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PRELIMINARY SITE EVALUATION REPORT

Gordon College Property
Pine Street
Manchester, Massachusetts

Prepared for:

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TABLE OF CONTENTS

Preliminary Site Evaluation Report

Gordon College Property
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Manchester, Massachusetts

Introduction

The purpose of this report is to compile and summarize the results of extensive past analyses that were performed for this property for the Christian Book Distributors Headquarters project. Based on the collected information we will perform a preliminary analysis of the proposed building program for New England BioLabs and prepare a regulatory permit outline based on the development program. Generally, the building program is expected to comprise approximately 200,000 square feet of laboratory space in a two-story structure with the possibility of structured parking beneath. Additionally, the program should include expansion space for an additional 150,000 to 200,000 square feet of laboratory space in a two-story structure with the possibility of structured parking beneath. A daycare center for children of parents working on site would also be included in the development program.

1.0 EXISTING SITE DESCRIPTION

1.1 Site Location

The project is located one-half mile north of the Pine Street/Route 128 interchange on an unpaved portion of Pine Street (see Figure 1, Locus Map). The site has approximately 300 feet of frontage on Pine Street and 3,000 of frontage on Route 128, which is a "no access highway" at this location. Abutters to the north of the project include undeveloped woodlands owned by the Town of Manchester (located in Hamilton), and further to the north are Round Pond and Gravelly Pond. The town transfer station is located directly opposite the site entrance on Pine Street. Undeveloped wooded parcels are also located along Pine Street to the east of the property. Route 128 forms the southerly boundary of the site and to the west is the Town of Wenham municipal boundary, and Gull Pond.

1.2 Property Description

The site is entirely located in Manchester and contains approximately 110 acres. Within the locus property at the south central portion of the site is a small landlocked parcel of approximately 3.7 acres owned by the Town of Manchester. The property is currently owned by Gordon College who purchased the site in 1947 and there are no existing buildings on the property. Gordon College maintains a gravel access road through the site which enters the property along the westerly lot line and bisects the site and then connects out to the frontage at Pine Street. The site is shown on the Manchester Assessors Map 63 as Lots 21, 22 and 27.

1.3 Zoning, Regulatory Restrictions

The site is located in a Limited Commercial District which allows by-right, business and professional offices, office buildings, recreation clubs or facilities for profit, municipal uses, accessory uses and accessory buildings when fully screened from abutting streets or lots. The site also contains land subject to the Ground and Surface Water Resource Overlay Protection District, Section 4.9 and the Water Resource Protection District, Section 6.10. In fact, the westerly 85± acres of the locus property drains to the west to Gull Pond, Round Pond and eventually discharge to Gravelly Pond. Therefore, they are located within these water resources protection overlay districts. Additionally, a small area at the southwest corner of the site is located within the FEMA floodplain.

1.4 Topography/Vegetation

The topography of the site is quite variable. According to available topographic maps, the elevations on site range from a high point of 136 NGVD in the southeast portion of the site to a low elevation of 50 NGVD throughout the wetland areas on

site. The site is comprised primarily of two vegetational types. Mixed forest consisting of oak, beech, white pine and hemlock exist in the upland areas and the wetlands are categorized as a red maple swamp.

1.5 Wetlands

Of the total 110± acres on site, there are 80± acres of upland and 30± of wetland. The wetland areas are situated such that they divide the upland areas into five smaller, partially connected "peninsulas" ranging in size from 7± acres to 30± acres. This landscape feature may have the greatest impact on the development potential of this property. Although the wetland boundary had been reviewed previously by the Conservation Commission, the boundary does not appear consistent with the topographic maps. Therefore, we have reviewed specific areas that have the greatest impact on the development potential of the site. This new analysis, based on current delineation methods, shows that the wetland boundary as presently flagged in the field, is consistently 5' to 10' upslope of the actual boundary.

There are also several isolated depressions within the locus site. The easterly depression is actually located within the Town of Manchester landlocked parcel and has apparently been certified by the Massachusetts Natural Heritage & Endangered Species Program as a Vernal Pool. Generally, the wildlife species identified in this vernal pool area include spotted salamanders and wood frogs. A second depression is located along the west side of the cartpath near the center of the site. This depression has been investigated in the past and although obligate vernal pool species were observed here; the area was found not to be located within a state jurisdictional resource area, and therefore, does not quality as protected vernal pool habitat under the Wetlands Protection Act. A previous environmental consultant

indicated that "it is fairly poor qualify habitat, with relatively few animals or egg masses observed and a poor, probably acidic water quality."

A third area containing several isolated depressions is located at the northwest upland near the Hamilton Town line. Two of the three isolated depressions in this area may be large enough to qualify as protected vernal pool habitat; however, insufficient documentation exists at this time to make a final determination of their status. Previous investigations indicated the presence of obligate vernal pool species in these depressions.

1.6 Soils

The Natural Resource Conservation Services map indicates that the majority of the project is comprised of Chatfield Hollis Rock Outcrop complex. This soil has limitations for development related to depth to bedrock, and slope. The area in the southwest portion of the project adjacent to Route 128 is mapped as Rock Outcrop which has the same limitations. The wetland areas are identified as Freetown Muck. Several soil exploratory programs have been undertaken on the project. Generally, these entailed rock probe explorations at the northwest and central upland plateaus and percolation tests at the central upland plateau adjacent to and west of the existing cartpath. Generally, the rock drilling on the northwest upland indicated refusal at depths varying from 2 to 8 feet. The rock drilling at the central upland indicated rock depths ranging from 1' to over 19' deep. The percolation tests in the central portion of the site indicated two areas are available with permeable soils. Percolation rates were consistently rapid in these areas at 2 minutes per inch.

1.7 Utilities

We have contacted the Town Engineer regarding the status of the existing waterline in Pine Street and the completion date and capacity of the sewage treatment plant. Based on our initial inquiry, it appears that the existing 16" water line in Pine Street is adequate for the project needs. A pumping station exists on Pine Street just north of the site and the quality and quantity of water available is reportedly very good.

Additionally, the Town Engineer has informed us that the Town sewage treatment plant will be completed by December 1998. (We confirmed this date during our discussions with the DEP as well). Once completed, the existing sewer moritorium would be lifted. Based on our initial discussions, it appears that the Town sewage treatment plant will have the excess capacity to handle expected project flows (est. 30,000 gpd); although only 14,000 gpd were estimated by the Town from this particular area of Town. The nearest existing sewer line to the site is approximately 7,000 lf south of the site in Pine Street. Other services including electricity, telephone, gas and cable television have not been investigated at this time and are assumed to be adequate and available at a reasonable cost.

1.8 Drainage

Existing drainage patterns on the project are from the south near Route 128 to the north towards Pine Street or northwest towards Gull Pond. The easterly 29± acres of the site generally drain to the north under Pine Street to Maple Swamp. Specifically, at the southeast property corner, there is a 42" culvert which directs runoff from Route 128 to the project site. Runoff then flows in a northerly direction and passes under Pine Street via two 12" culverts and flows northeast in the direction of Maple Swamp. At the southcentral portion of the site there is a 72" culvert which directs

runoff from Route 128 to the site. Runoff then flows through existing wetland areas to the west towards Gull Pond, and eventually, Coy Pond, Round Pond and Gravelly Pond. As noted earlier, the westerly 85± acres of the site drain towards Gull Pond, Round and Gravelly Pond, and are therefore, located in the Water Resource Overlay Protection District. Some record information indicates that Gull Pond and possibly its adjacent wetlands may have been created through excavation during the construction of the Route 128 highway.

1.9 Access/Traffic

The project site fronts on Pine Street which is a town owned road. It also has frontage on Route 128, a state highway. This portion of Route 128 is listed as a "no access highway", therefore, vehicles traveling to or from the site must access the project along Pine Street. A 1994 traffic study for the project site indicated that the adjusted weekday daily traffic on Pine Street is approximately 275 vehicles which includes 150 northbound vehicles and 125 southbound vehicles. The weekday morning peak is 24 vehicles which occurs from 7:30 AM to 8:30 AM. The weekday afternoon peak is approximately 14 vehicles which occurs between 4:15 and 5:15 PM. Saturday vehicle travel increases to 1,115 vehicles over a 24 hour period with a midday peak of approximately 112 vehicles. The report indicated that there is no significant accident history for the project area. The existing site drive at the adjacent transfer station is currently at a Level of Service A as are the exit ramps from Route 128 onto Pine Street which indicates a free flow of vehicles and no traffic delays.

1.10 Environmental Hazards

According to a November 1996 Environmental Assessment Report for the locus site, prepared by Ransom Environmental Consultants, Inc., there is no evidence of a release of oil with the potential to affect subsurface soil and groundwater conditions at the site and no further environmental investigation is warranted. This study was prepared for the Trust for Public Land.