

April 9, 2008

Paul Lusitani
Project Manager
Clough Harbour & Associates, LLP
2139 Silas Deane Highway
Rocky Hill, CT 06067

**RE: Wetland & Watercourse Delineation Report
Stadley Rough Road
Danbury, Connecticut**

Dear Mr. Lusitani:

Kleinfelder East, Inc. (Kleinfelder) completed an on-site investigation to determine the presence or absence of wetlands and/or watercourses on the above referenced property (Stadley Rough Road, CT), as requested and authorized. This investigation involved a wetland/watercourse delineation that was completed by a qualified staff soil scientist and conducted in accordance with the principles and practices noted in the United States Department of Agriculture (USDA) Soil Survey Manual (1993). The soil classification system of the National Cooperative Soil Survey was used in this investigation to identify the soil map units present on the project site.

INVESTIGATION

The project site was investigated on March 18, 2008, with a temperature in the mid-30s under cloudy conditions. Soil types are identified by observing soil morphology (soil texture, color, structure, etc.). To observe the morphology of the soils, numerous test pits and/or hand borings (generally to a depth of at least two feet) are completed. Wetland and watercourse boundaries were identified with flags and hung from vegetation or small wire stakes if in fields or grass communities. These flags are labeled "Wetland Delineation" and generally spaced a maximum of approximately 50 feet apart. It is important to note that flagged wetland and watercourse boundaries are subject to change until verified by local, state, or federal regulatory agencies.

REGULATORY INFORMATION

Wetlands and watercourses are regulated by both state and federal law each with different definitions and regulatory requirements. Accordingly, the State may regulate waters that fall outside of federal jurisdiction; however, where federal jurisdiction exists concurrent State jurisdiction is almost always present.

State Regulation

Wetland determinations are based on the presence of poorly drained, very poorly drained, alluvial, or floodplain soils and submerged land. *Watercourses* are defined as "rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs and all other bodies of water, natural or artificial, vernal or intermittent, public or private, which are contained within, flow through or border upon the state or any portion thereof." *Intermittent watercourse* determinations are made based on the presence of a defined permanent channel and bank, and two of the following characteristics: (1) evidence of scour or deposits of recent alluvium or detritus, (2) the presence of standing or flowing water for a duration longer than a

particular storm incident, and (3) the presence of hydrophytic vegetation. (See Inland Wetlands and Watercourses Act §22a-38 CGS.)

WETLAND AND WATERCOURSE SITE DESCRIPTION

Wetland classifications used to identify the type of wetland(s) occurring on the project site are based on guidance from the U.S. Fish and Wildlife Service (USFWS) (Cowardin et.al. 1979). These are further qualified with the Hydrogeomorphic Method of wetland classification (Brinson, 1993).

Two on-site wetland systems were delineated during the March 2008 site visit using sequentially numbered flags (Figure 1). Wetland 1 was delineated using flags 5 through 15. Wetland 2 was delineated using flags 30 through 33. Both wetlands delineated consisted of a palustrine forested broad-leaved deciduous saturated/semipermanent depression wetland system (USFWS class: PFO1Y). As indicated by its classification, this wetland community is predominantly a forested habitat consisting of a few grasses in the herbaceous layer and a very sparse population of woody shrubs mostly comprising saplings of the dominate trees. The wetland appears to be supported hydrologically via groundwater discharge and surface water runoff flowing from the adjacent developed uplands. The wetland surface drainage flows in a northeast to southwest direction across the site and is strongly influenced by the stone walls. The wetland is considered a a low quality system that is bordered by both historic and contemporary fill materials that preferentially direct surface flow into depressions along the stone walls and at the edge of fill. Common reed (*Phragmites australis*) individuals were few, did not form stands, and displayed signs of stress.

The distance from the proposed project where ground disturbance would occur to the nearest wetland is approximately six feet, with no fill occurring directly within the delineated wetland area. Impacts of the proposed project on the wetland system will be minimal as the project is proposed downgradient of the wetland area, which is situated within a mosaic of historic and contemporary disturbances.

TABLE 1: Predominate Vegetation within and adjacent to the wetlands (Common (*Scientific*) names)

TREES & SAPLINGS
American Sycamore (<i>Platanus occidentalis</i>)
Sugar Maple (<i>Acer saccharinum</i>)
Weeping Willow (<i>Salix babylonica</i>)
White Oak (<i>Quercus alba</i>)
SHRUBS
Common Barberry (<i>Berberis vulgaris</i>)
HERBS/VINES
Common Greenbriar (<i>Similax rotundifolia</i>)
Common Reed (<i>Phragmites australis</i>)
*Denotes State non-native invasive species

SOIL MAP TYPES

A brief description of each soil map unit identified on the project site is presented below including information from the Untied States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil descriptions. Further information on these and other soils, please refer to the internet site at <http://soils.usda.gov/technical/classification/osd/index.html>).

Upland Soils

Udorthents urban land complex (306)

This unit consists of areas that have been altered by cutting or filling. Slopes are mainly 0 to 25 percent. The material in these areas is mostly loamy, and in the filled areas it is more than 20 inches thick. Some of the filled areas are on flood plains, in tidal marshes, and on areas of poorly drained and very poorly

drained soils. Included with this unit in mapping are small areas of soils that have not been cut or filled. Also included are a few larger urbanized areas and a few small areas containing material such as logs, tree stumps, concrete, and industrial wastes. A few areas have exposed bedrock. Included areas make up about 30 percent of this map unit. The properties and characteristics of this unit are variable, and the unit requires onsite investigation and evaluation for most uses. This unit is not assigned to a capability subclass.

Woodbridge fine sandy loam (45A)

The Woodbridge series consists of moderately well drained loamy soils formed in subglacial till. They are very deep to bedrock and moderately deep to a densic contact. They are nearly level to moderately steep soils on till plains, hills, and drumlins. Slope ranges from 0 to 25 percent. The soils formed in acid till derived mostly from schist, gneiss, and granite. Diagnostic horizons include an ochric epipedon from 0 to 7 inches (Ap horizon), and a cambic horizon from 7 to 30 inches (Bw horizons). Aquic features (low chroma iron depletions) may occur within a 24 inch depth (Bw2 horizon).

Wetland Soils

Ridgebury complex (Rn) fine sandy loam

The Ridgebury complex is a very deep poorly drained soil that includes poorly drained Leicester, and very poorly drained Whitman soils formed in till derived mainly from granite, gneiss and schist. Ridgebury soils on the landscape are in slightly concave areas and shallow drainageways of till uplands with slopes that range from 0-8 percent. Depth to the perched seasonal high water table from November to May, or longer, is perched above the densic materials. The soils diagnostic horizons include an ochric epipedon (0 to 5 inches (A horizon)), aeric feature 100 percent of the zone from 5 to 9 inches (Bw1 horizon), and a cambic horizon (5 to 18 inches (Bw and Bg horizons)). Densic contact root limiting material begins at 18 inches (Cd). Endosaturation occurs within the zone from 9 to 18 inches and is saturated above the densic contact (Bw2 horizon).

SUMMARY CLOSING

The proposed tower development project reviewed is not anticipated to cause an adverse impact on the delineated wetlands noted in this report. Utilizing appropriate soil erosion and sedimentation controls will reduce, if not eliminate, any risk of impact to the wetlands during construction. Although, the project is proposed to be approximately six feet from a small low quality wetland, the project will be downgradient and within a historically disturbed area.

Thank for the opportunity to work with you on this project. Please contact me at (860) 683-4200 if you have any questions or require additional assistance.

Very truly yours,
Kleinfelder East, Inc.

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Jeffrey R. Shamas, CE, SS, PWS
Natural Resources Program Manager

Enclosures

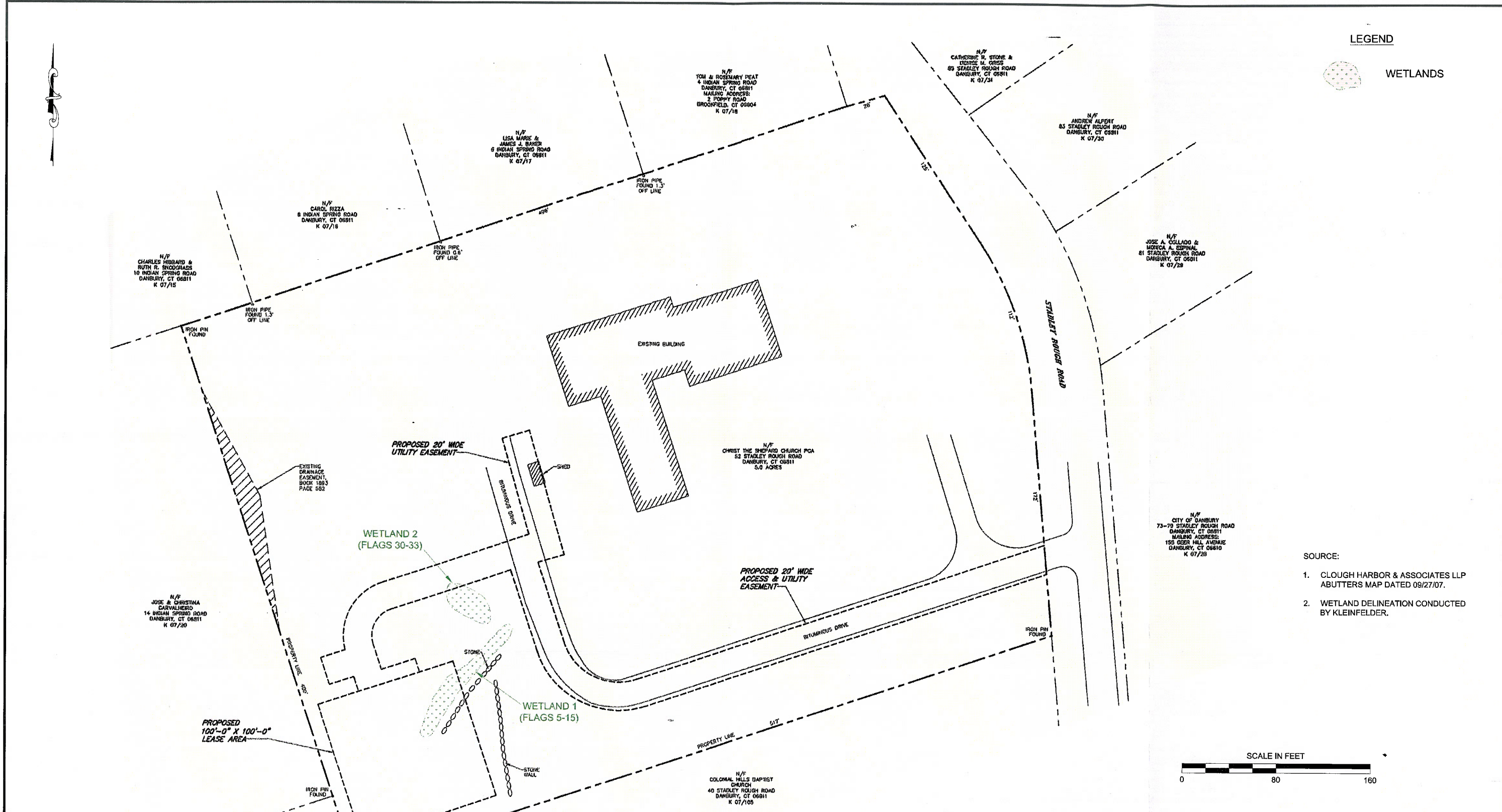
REFERENCES

1. Brinson, M.M. 1993. *A Hydrogeomorphic Classification for Wetlands*. Tech. Rpt.WRP-DE-4, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.
2. Cowardin, L.M., V. Carter, F.C. Golet, E.T. LaRoe. 1979. *Classification of Wetland and Deepwater Habitats of the United States*. US Government Printing Office. Washington D.C. GPO 024-010-00524-6.103 pp.

LEGEND

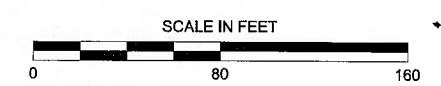


WETLANDS



N/F
CITY OF DANBURY
73-79 STADLEY ROUGH ROAD
DANBURY, CT 06811
MAILING ADDRESS:
193 DEER HILL AVENUE
DANBURY, CT 06410
K 07/28

- SOURCE:
1. CLOUGH HARBOR & ASSOCIATES LLP ABUTTERS MAP DATED 09/27/07.
 2. WETLAND DELINEATION CONDUCTED BY KLEINFELDER.



DRAWN BY: CTH		WETLAND DELINEATION MAP	
REVISED BY:			
CHECKED BY:		CLOUGH HARBOR & ASSOCIATES, LLP 52 STADLEY ROUGH ROAD DANBURY, CONNECTICUT	
DATE: 03/19/08	APPROVED BY:		
PROJECT NO. 92086		FILE NAME: 92086WDMAR08.dwg	

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