connecticut Department of Environmental Protection, DEP Bulletin 28, 1998. (Hartford, CT)

Maryland Department of Environmental Resources – Programs and Planning Division, *Low Impact Design Strategies – An Integrated Design Approach.* June 1999. (Prince George's County, MD)

Quinnipiac River Watershed Partnership - Low Flow/Water Allocation Work Group, *Preliminary Assessment of Water Withdrawals and Stream Flows in the Quinnipiac River Watershed*. July 2000. (Hartford, CT)

Archaeological Review

Nicholas Bellantoni, PhD, CT State Archaeologist, UCONN

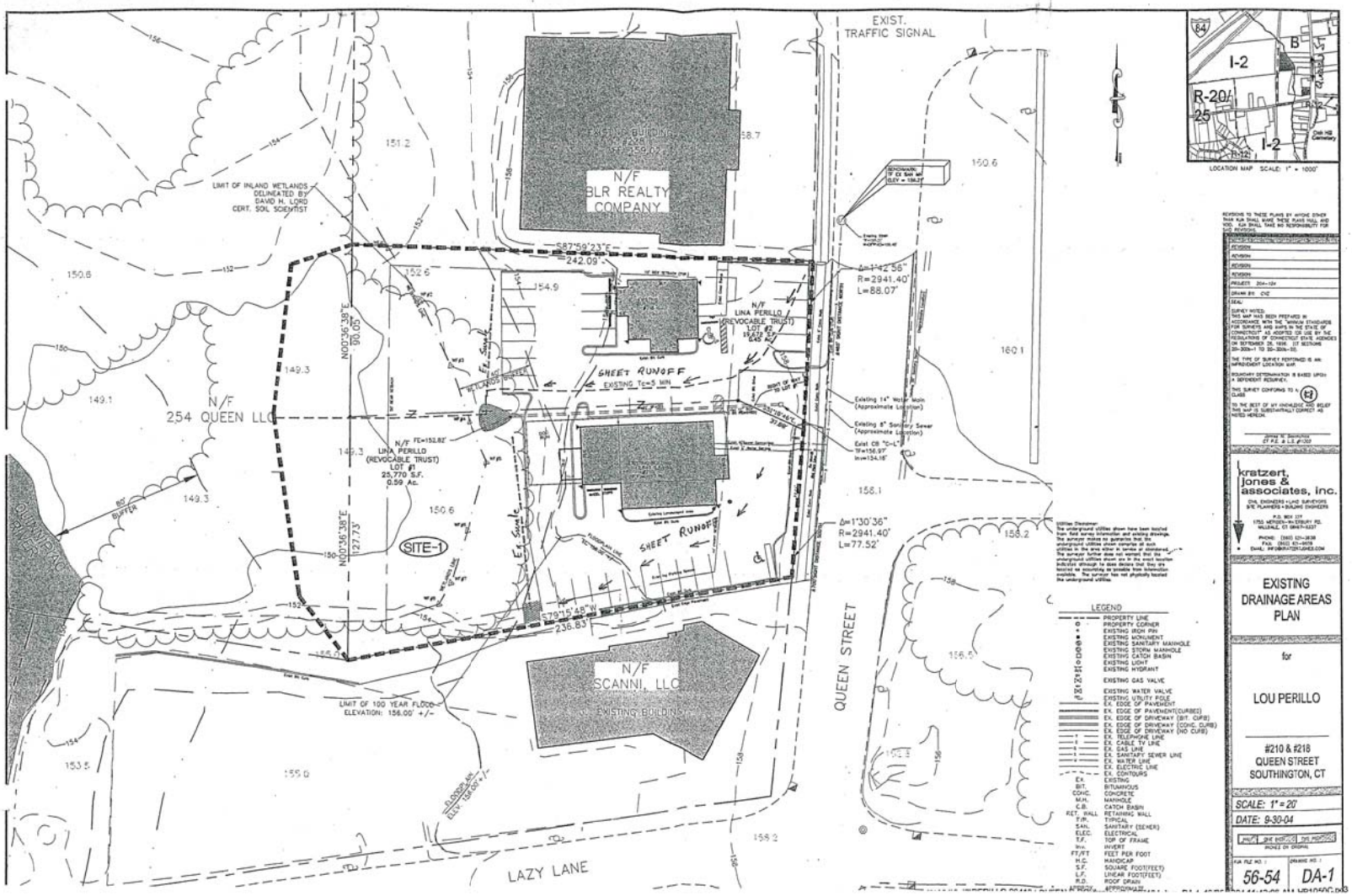
David Poirier, PhD, Staff Archaeologist, State Historic Preservation Office

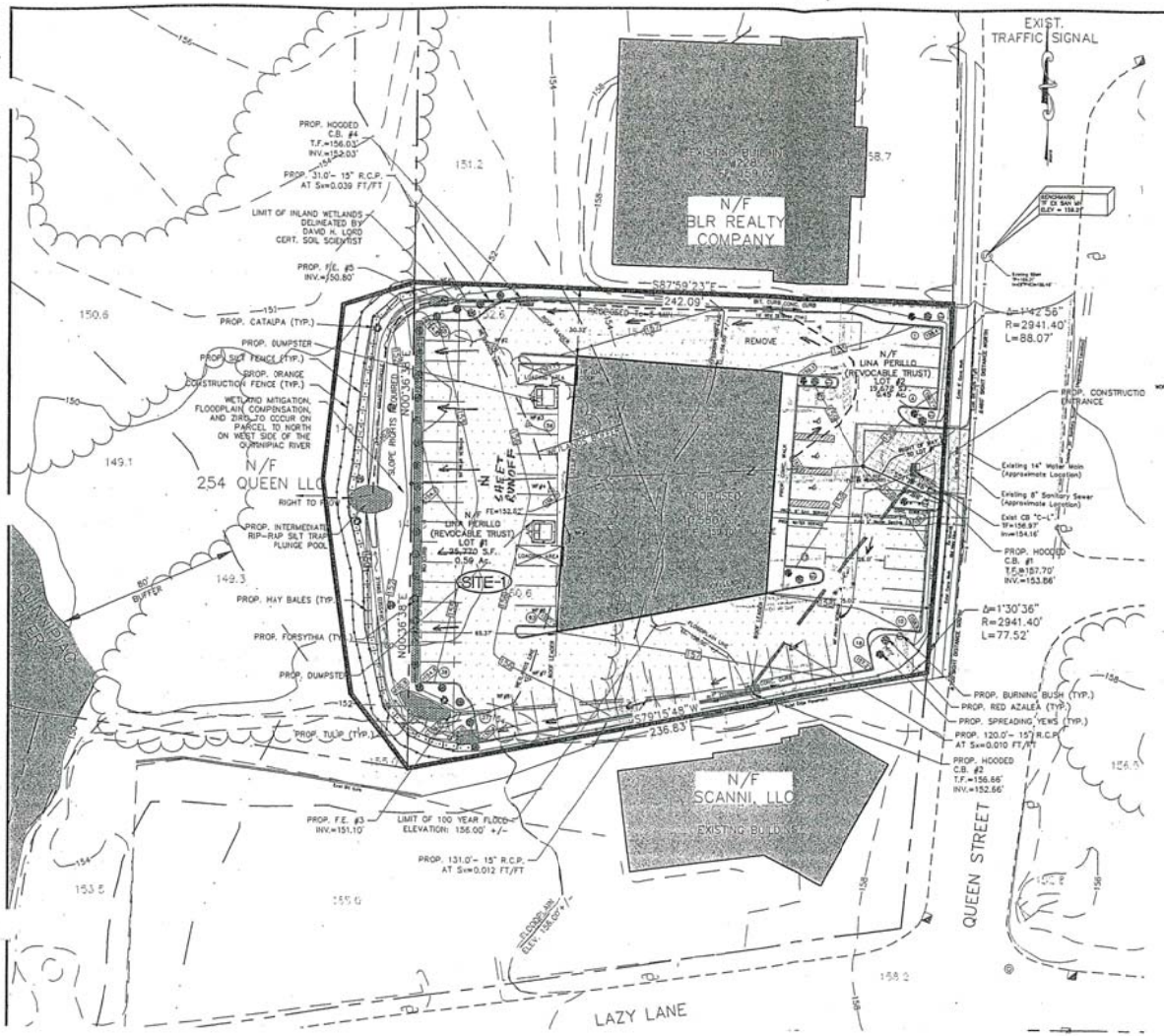
A review of the state of Connecticut's archaeological site files and maps indicates that the Queen Street project area is located in a highly sensitive area for prehistoric archaeological sites. The project area is partially located in the floodplain associated with the Quinnipiac River. Archaeological sites in close proximity suggest that the topographic and environmental characteristics of the project area should contain Native American camp and village sites. These potential sites would be adjacent to the wetland areas and represent the seasonal occupations of Native American hunters-gatherers utilizing the natural resources of the area.

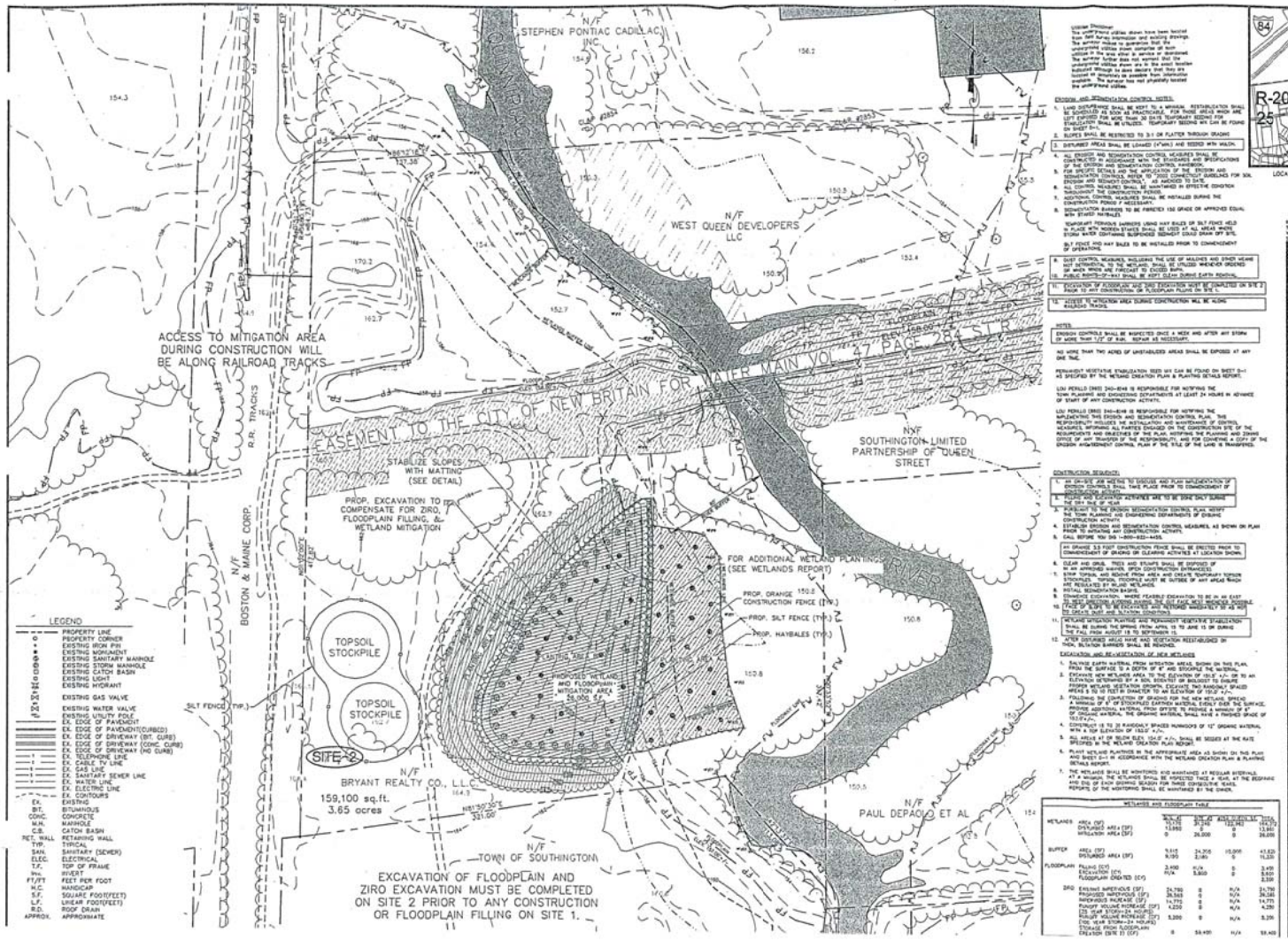
The Office of State Archaeology recommends a reconnaissance survey for the project area to identify, evaluate and manage all cultural resources that may be affected by proposed land use activities. The recommended archaeological survey should be conducted in accordance with the State Historic Preservation Office's *Environmental Review Primer for Connecticut's Archaeological Resources.*

The Office of State Archaeology is prepared to offer technical assistance in conducting the archaeological survey and they look forward to working with the Town of Southington in the conservation and preservation of its cultural resources.

Appendix


EXIST. TRAFFIC SIGNAL
N/F BLR REALTY COMPANY
LIMIT OF INLAND WETLANDS DELINEATED BY DAVID H. LORD CERT. SOIL SCIENTIST
S87°59'23"E 242.09'
N00°36'39"E 90.05'
N00°36'38"E 127.73'
N/F 254 QUEEN LLC
N/F LINA PERILLO (REVOCABLE TRUST) LOT #1 25,770 S.F. 0.59 Ac.
N/F LINA PERILLO (REVOCABLE TRUST) LOT #2 19,478 S.F. 0.45 Ac.
SHEET RUNOFF
EXISTING Tc=5 MIN
SITE-1
S79°15'48"W 236.83'
Δ=1°42'56" R=2941.40' L=88.07'
Δ=1°30'36" R=2941.40' L=77.52'
N/F SCANNI, LLC
EXISTING BUILDING
LIMIT OF 100 YEAR FLOOD ELEVATION: 156.00' +/-
QUINNIPIAC RIVER
QUEEN STREET
LAZY LANE
LOCATION MAP SCALE: 1" = 1000'
I-2
R-20/25
LEGEND
PROPERTY LINE
PROPERTY CORNER
EXISTING IRON PIN
EXISTING MONUMENT
EXISTING SANITARY MANHOLE
EXISTING STORM MANHOLE
EXISTING CATCH BASIN
EXISTING LIGHT
EXISTING HYDRANT
EXISTING GAS VALVE
EXISTING WATER VALVE
EXISTING UTILITY POLE
EX. EDGE OF PAVEMENT
EX. EDGE OF PAVEMENT(CURBES)
EX. EDGE OF DRIVEWAY (BIT. CURB)
EX. EDGE OF DRIVEWAY (CONC. CURB)
EX. EDGE OF DRIVEWAY (NO CURB)
EX. TELEPHONE LINE
EX. CABLE TV LINE
EX. GAS LINE
EX. SANITARY SEWER LINE
EX. WATER LINE
EX. ELECTRIC LINE
EX. CONTOURS
EX. EXISTING
BIT. BITUMINOUS
CONC. CONCRETE
M.H. MANHOLE
C.B. CATCH BASIN
RET. WALL RETAINING WALL
TYP. TYPICAL
SAN. SANITARY (SEWER)
ELEC. ELECTRICAL
T.F. TOP OF FRAME
INV. INVERT
FT./FT FEET PER FOOT
H.C. HANDICAP
S.F. SQUARE FOOT(FEET)
L.F. LINEAR FOOT(FEET)
R.D. ROOF DRAIN
APPROX. APPROXIMATE
kratzert, jones & associates, inc.
CIVIL ENGINEERS • LAND SURVEYORS SITE PLANNERS • BUILDING ENGINEERS
P.O. BOX 177
1755 MERIDEN-WATERBURY RD.
MILDALE, CT 06457-0177
PHONE: (860) 621-3838
FAX: (860) 621-9978
EMAIL: INFO@KRATZERTJONES.COM
EXISTING DRAINAGE AREAS PLAN
for
LOU PERILLO
#210 & #218 QUEEN STREET SOUTHINGTON, CT
SCALE: 1" = 20'
DATE: 9-30-04
56-54
DA-1


EXIST. TRAFFIC SIGNAL
N/F BLR REALTY COMPANY
N/F 254 QUEEN LLC
N/F SCANNI, LLC
EXISTING BUILDING
QUEEN STREET
LAZY LANE
SITE-1
PROPOSED BUILDING
PROP. HOODED C.B. #4 T.F.=156.03' INV.=152.03'
PROP. 31.0'- 15" R.C.P. AT S=0.039 FT/FT
LIMIT OF INLAND WETLANDS DELINEATED BY DAVID H. LORD CERT. SOIL SCIENTIST
PROP. F.E. #5 INV.=150.80'
PROP. CATALPA (TYP.)
PROP. DUMPSTER
PROP. SILT FENCE (TYP.)
PROP. ORANGE CONSTRUCTION FENCE (TYP.)
WETLAND MITIGATION, FLOODPLAIN COMPENSATION, AND ZIRS TO OCCUR ON PARCEL TO NORTH ON WEST SIDE OF THE QUINNIPIAC RIVER
RIGHT TO PASS
PROP. INTERMEDIATE RIP-RAP SILT TRAP FLUNGE POOL
80' BUFFER
PROP. HAY BALES (TYP.)
PROP. FORSYTHIA (TYP.)
PROP. DUMPSTER
PROP. TULIP (TYP.)
PROP. F.E. #3 INV.=151.10'
LIMIT OF 100 YEAR FLOOD ELEVATION: 156.00' +/-
PROP. 131.0'- 15" R.C.P. AT S=0.012 FT/FT
FLOOD LINE ELEV. 156.00' +/-
QUINNIPIAC RIVER
S87°59'33"E
242.09'
REMOVE
N/F LINA PERILLO (REVOCABLE TRUST) LOT #1 35,270 S.F. 0.59 AC.
N/F LINA PERILLO (REVOCABLE TRUST) LOT #2 19,617 S.F. 0.45 AC.
N00°36'38"W
S79°15'48"W
236.83'
Δ=1°42'56" R=2941.40' L=88.07'
Δ=1°30'36" R=2941.40' L=77.52'
PROP. CONSTRUCTION ENTRANCE
Existing 14" Water Main (Approximate Location)
Existing 8" Sanitary Sewer (Approximate Location)
Exist CB "C-1" TF=156.97' Inv=154.16'
PROP. HOODED C.B. #1 T.F.=157.70' INV.=153.86'
PROP. BURNING BUSH (TYP.)
PROP. RED AZALEA (TYP.)
PROP. SPREADING YEWS (TYP.)
PROP. 120.0'- 15" R.C.P. AT S=0.010 FT/FT
PROP. HOODED C.B. #2 T.F.=156.66' INV.=152.66'
SHEET RUNOFF
LEGEND
PROPERTY LINE
PROPERTY CORNER
EXISTING IRON PIN
EXISTING MONUMENT
EXISTING SANITARY MANHOLE
EXISTING STORM MANHOLE
EXISTING CATCH BASIN
EXISTING LIGHT
EXISTING HYDRANT
EXISTING GAS VALVE
EXISTING WATER VALVE
EXISTING UTILITY POLE
EX. EDGE OF PAVEMENT
EX. EDGE OF PAVEMENT(CURBED)
EX. EDGE OF DRIVEWAY (BIT. CURB)
EX. EDGE OF DRIVEWAY (CONC. CURB)
EX. EDGE OF DRIVEWAY (NO CURB)
EX. TELEPHONE LINE
EX. CABLE TV LINE
EX. GAS LINE
EX. SANITARY SEWER LINE
EX. WATER LINE
EX. ELECTRIC LINE
EX. CONTOURS
EX. EXISTING
BIT. BITUMINOUS
CONC. CONCRETE
M.H. MANHOLE
C.B. CATCH BASIN
RET. WALL RETAINING WALL
TYP. TYPICAL
SANI. SANITARY (SEWER)
ELEC. ELECTRICAL
T.F. TOP OF FRAME
Inv. INVERT
FT/FT FEET PER FOOT
H.C. HANDICAP
S.F. SQUARE FOOT(FEET)
L.F. LINEAR FOOT(FEET)
R.D. ROOF DRAIN
APPROX. APPROXIMATE
Utilities Disclaimer:
The underground utilities shown have been located from field survey information and existing drawings. No guarantee is given that the underground utilities shown comprise all such utilities in the area either in service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated although he does declare that they are located as accurately as possible from information available. The surveyor has not physically located
LOCATION MAP SCALE: 1" = 1000'
I-2
R-20/25
B
I-2
R-12
Oak Hill Cemetery
REVISIONS TO THESE PLANS BY ANYONE OTHER THAN KJA SHALL MAKE THESE PLANS NULL AND VOID. KJA SHALL TAKE NO RESPONSIBILITY FOR SUCH REVISIONS.
REVISION
REVISION
REVISION
REVISION
PROJECT: 204-104
DRAWN BY: CVD
SEAL
DRAWN IN ACCORDANCE CT R.E. & L.S. #7022
kratzert, jones & associates, inc.
CIVIL ENGINEERS • LAND SURVEYORS SITE PLANNERS • BUILDING ENGINEERS
P.O. BOX 337
1753 MERIDEN-WALLINGFORD RD.
WALLINGFORD, CT 06492-0337
PHONE: (203) 621-3638
FAX: (203) 621-0639
EMAIL: INFO@KRATZERTJONES.COM
PROPOSED DRAINAGE AREAS PLAN
for
LOU PERILLO
#210 & #218
QUEEN STREET
SOUTHINGTON, CT
SCALE: 1" = 20'
DATE: 9-30-04
PRELIM. | DRAFT FOR REVIEW | SEAL PLANS FOR CONSTRUCTION
PLANS ON ORIGINAL
KJA FILE NO.: 56-54
DRAWING NO.: DA-2


N/F STEPHEN PONTIAC CADILLAC INC.
N/F WEST QUEEN DEVELOPERS LLC
N/F SOUTHINGTON LIMITED PARTNERSHIP OF QUEEN STREET
N/F BRYANT REALTY CO., L.L.C.
159,100 sq.ft.
3.65 acres
N/F PAUL DEPAOLO ET AL
TOWN OF SOUTHINGTON
N/F BOSTON & MAINE CORP.
R.R. TRACKS
ACCESS TO MITIGATION AREA DURING CONSTRUCTION WILL BE ALONG RAILROAD TRACKS
EASEMENT TO THE CITY OF NEW BRITAIN FOR WATER MAIN VOL. 47 PAGE 282 ETC.
STABILIZE SLOPES WITH MATTING (SEE DETAIL)
PROP. EXCAVATION TO COMPENSATE FOR ZIRO, FLOODPLAIN FILLING, & WETLAND MITIGATION
FOR ADDITIONAL WETLAND PLANTINGS (SEE WETLANDS REPORT)
PROP. ORANGE CONSTRUCTION FENCE (TYP.)
PROP. SILT FENCE (TYP.)
PROP. HAYBALES (TYP.)
TOPSOIL STOCKPILE
TOPSOIL STOCKPILE
SITE 2
SILT FENCE (TYP.)
PROPOSED WETLAND AND FLOODPLAIN MITIGATION AREA 25,000 S.F.
EXCAVATION OF FLOODPLAIN AND ZIRO EXCAVATION MUST BE COMPLETED ON SITE 2 PRIOR TO ANY CONSTRUCTION OR FLOODPLAIN FILLING ON SITE 1.
LEGEND
PROPERTY LINE
PROPERTY CORNER
EXISTING IRON PIN
EXISTING MONUMENT
EXISTING SANITARY MANHOLE
EXISTING STORM MANHOLE
EXISTING CATCH BASIN
EXISTING LIGHT
EXISTING HYDRANT
EXISTING GAS VALVE
EXISTING WATER VALVE
EXISTING UTILITY POLE
EX. EDGE OF PAVEMENT
EX. EDGE OF PAVEMENT(CURBED)
EX. EDGE OF DRIVEWAY (BIT. CURB)
EX. EDGE OF DRIVEWAY (CONC. CURB)
EX. EDGE OF DRIVEWAY (NO CURB)
EX. TELEPHONE LINE
EX. CABLE TV LINE
EX. GAS LINE
EX. SANITARY SEWER LINE
EX. WATER LINE
EX. ELECTRIC LINE
EX. CONTOURS
EX. EXISTING
BIT. BITUMINOUS
CONC. CONCRETE
M.H. MANHOLE
C.B. CATCH BASIN
RET. WALL RETAINING WALL
TYP. TYPICAL
SAN. SANITARY (SEWER)
ELEC. ELECTRICAL
T.F. TOP OF FRAME
INV. INVERT
FT/FT FEET PER FOOT
H.C. HANDICAP
S.F. SQUARE FOOT(FEET)
L.F. LINEAR FOOT(FEET)
R.D. ROOF DRAIN
APPROX. APPROXIMATE
EROSION AND SEDIMENTATION CONTROL NOTES:
WETLANDS AND FLOODPLAIN TABLE
LOCATION MAP SCALE: 1" = 1000'
I-2
R-20/25
B
I-2
kratzert jones & associates, inc.
PROPOSED EXCAVATION & WETLAND MITIGATION PLAN
for
LOU PERILLO
#210 & #218 QUEEN STREET SOUTHINGTON, CT
SCALE: 1" = 30'
DATE: 9-30-04
56-54
SP-3
C:\204\Sp\0PERILLO-204104-QUEEN S-SO\drg\perillo-204104-8.dwg, SP-3, 9/24/2005 10:39:25 AM, HP1050.pc3

ABOUT THE TEAM

The King's Mark Environmental Review Team (ERT) is a group of professionals in environmental fields drawn together from a variety of federal, state and regional agencies. Specialists on the Team include geologists, biologists, foresters, soil specialists, engineers and planners. The ERT operates with state funding under the supervision of the King's Mark Resource Conservation and Development (RC&D) Area — an 83 town region.

The services of the Team are available as a public service at no cost to Connecticut towns.

PURPOSE OF THE TEAM

The Environmental Review Team is available to help towns and developers in the review of sites proposed for major land use activities. To date, the ERT has been involved in reviewing a wide range of projects including subdivisions, landfills, commercial and industrial developments, sand and gravel excavations, active adult, recreation/open space projects, watershed studies and resource inventories.

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 project site and highlighting opportunities and limitations for the proposed land use.

REQUESTING A REVIEW

Environmental reviews may be requested by the chief elected official of a municipality and/or the chairman of town commissions such as planning and zoning, conservation, inland wetlands, parks and recreation or economic development. Requests should be directed to the chairman of your local Conservation District and the ERT Coordinator. A request form should be completely filled out and should include the required materials. When this request is reviewed by the local Conservation District and approved by the ERT Subcommittee, the Team will undertake the review on a priority basis.

For additional information and request forms regarding the Environmental Review Team please contact the ERT Coordinator: 860-345-3977, Eastern Connecticut RC&D Area, P.O. Box 70, Haddam, Connecticut 06438, e-mail: ertcoordinator@sbcglobal.net.