ENVIRONMENTAL IMPACT REPORT

WAREHOUSE 38 ON THE GREEN
38 HUBBARD STREET
GLASTONBURY, CONNECTICUT

PREPARED FOR
LAC GROUP, LLC

BY
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PROFESSIONAL SOIL SCIENTIST

OCTOBER 31, 2013

1.0 INTRODUCTION

LAC Group, LLC is proposing to convert an existing warehouse located at 38 Hubbard Street, Glastonbury into a multifamily use. The report is intended to comply with Section 4.17 of the Zoning Regulations, specifically the Adaptive Redevelopment Zone regulations which may require an Environmental Impact Report.

Field work was conducted on October 7, 2013 and October 21, 2013 by John P. Ianni, Professional Soil Scientist. This report includes information on both physical features as well fauna and flora. The information contained in the report was developed based on actual field data as well as available data from published sources such as Geographic Information System software including *Arcmap v.10.0* and data collected from the Connecticut Department of Energy and Environmental Protection (D.E.E.P.).

2.0 SITE CHARACTERISTICS

The site is located on the south side of Hubbard Street westerly of Main Street. The site contains 1.209 acres and is currently occupied by a three-story wood framed building with an existing footprint of 18,446 square feet. A smaller 32' by 22' garage is located in the southeastern portion of the property. Attached additions to the main building include a loading dock on the west side, a shed roof addition on the south and north sides and a one-story addition and two shed roofs on the east side.

The building was originally constructed in the early 1900's and has been used for a multitude of purposes. A historic account of the property is supplied in the Phase I and Phase II Environmental Assessment Reports (Section III.E) prepared by HRP Associates, Inc. The HRP Report states that the building was used as a warehouse, dormitory and storage.

Existing paved surfaces are located along the eastern and southern sides of the building and a gravel parking area occupies the open area to the rear of the building. A former rail spur may have existed on the western side of the building

3.0 SITE PHYSICAL FEATURES

3.1 TOPOGRAPHY

The site is flat with slopes of less than 3%. The USGS topographic map is included as Figure 1. The general gradient is from the front of the site (north) to the rear (south) with an overall gradient of less than four feet. The topography is

consistent with sandy outwash plains and former terraces. The site elevation is between 36 and 34 (NAVD 88). Slightly higher elevations occur on the west side of the building in the area of the former rail spur.

3.2 SOILS

The soils on the site are currently mapped as Udorthents-Urban complex (Figure 2) in the *Soil Survey of the State of Connecticut (NRCS 2003).* This mapping unit is used in areas where the original soil profiles have been disturbed to the extent that classification of the soils to the series level is impractical. A series of deep hole test pits were dug on October 7, 2013 to explore the capacity of the soils for infiltration of storm water. The results of the soil explorations are contained in the submitted plans. The original soil classification of the site would have been Windsor loamy sand 0-3% slope. The deep hole test pits confirmed the soil classifications.

In three of the test pits the original soil surface was found between 12 and 18 inches below the existing grade. The original and naturally occurring topsoil layer was found in all four of the test pits. The original and naturally occurring subsoil layers were found intact in all the test pits.

The soils are deep to the water table, no indications of bedrock were found and the loamy sand textures of the soils are well suited for infiltration of storm water.

No regulated wetland soils or water courses were identified on the subject property. Off site to the southwest, an isolated area of wetland soils was identified based on Town GIS mapping as well as on the NRCS mapping. No verification of the off-site wetlands was performed. However, the soils in the proposed drainage easement on the Housing Authority property were verified to be outside of the mapped wetlands. Moderately well drained soils were identified in the athletic field and an area of disturbed former wetland soils was identified in the easement. A ground water control drain was also noted in the area of the former wetland soils within the drainage easement.

An existing intermittent water course was identified at the outlet of the proposed drainage overflow pipe. This intermittent water course conveys surface runoff from the Knox Lane development. The intermittent water course was also identified on plans prepared by Meehan & Goodin for the Housing Authority.

3.3 BEDROCK GEOLOGY

The State Geological and Natural History Survey of Connecticut Bedrock Geology Map (Rogers et. al., 1985) indicates the site is underlain by Portland Arkose, a red brown sandstone.

3.4 SURFICIAL GEOLOGY

The Surficial Materials Map of Connecticut (Stone et. al. 1992) indicates the site is underlain by sandy melt water deposits. The deposits are variable thickness sand beds commonly with foreset beds of finer grain.

3.5 HYDROLOGY

3.5.1 SURFACE WATER

The site contains no surface water bodies or wetlands. The nearest classified surface water is Hubbard Brook which is approximately 1,000 feet to the northwest. The classification of this water body is B/A. Under this classification the resource is suitable for aquatic and wildlife habitat, potential drinking water supplies, recreation, navigation, and water supply for agriculture and industry. The goal of the D.E.E.P. is to bring the classification to A by improving water quality. Hubbard Brook is not classified as an impaired water body by the D.E.E.P.

As designed, the proposed storm water infiltration system includes an over flow pipe being directed to an existing drainage swale on the property of The Housing Authority of Glastonbury. The drainage swale is part of the drainage system serving the Knox Lane Senior Development. The swale conveys surface runoff from existing impervious surfaces with an eventual discharge to Wickham Brook. Wickham Brook is a perennial watercourse located approximately 500 feet to the south. The brook flows to the west under Main Street and empties into Hubbard Brook approximately 1,500 feet from the site.

The storm water swale was devoid of surface water during both field visits and no outward signs of erosion were noted.

3.5.2 GROUND WATER

According to the D.E.E.P GIS information, the current ground water classification is GA.

A GA groundwater classification is defined as: Groundwater within the area of existing private water supply wells or an area with the potential to provide water to public or private wells. The Department presumes that groundwater in such an area is, at a minimum, suitable for drinking or other domestic uses without treatment.

3.5.3 WATER SUPPLY WELLS

Based on a review of the *1982 Atlas of Public Water Supply Sources and Drainage Basins of Connecticut, Bulletin No. 24,* no water supply wells are located within one mile of the site.

A review of the *1981 State of Connecticut Water Resources Bulletin No. 24, Hydrologic Data for Upper Connecticut River Basin,* indicates no water supply wells are located within one mile of the site.

The two listed sources were the only publications reviewed for well data.

4.0 NATURAL RESOURCES

A survey of the existing fauna and flora was conducted on October 21, 2013 by John P. Ianni. Field conditions were sunny, breezy with temperatures in the upper 50 degrees F. The habitat types were identified in the field and transferred to an aerial photograph of the site. A single habitat type was identified on the property and four additional habitat types were identified off site.

<u>On-site Habitat Types</u>
Developed Warehouse Site (turf)

<u>Off-Site Habitat Types</u>
Residential
Open Space
Athletic Field
Drainage Swale -Upland Woodland

4.1 ON-SITE HABITAT TYPES

The 1.209 acre site has been fully developed since the late 1920's. The site is developed with two buildings (a warehouse and a detached garage) and associated improvements including a paved access drive and gravel parking areas. All areas not occupied by buildings, gravel or pavement are maintained as turf. The predominant species in lawn areas include: Large crabgrass, (*Digitaria sanguinalis)* Perennial ryegrass, (*Lolium perenne)* Kentucky bluegrass, (*Poa pratensis)* Narrowleaf plantain (*Plantago lanceolata*) and Fescue (*Festuca sp*.). No other vegetation other than turf exists on the site. All trees and shrubs adjacent to the site are on neighboring properties.

4.2 OFF-SITE HABITAT TYPES

Residential Development

Residential development surrounds the site to the east, south and west. Multifamily development abuts the property immediately to the east and the Glastonbury Housing Authority maintains a development to the south which appears to date to the mid-1970s. An existing single family home is along the western border of the property. The properties contain turf as well as ornamental plantings. These areas are highly impacted by human activity and provide very little habitat for native fauna and flora.

Open Space

An existing green lies to the north of the property across Hubbard Street. The green contains mature specimen trees that include Sugar maple (*Acer saccharum*) and Red oak (*Quercus rubra*). A number of ornamental trees including Norway spruce (*Picea abies*) and Crab apple (*Malus sp*.) are also present as well as closely mown turf. This area has been highly impacted by human activity and provides very little habitat for native fauna and flora.

Athletic Field

An existing athletic field lies south of the site on housing authority land. The open field has been in existence as far as back as 1934, although the use as an athletic field appears to have been initiated in the 1970s. The field has been altered by grading and filling activities as well as the installation of the sewer line and ground water control drains. The species within the mowed field include: Kentucky bluegrass, Perennial ryegrass, Fescue, Broad leaf plantain (*Plantago major*) and Crabgrass.

Drainage Swale - Upland Woodland

Along the southern limits of the Housing Authority property is an area of upland woods as identified by aerial photographs and an off-site visual survey. The area is listed as containing upland soils of the Ninigret and Tisbury Series. The woodlands are open and serve as access to a hayfield to the east. A transition buffer of herbaceous and woody successional species has developed between the woods and athletic field. The successional growth includes Goldenrod (Solidago sp.), Blackberry (Rubus sp.), Red-Osier dogwood (*Cornus stolonifera)* and Asiatic bittersweet (*Celastrus orbiculatus Thunb*.). The off-site woodlands contain mixed hardwood species that include, Sugar maple, Red elm, (*Ulmus rubra*) Black cherry (*Prunus serotina*), Smooth and Speckled alder (*Alnus serrulota) (Alnus rugosa*), Winterberry (Ilex verticillata), and Burning bush **(***Eunoymus atropurpureus*).

5.0 WILDLIFE

A habitat based assessment was conducted based on the time of the year the field work was conducted. The site is devoid of all strata of vegetation except closely mowed turf species. As such the site provides no direct habitat function due to the lack of food and cover. The only species noted were typical generalist species that were observed flying over the site or adjacent to the site. A single Grey squirrel was noted foraging along the eastern property line. The proximity of the site to other residentially developed properties further limits the habitat value of the site

The habitat value is mainly found well off-site to the south in the upland woodlands and riparian zone associated with Wickham Brook.

6.0 WETLAND FUNCTIONS AND VALUES

The site does not contain wetlands and water courses and the only activity near a regulated area is the installation of an overflow discharge pipe from the on-site infiltration system. The disturbance is outside of the limits of the existing swale/intermittent water course and no impact to the conveyance function of the resource is expected.

7.0 NATURAL DIVERSITY DATA BASE REVIEW

The D.E.E.P. maintains a data base of the known locations of endangered, threatened, or special concern species and significant natural communities. A review of the existing maps (Figure 3) indicates no record for the site. However, the mapping indicates a record just south of the subject site in the area of Wickham Brook. An inquiry has been submitted for further information.

8.0 PROPOSED IMPACTS

8.1 Direct Impacts

The conversion of the existing warehouse building to a residential use will have no direct or permanent wetland impacts. No wetland areas will be filled or otherwise altered by the project and no loss of wetland functions or values are proposed.

8.2 Indirect Impacts

Indirect or secondary impacts to wetlands generally occur when activities are proposed outside of wetlands but may have an effect on the functions or values of the wetlands. Indirect impacts can include but are not limited to the removal of vegetation and habitat alterations, soil erosion, fugitive lighting and changes to wetland hydrology and water quality.

8.2.1 Habitat Alteration

The existing site offers no habitat value in its current condition. The addition of landscaping will provide some habitat value but the overall result is no loss of habitat.

The off-site work to install a drainage outlet pipe will result in a temporary loss of a small patch of successional species adjacent to the drainage swale. The area will be stabilized with vegetation after construction and regrowth of the native and naturalized species will occur. This is a temporary disturbance.

8.2.2 Soil Erosion

On-site and off-site areas are flat and contain predominantly sandy soils. An Erosion and Sedimentation Control plan is part of the plan submission. The

detailed plan includes appropriate perimeter controls, storm drain inlet protection, a construction entrance, sediment controls for yard drains and pervious concrete and detailed notes for sequencing, temporary and permanent vegetative cover, trench dewatering and final stabilization.

The potential for indirect impacts due to erosion are minimal due in part to the presence of permeable sandy soils, flat topography and a detailed Erosion Control plan.

8.2.3 Lighting

Fugitive lighting can have a significant impact on some wildlife species. A detailed lighting plan has been submitted that complies with applicable regulations and standards. No lighting will be directed upward and no lighting will extend beyond the property lines.

8.2.4 Hydrology – Water Quality

Drainage calculations have be prepped and submitted. The design engineer has concluded that there are no anticipated impacts to downstream properties.

Water quality is being maintained by providing storage and infiltration of the Water Quality Volume (WQV) as defined in the CT Storm Water Manual. The infiltration system will accommodate the first inch of runoff from the site with additional capacity unclaimed. By providing infiltration and contact with native soil the potential pollutants in the storm water runoff will be retained in the on-site soils.

9.0 CONCLUSION

The application is for the conversion of an existing warehouse to residential uses. The 1.209 acre site is fully developed and the reuse of the existing structure and grounds is proposed in a manner that will have no significant long term impacts to regulated

wetlands. A storm water management plan that infiltrates the first inch of runoff is proposed as is a detailed erosion and sedimentation plan. Infiltration of all impervious areas is proposed and a general site remediation of potential contaminants as identified in the Phase II Environmental Assessment will be completed.

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Appendix A
Site Photographs

Looking south, a view of the proposed storm water outlet Right of Way in the existing athletic field.

Looking north, the storm water easement as it exits the subject property. Warehouse building in the rear.

Looking south, the storm water easement as it nears the wood line and outfall area.

Looking south, the storm water easement as it nears the wood line and outfall area.

Looking west within the existing storm water swale. The two stakes with pink ribbon represent the limits of the proposed rip rap outlet.

Looking east in the existing storm water swale. Photograph taken on 10-29-13. No signs of erosion.

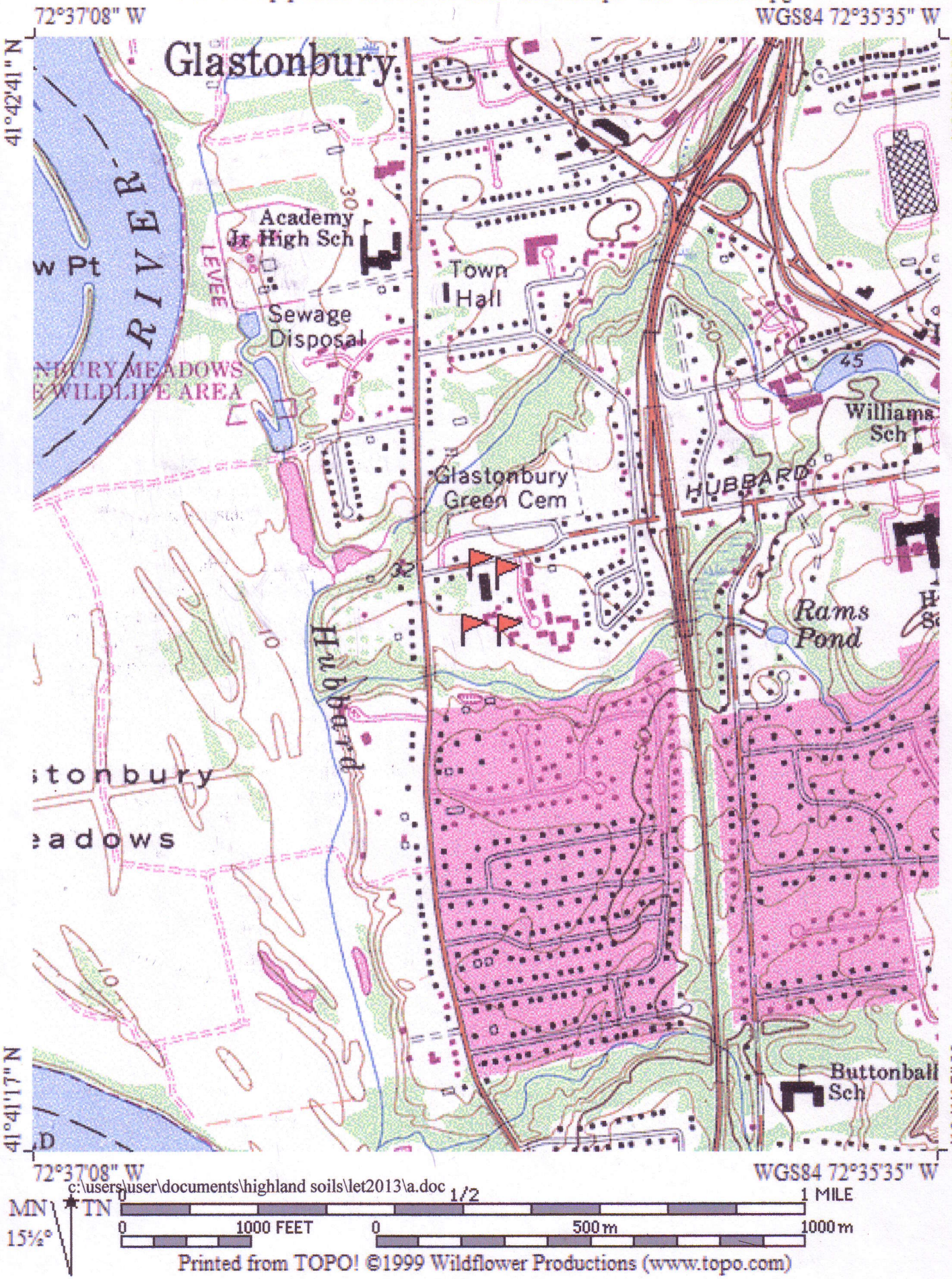
Looking west across the front of the subject property.

Looking south along the left (eastern) side of the site.

Looking west across the rear of the site.

Looking south along the western (right) side of the property.

FIGURE 1


TOPO! map printed on 10/29/13 from "hubbard.tpo" and "Untitled.tpg"
72°37'08" W
WGS84 72°35'35" W
41°42'41" N
Glastonbury
RIVER
w Pt
NBURY MEADOWS
E WILDLIFE AREA
Academy
Jr High Sch
LEVEE
Sewage
Disposal
Town
Hall
30
50
45
Williams
Sch
Glastonbury
Green Cem
HUBBARD
Rams
Pond
Hubbard
10
stonbury
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Buttonball
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72°37'08" W
WGS84 72°35'35" W
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MN
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