

**DRAFT SUPPLEMENTAL
ENVIRONMENTAL IMPACT STATEMENT
VOLUME 1 OF 2**

**PREPARED FOR
CANON, U.S.A., INC.**



FOR

**CANON, U.S.A., INC.
TOWN OF HUNTINGTON
SUFFOLK COUNTY, NEW YORK**

**PREPARED BY
CAMERON ENGINEERING & ASSOCIATES, LLP**

SEPTEMBER 2008

DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT
for
Canon U.S.A., Inc.

Southwest corner of Long Island expressway South Service Road
and Walt Whitman Road
Town of Huntington, Suffolk County, New York

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1. Executive Summary

1.1 Project Description

1.1.1 Background

This document is a Draft Supplement to the Melville-Route 110 Area Generic Environmental Impact Statement (GEIS) and Findings Statement adopted by the Huntington Town Board in 1989 and the Town of Huntington Comprehensive Plan Update adopted on April 21, 1993. The Melville-Route 110 Area GEIS and the Comprehensive Plan Update indicated that the most significant problem in the area was traffic congestion. Most of the major recommendations of the GEIS were oriented toward limiting future traffic increases. The GEIS recommended that the subject property, except for its westernmost portion, be developed in "medium density" residential use (four units per acre). The 1993 Town of Huntington Comprehensive Plan indicates, "It may prove acceptable to rezone some of the peripheral parcels" to permit non-residential use. The more a parcel and its proposed use consolidates the core or non-core areas, the better its candidacy for consideration." In 1993, the Tilles Investment Company prepared a Draft Supplement to the Melville-Route 110 Area GEIS in order to rezone the property to Light Industrial. That supplement forms the basis for most of the existing conditions of the project site. The supplement compared the environmental impacts of the residential zoning to those of the proposed Light Industrial zoning and the project site was ultimately rezoned to Light Industrial. The office use proposed by the Tilles Investment Company was never constructed.

Canon U.S.A., Inc., a wholly owned subsidiary of Canon Inc., plans to build a new facility in Melville New York that would serve as its North and South American headquarters. It will be a showcase for Canon's high-tech products and will provide in-house technical solutions for software and hardware applications. Canon is actively pursuing a minimum of a "Silver" LEED certification for the facility. The new center would be consistent with Canon's overriding corporate philosophy of promoting sustainability. A Location Map and Aerial Map of the project site are provided in Figure 1-1 and Figure 1-2.

The project will be completed in two (2) phases. Phase I will include construction of a 690,000 square foot, five-story, office building and two (2) parking garages. The North Parking Garage, which is closest to the south service road of the Long Island Expressway, will be three and a half stories tall and hold 760 parking spaces

(239,735 square feet). The South Parking Garage will be three and a half stories tall and hold 796 parking spaces (248,490 square feet).

Phase II will include construction of an addition to the North Garage (directly behind the Phase I North Parking Garage) to accommodate 1,238 spaces and an additional five (5) story 210,000 square foot office building located directly behind the North Office Building.

A Master Plan, Rendered Master Plan and Aerial Rendering of the Site Plan are provided in Figure 1-3, Figure 1-4 and Figure 1-5.

Detailed plans for site engineering and architectural design are available for Phase I at this time. For most issues studied, potential impacts and proposed mitigation are discussed in detail for the full build out of both phases. For some issues such as drainage, the discussion is general as the detailed design has not been completed. Phase II will not proceed until complete design plans are prepared in accordance with Town requirements and submitted to the Town and reviewed.

1.1.2 Purpose, Public Benefits, and Operation

Canon needs a new facility to replace their smaller, obsolete facility in Lake Success. This Melville location was selected because it is close to transportation and will accommodate the company's current needs as well as its plans for the future. This project will provide Canon USA with a new headquarters for its western hemisphere Canon Americas operations. It will provide a secure site for Canon's employees and will facilitate high-tech telecommunications between all of Canon's international offices.

The completed project will have a positive economic impact from an estimated investment of over \$636,000,000 in acquisition and construction costs. Area earnings are projected to increase by over \$1.3 billion, including the original expenditure. Area jobs will increase directly by 3,000 plus a projected 7,100 secondary jobs. The project will employ a large number of highly trained personnel in technical fields including medical systems, semiconductor equipment, information technology, imaging systems and corporate planning. Local goods and services output will increase by several hundred million dollars.

The Canon facility will be operational for a standard eight (8) hour business day. A total of 1,900 full-time occupants are anticipated at opening. As many as 3,000 full-time occupants will utilize the complex during Phase II.

1.1.3 *Layout and Design*

The site features are oriented east-west to take advantage of the sites elongated nature and to maximize the availability of natural lighting to the building interiors. The majority of the wooded portion of the property to the west is preserved. The buildings are set back over 750 feet from Walt Whitman Road. The site entrance will include a planted median and will terminate in a landscaped roundabout with reflecting pools at the building entrances. The entrance drive will be flanked by two (2) ponds and other landscaped areas.

The Phase I south and north office buildings are set back 289 feet from the southern and northern property lines, the Phase II office building is planned to be in line with the north office building, and the garages are set back 103 feet from the southern and northern property lines. A berm planted with large evergreen and deciduous trees follows the southern property line. The planted berm along with additional tree plantings along the garage provides visual screening from the adjacent residential area. The landscaping plan includes the use of Long Island native species and ornamental plants to grace the site and provide visual buffering.

The office buildings will have a contemporary architecture. They will be constructed of glass and aluminum panels with light colors. The glass exterior walls will permit the flow of daylight into the interior spaces, an important component of LEED certification. The garages will be constructed of precast concrete panels. The south wall of the southern garage will be equipped with mesh paneling to facilitate the growth of vines (species such as *Hedera helix* or *Euonymus fortune*) that will help soften the appearance of the garage façade from the adjacent residential area.

1.2 *Potential Impacts and Proposed Mitigation*

1.2.1 *Geology, Soils, and Topography*

Potential Impacts – There will only be minor impacts to the surface glacial deposits of the site during Phase I and Phase II. Grading would result in removal and deposition of material throughout the site with the exception of the wooded areas to be preserved. Soils containing slightly elevated concentrations of arsenic from prior

agricultural uses will be managed according to prescribed procedures during construction.

Proposed Mitigation – Soils exceeding the Suffolk County Department of Health Services level for arsenic will be managed in accordance with an approved Soil Management Plan. Uncontaminated topsoil and subsoil removed during grading would be stockpiled for later reuse. No net import or export of soil is anticipated. A preliminary erosion control plan was prepared based on Best Management Practices (BMP's) recommended in New York Guidelines for Urban Erosion and Sediment Control¹ and NYSDEC's Urban Stormwater Runoff Management Practices Catalogue².

1.2.2 Groundwater and Sewage Disposal

Potential Impacts – The Phase I and Phase II project would require increased groundwater withdrawals of approximately 58,566 gallons per day from wells operated by the South Huntington Water District. Approximately the same quantity of wastewater would be generated by the project. The project will be connected to the Suffolk County Sewer District No. 3 - Southwest. Public water would also be utilized for irrigation of the entry area and for dry-weather water level maintenance of the ponds and reflecting pools.

Proposed Mitigation – Design strategies related to LEED certification will lower water consumption and wastewater generation. Water conservation methods would reduce consumption of public water. Drip irrigation tied to moisture sensors would be used to reduce evaporative losses and erosion. Drought-tolerant plants would be used where possible to reduce irrigation needs. Pervious materials would be used wherever possible to increase infiltration. Stormwater would be efficiently managed to maximize treatment prior to recharge. Natural agents would be used to maximum extent possible in the maintenance of the ponds.

¹ *New York Guidelines for Urban Erosion and Sediment Control*, USDA, Natural Resources Conservation Service, Printed by the Empire State Chapter, Soil and Water Conservation Society, Fourth Printing, April 1997

² *Urban Stormwater Runoff Management Practices Catalogue for Nonpoint Source Pollution Prevention and Water Quality Protection in New York State*. NYS Department of Environmental Conservation, 1996.

1.2.3 Stormwater

Potential Impacts – The proposed Phase I development of the 52.17-acre site will result in 32.54 acres of pervious surface area (62 percent of the site) and 19.63 acres of impervious surface area (38 percent of the site). Stormwater management will consist of a combination of drainage reserve areas, stormwater detention ponds and drywells. Runoff from roads and parking areas may carry contaminants such as metals, petroleum hydrocarbons, sand, salt, and other compounds. Runoff from non-vehicle areas such as roofs and courtyards, would be virtually clean. Drainage for Phase II has not been designed and will be designed and submitted to the Town for review and approval prior to construction.

Proposed Mitigation - The stormwater system, designed to accommodate a 100-year 24-hour storm, will help treat stormwater through natural, aesthetically pleasing on-site systems and will maximize on-site recharge. Drainage reserve areas (DRAs) and two (2) ponds will receive site runoff. The DRAs will be naturally landscaped and sized to store an eight (8) inch rainfall event and allow natural recharge. The ponds will be attractively landscaped with native vegetation and would settle fine solids and associated contaminants. Pond bacteria would break down nitrogen compounds and organic materials.

1.2.4 Land Use and Zoning

Potential Impacts – The land use would change from vacant field to office. The proposed office use would increase noise and traffic over the current use and would change the visual environment. The proposed use in both Phase I and Phase II is typical of other office uses on properties adjacent to the Long Island Expressway and in the Melville-Route 110 Corridor. The majority of the site is Light Industry 1 (I-1) and a small corner is Residential 40 (R40). The proposed project meets the I-1 zoning code requirements. The small area zoned R-40 will remain undeveloped.

Proposed Mitigation – The existing I-1 zoning is compatible with the adjacent commercial and industrial zoning. The Long Island Expressway to the north would serve as an effective barrier between the proposed development and uses to the north. The preservation of the majority of the wooded area on the western portion of the site would buffer the proposed use and the R-40 zone to the west.

A planted berm will be constructed along the southern property line to buffer the proposed south parking garage from the R-7 zone to the south. The berm and

plantings would provide visual mitigation. Additional site landscaping and building architectural features would provide visual buffering, help soften the interface between the uses, and incorporate the proposed office development into the area.

1.2.5 Ecological Resources

Potential Impacts of Proposed Project – In Phase I and Phase II most of the Pitch Pine-Oak Forest community would remain. The existing former cropland community provides limited habitat for wildlife. The proposed landscaped areas and the two (2) ponds would provide new and different habitat, although the available open land area would be reduced. The net impact of the proposed project would be a moderate reduction in wildlife habitat due to the decrease in agricultural land (fallow field and edge field) which provides food, cover and nesting material for some wildlife species.

Proposed Mitigation – Although agricultural land habitat would be reduced, additional, though different, wildlife habitat would be created through the construction of the ponds. Aquatic and avian wildlife habitat would be created in and around the pond.

1.2.6 Transportation – Traffic and Parking

Potential Impacts of Proposed Project – Traffic will increase during operation of the Canon USA complex. The Traffic Report prepared by Atlantic Traffic & Design Engineers for the full build out (Phase II) identified persisting capacity constraints or changes in level of service at twelve (12) signalized intersections and at five (5) unsignalized intersections.

In total, 1,762 spaces are proposed for Phase I of the project and an additional 1,238 spaces for Phase II that would be located in a future expansion of the North Parking Garage. A total of 3,000 spaces are proposed as required for the full build out. In the event that additional parking is required during Phase I, an area has been designated as landbanked parking which would accommodate the 528-space shortfall. No parking over what is required is provided, which earns one credit toward LEED silver certification.

Proposed Mitigation – The mitigation package consists of a three-fold approach, incorporating improvements from the NYSDOT's NYS Route 110 corridor project, the Town of Huntington's Old Walt Whitman Road corridor project, and frontage

upgrades proposed on the LIE South Service Road and Old Walt Whitman Road. The scope of the NYSDOT and Town of Huntington's projects, which are already completely or partially funded, exceeds the off-site mitigation package developed herein to address Canon's anticipated impacts within the study roadway network. The additional off-site improvements identified in this report are conceptually consistent with aspects of these agencies' projects and, as a result, it is assumed that they could be constructed in connection with the public projects.

Canon has committed to a staggered arrival/departure program whereby each employee of the Melville facility would be assigned to one of four pairs of staggered arrival and departure times. The Corporate Trip Reduction Initiatives is anticipated to reduce peak hour site-generated traffic within the surrounding roadway network, although no quantitative credit for this has been factored in this conservative Traffic Impact Analysis.

Once these improvements have been completed, the surrounding roadway network is expected to operate under parameters that are more conducive to traffic flows on these public facilities. The mitigation package as noted above would create the necessary capacity to process the traffic volumes associated with the proposed Canon Americas Headquarters.

1.2.7 Visual Quality

Potential Impacts of Proposed Project – The appearance of the site will change substantially from the present. After the proposed Phase I and Phase II development, the site will appear more like the surrounding office properties to the east and west. Views of the site from the South Service Road looking south and Old Walt Whitman Road looking west onto the property will be similar to views of surrounding office developments. The proposed office and garage buildings will be visible from Old Paumonauk Court.

The view of the site from Old Walt Whitman Road reveals only a small portion of the uppermost floors of the office. The entrance view is of two (2) ponds, a large landscaped picnic area for employees, and an entrance drive with a landscaped median terminating in a roundabout. The view from the westbound lane of the LIE is of the uppermost floors of the office building as substantial tree cover obscures much of the site. The North Parking Garage and upper floors of the office building are visible from the South Service Road. The views from Paumonauk Hills Court depend on the exact location in the complex. Only a portion of the uppermost floor of the

office building is visible from Paumonauk Hills Court viewed down Shinnecock Court toward the site. Only a portion of the uppermost floor of the office building is visible looking north from the intersection of Peconic Court and Paumonauk Hills Court.

Proposed Mitigation - A berm planted with tightly spaced large trees is provided between the South Garage and the property line. Vines (such as *Hedera helix* or *Euonymus fortunei*) will be grown over the southern façade of the garage. The front entrance to the complex will be from Old Walt Whitman Road. The foreground of the view will be highlighted by the two retention ponds. The pond perimeters and banks will be landscaped with native grasses and shrubs. Ornamental trees will grace the entryway and will lead to the reflecting pools at the building lobby entrance. Extensive use of landscaping treatments elsewhere on the site will provide visual buffering of the uses within the site and between the site and adjacent properties.

The lighting plan is designed for safety and to highlight visually appealing elements of the architecture and landscape. The typical outdoor pole-mounted fixtures will be shielded to reduce light pollution and trespass. Lighting will be contained on the site and light levels will be zero footcandles at the property boundaries.

1.2.8 Noise

Potential Impacts of Proposed Project - Vehicle movements in Phase I and Phase II on site will not increase existing site noise levels during the morning peak hour (8-9AM). During the evening peak hour there will be a small increase in hourly noise levels at the property line. During the evening period, the increase is expected to be 2dB. A 2-3dB increase in noise levels is barely perceptible to the average person. As such, a maximum 2dB increase in noise is unlikely to cause a disturbance at the property line, particularly given that the current noise climate is dominated by similar traffic noise from surrounding roads. The noise study therefore concludes that new site traffic will have no negative impact on the neighboring residences to the south.

Enclosures will be specified for all mechanical equipment such that the potential increase in noise due to their operation will be kept to 2dB or less, a level that is imperceptible to the human ear. Consequently, no impact is anticipated from mechanical equipment.

Proposed Mitigation - No mitigation is required for traffic noise.

For mechanical equipment, specifications will be issued at the appropriate stage of the design process and will contain the above maximum noise level criteria for each unit. As the design progresses and where necessary, noise control will be specified for the rooftop exhaust fans. The target noise levels for the cooling towers should be easily achievable with standard units and with no additional noise control. External generators will be supplied with an enclosure, which will be required to meet the specified maximum noise level at 15 feet.

The earthen berm along the southern boundary and the two-story parking structure will provide additional sound reduction for the cooling towers and generators.

1.2.9 Cultural Resources

Potential Impacts of Proposed Project – A detailed Phase 1A and 1B Cultural Resource Investigation prepared by Greenhouse Consultants in 1990 determined that the site is not significant for historic or prehistoric purposes. A Phase II Archaeological Report was prepared in January 2006 by Tracker Archaeology Services, Inc. for a prior Senior Housing proposal for this site. Tracker Archaeology Services, Inc. concluded, “In our opinion, the Wulforst Site is not eligible for the historic registers.” The New York State Office of Parks, Recreation & Historic Preservation requested additional evaluation of a small area of the property. This evaluation was not performed as the senior housing proposal did not move forward. Canon is currently addressing this issue with the State.

Proposed Mitigation – No mitigation has been identified at this time.

1.2.10 Education

Potential Impacts of Proposed Project – The Study Area is located within school district No.5, the Half Hollow Hills Central School District. Very few, if any, new students will be generated by the proposed office development. There may be some employees with children that relocate to areas served by the Half Hollow Hills Central School District. The substantial taxes that will be paid by Canon will more than offset the costs incurred by the school district to provide educational services to any new school children generated by Phase I and Phase II of the project.

Proposed Mitigation – No mitigation is required.

1.2.11 Community Services

Potential Impacts of Proposed Project – Development of the site would create a demand for police and fire protection, and emergency medical services. The Second Precinct of the Suffolk County Police Department indicated that they have the capacity to provide police protection to the two phased proposed development. Discussions are on-going with the Melville Fire Department to ensure that adequate fire protection and emergency medical services can be provided.

Proposed Mitigation –No mitigation is required. Additional tax revenues generated by the proposed project will benefit community service providers.

1.2.12 Utilities

Potential Impacts of Proposed Project – The estimated water usage and wastewater generation associated with the project at full build out is 58,566 gpd. The South Huntington Water District has indicated that it will provide water for this project and a letter of availability is provided in Appendix A. The project would connect to the Suffolk County Sewer District No. 3. A letter of availability is provided in Appendix A.

The estimated solid waste generation associated with the full project is just over 9,300 pounds per day and will be collected by a private carter for disposal at a permitted facility. The total estimated electrical load for the operation of the Canon complex during Phase II is 9,879 KW and gas usage is estimated at 44,320 cubic feet per hour. A letter of availability from National Grid is provided in Appendix A. A similar letter is anticipated from LIPA and will be provided to the Town upon receipt.

Proposed Mitigation – Canon will pursue LEED silver certification. They will utilize water efficient landscape plantings across the majority of the site. In accordance with LEED silver certification, only the entry area will be irrigated. (It is noted that the Town Code requires watering of all landscaped areas, however, this is contrary to LEED strategies and a modification is requested from the Planning Board to allow this water conserving measure.) The facility will reduce water use and wastewater generation with efficient fixtures and automatic no touch faucets. Water use will be reduced by 30 percent over standard values. Recycling is a prerequisite for LEED certification. At least one half of the solid waste will be recycled. Credits will be sought for optimizing energy performance by implementing some or all of the

following: combined heat and power, chilled beam cooling, energy recovery system, high efficiency equipment, advanced controls and sensors, photo-dimming, and exterior sun shades. Lighting will be controlled according to the level of natural lighting through the external curtain walls for energy savings. Total building control systems will be located in the basements of the office buildings. Enhanced commissioning and enhanced refrigerant management will be implemented and Green Power purchased.

1.2.13 Economic Impacts

Potential Impacts of Proposed Project – The chief economist of the Long Island Association predicted a positive economic impact from an estimated investment of \$636 million for Phase I and Phase II site development and increased area earnings of over \$678 million. Area jobs will increase directly by 3,000 plus a projected 7,100 secondary jobs. The project will employ a large number of highly trained personnel in technical fields including medical systems, semiconductor equipment, information technology, imaging systems and corporate planning. Local goods and services output are projected to increase more than \$1.3 billion, including the original expenditure.

Proposed Mitigation – No mitigation will be required.

1.2.14 Construction Impacts

Potential Impacts of Proposed Project – Construction will extend over 26 months for Phase I and an estimated 18 months for Phase II. Each phase will have short-term environmental impacts including soil erosion, noise, traffic disruption, and dust generation. Noise and vibration would be generated from construction and worker traffic, heavy equipment operation and delivery vehicles.

Proposed Mitigation – Construction activities would be confined to the hours of 7 AM to 6 PM. Heavy equipment operation or other construction activity that might be accompanied by “loud or disturbing noise” would be restricted to the hours of 8 AM to 6 PM.

A soil management plan with BMPs for control of erosion and sedimentation will be implemented during the Phase I construction phase that also includes stormwater management measures. In addition, a soil management plan has been prepared to address the low level arsenic concentrations from agriculturally-impacted soils. The

health and safety procedures and dust mitigation measures outlined in *Site-Specific Health and Safety Plan for Earthwork Operations* (HASP) will apply to all on-site earthwork activities involving the arsenic-impacted soils and sands of the site. By employing proper safety and precautionary procedures during site earthwork activities, including dust suppression and ambient particulate monitoring, the arsenic impacted soils will be effectively managed on site in accordance SCDHS guidance documents.

The proposed berm along the southern perimeter of the site adjacent to the residential area will be constructed first to reduce the potential noise impacts of construction. Construction related noise would be mitigated in part by the ambient noise of the adjacent Long Island Expressway.

Construction vehicles will be scheduled for arrival before the morning peak hours of 8 AM to 9 AM to reduce traffic disruption. Construction vehicles will have left the site before the evening peak hours of 5 PM to 6 PM. At other hours, traffic management will be provided by the construction contractor to reduce disruption to the normal flow of traffic.

1.3 Project Alternatives

1.3.1 No Action

The No Action Alternative would leave the 52.17 acre site vacant. With no action, there would be none of the significant economic benefits to the Town, the County and the Long Island region.

1.3.2 At Grade Parking Alternative

The At Grade Parking Alternative would consist of the same building construction with the elimination of the parking garage and all parking provided at grade. Most site landscaping and amenities would be replaced by asphalt parking fields. There would be significant impacts to the steep slopes under this alternative. Consequently, this alternative is not feasible.

1.3.3 Non-LEED Alternative

The Non-LEED Alternative would consist of a similar project without the use of LEED strategies. Town code requires that a project of this type achieve LEED silver certification. Consequently, a variance would be required for the non-LEED

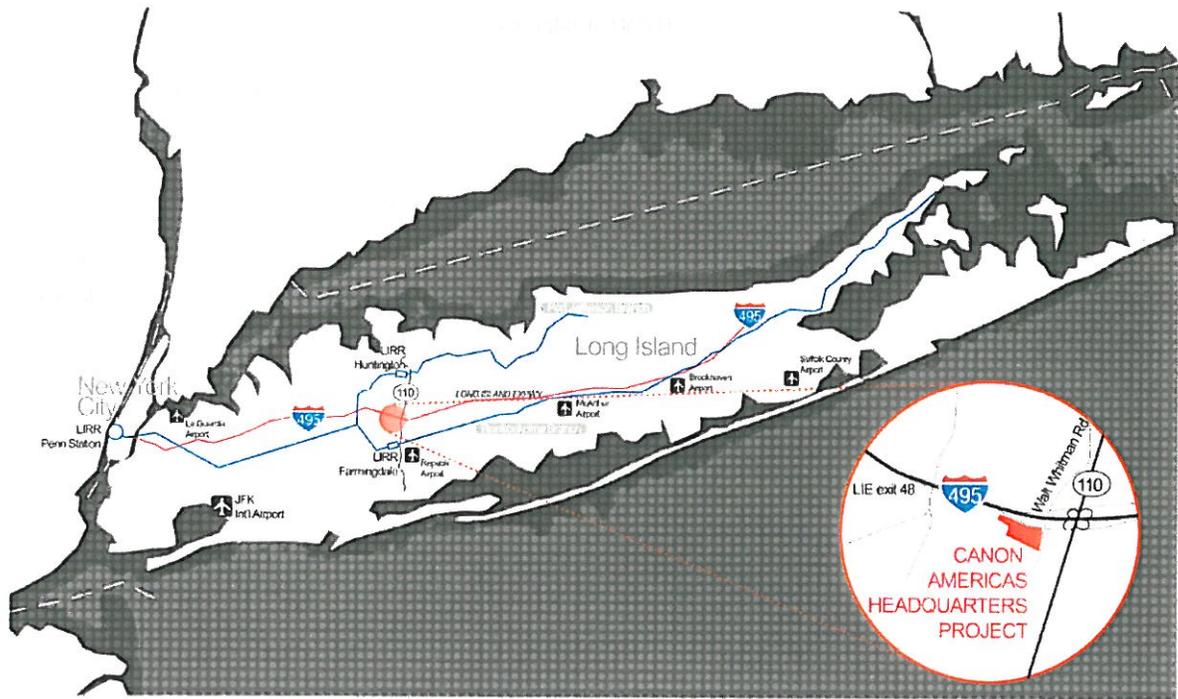
alternative. The potential environmental impacts of the project without the proposed LEED strategies would be significantly greater. Water use would be 20-30 percent greater. Energy consumption would be greater. Greenhouse gas generation from construction and operation would be greater. Material consumption from construction and operation would be significantly higher. Indoor environmental quality would be less beneficial to the 3,000 employees.

1.4 Conclusions

This Supplemental Environmental Impact Statement (SEIS) examines the potentially adverse impacts on the natural and human environment. The Canon USA headquarters will meet the US Green Building Council's LEED New Construction (NC) silver certification standards. The design conditions required to meet that certification significantly reduce many of the potentially adverse environmental impacts. The LEED NC certification requires sustainable sites, water and energy use efficiency, material and resource minimization and reuse, improvements to indoor environmental quality, and innovations in design that lower the project's environmental footprint. The Canon USA project has significantly reduced its environmental impacts to meet these LEED requirements.

The SEIS identified a number of environmental impacts for which mitigation was required. The environmental impacts that for which some form of mitigation was required included those pertaining to: site soils, transportation, visual quality, utilities, construction, and energy for construction and operation. All potentially adverse impacts will be adequately mitigated by the measures described herein. The project will provide substantial economic benefits in the forms of jobs and tax revenues.

Figure 1-1. Location Map

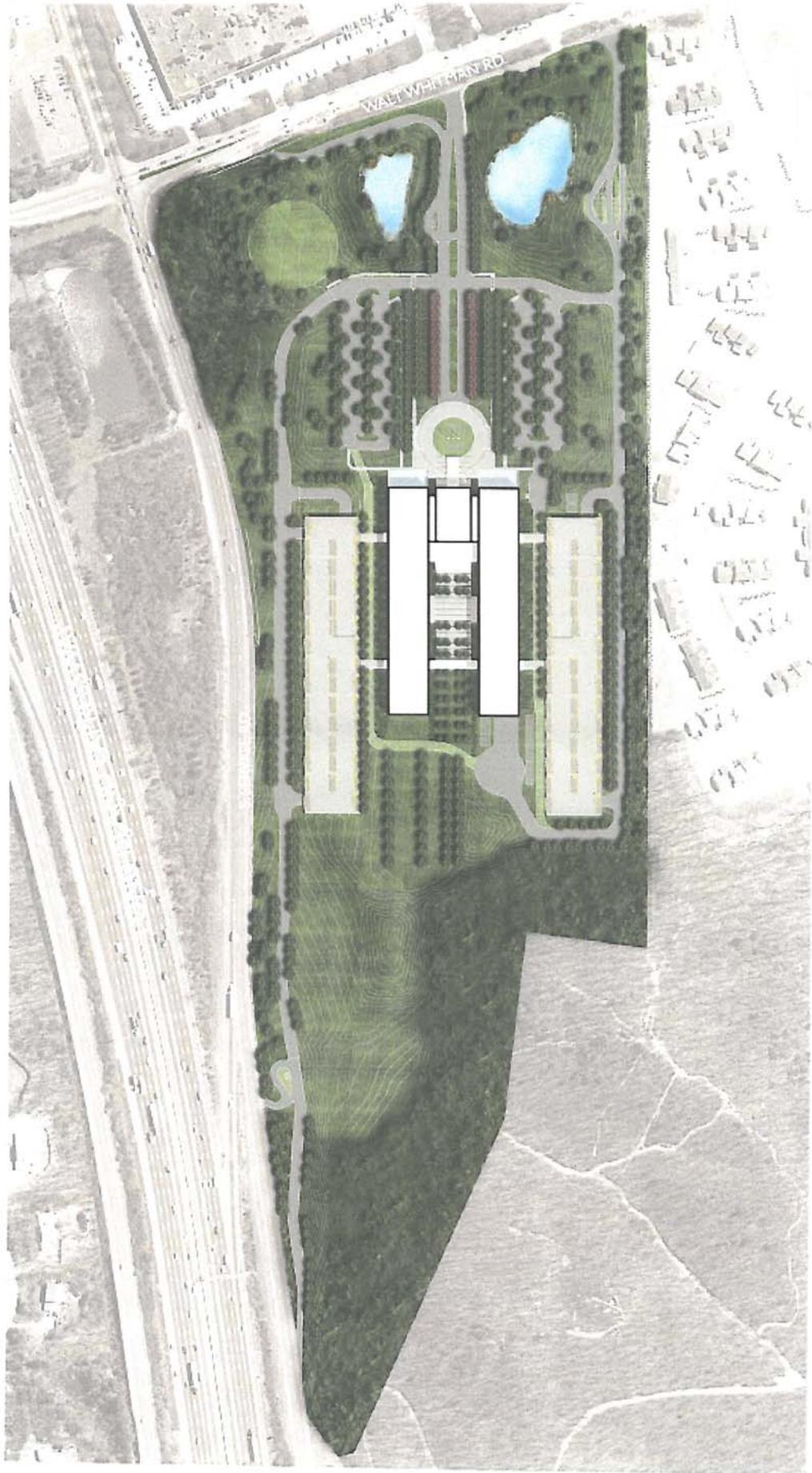


Source: HOK

Figure 1-2. Aerial Map

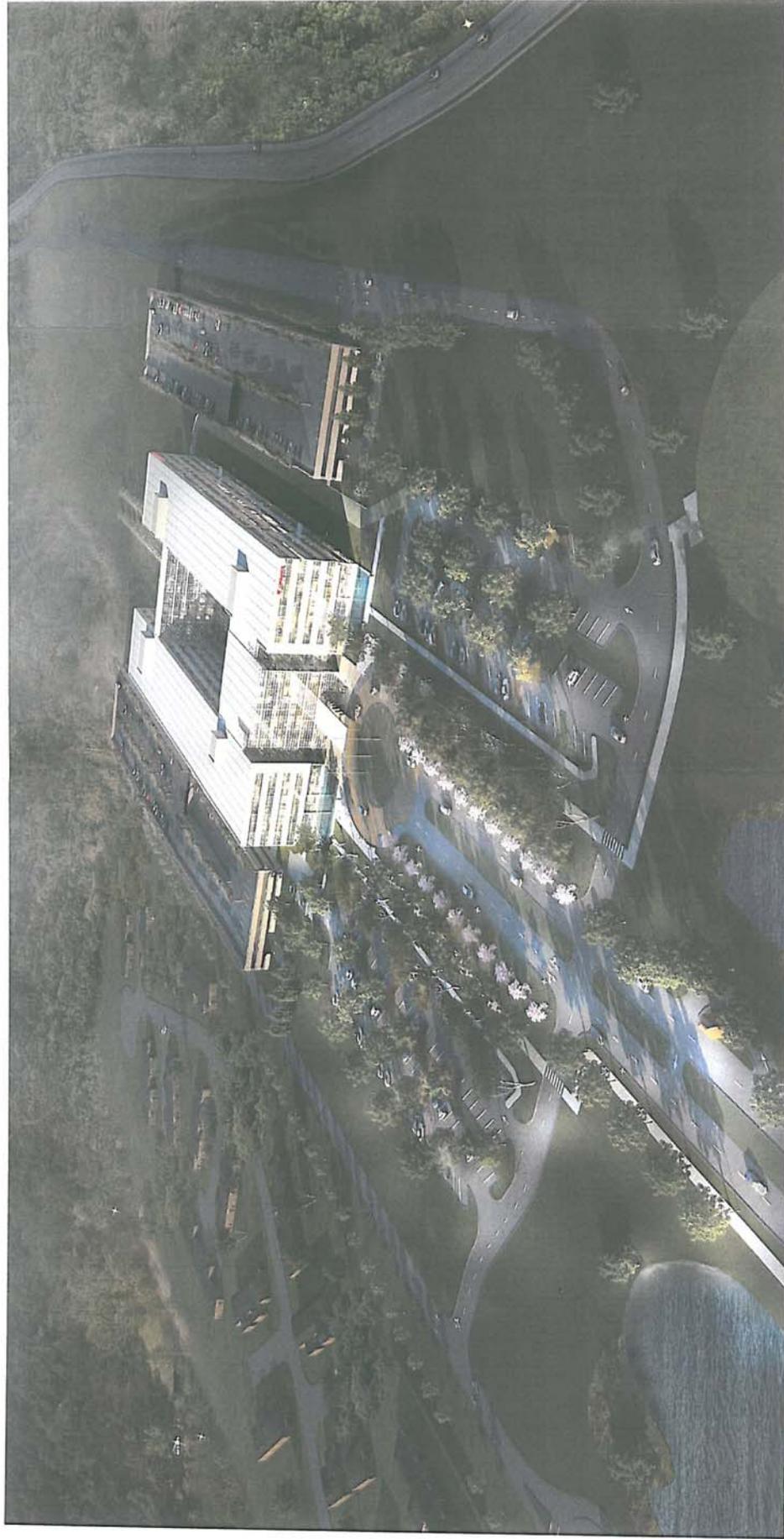


Figure 1-4. Rendered Master Plan



Source: HOK

Figure I-5. Aerial Rendering of Site Plan



Source: HOK

2. Project Description

2.1 Introduction

This document is a Draft Supplement to the Melville-Route 100 Area Generic Environmental Impact Statement (GEIS) and Findings Statement adopted by the Huntington Board in 1989 and the Town of Huntington Comprehensive Plan Update adopted April 21, 1993. The Melville-Route 110 Area GEIS and the Comprehensive Plan Update indicated that the most significant problem in the Melville-Route 110 area was traffic congestion and most of the major recommendations of the GEIS were oriented toward limiting future traffic increases. The GEIS recommended that the subject property, except for its westernmost portion, be developed in "medium density" residential use (4 units per acre). The 1993 Town of Huntington Comprehensive Plan indicates that "it may prove acceptable to rezone some of the peripheral parcels" to permit non-residential use. The more a parcel and its proposed use consolidates the core or non-core areas, the better its candidacy for consideration." In 1993, the Tilles Investment Company prepared a Draft Supplement to the Melville-Route 110 Area GEIS in order to rezone the property to Light Industrial. That supplement forms the basis for most of the existing conditions of the project site. The supplement examined the environmental impacts of the residential zoning to those of the proposed Light Industrial zoning and the project site was ultimately rezoned to Light Industrial. The proposed office use proposed by the Tilles Investment Company was never constructed.

Canon U.S.A., Inc., a wholly owned subsidiary of Canon Inc., plans to build a new facility in Melville New York that would serve as its North and South American headquarters. It will be a showcase for Canon's high-tech products and will provide in-house technical solutions for software and hardware applications. Canon is actively pursuing a minimum of a "Silver" LEED certification for the facility. The new center would be consistent with Canon's overriding corporate philosophy of promoting sustainability.

The project will be completed in two (2) phases. Phase I will include construction of a 690,000 square foot, five story, office building and two (2) parking garages. The North Parking Garage, which is closest to the south service road of the Long Island Expressway, will be three and a half stories tall and hold 760 parking spaces (289,980 square feet). The South Parking Garage will be four and a half stories tall and hold 1,070 parking spaces (373,740 square feet).

Phase II will include construction of an addition to the North Garage (directly behind the Phase I North Parking Garage) to accommodate 1,238 spaces and an additional five (5) story 210,000 square foot office building located directly behind the North Office Building. Figure 2-1 shows the components of each phase.

2.2 Location

The 52.19-acre Canon site is located on the south side of the Long Island Expressway South Service Road, on the west side of Old Walt Whitman Road in the Town of Huntington (Figure 1-1). The site is in the unincorporated hamlet of Melville, within the Town of Huntington, New York (Tax Map Nos. 400-254-1-4, p/o 400-254-1-8, 400-254-1-9 and 400-254-2-4). The site is currently vacant.

2.3 Purpose

This project will provide Canon USA with a new headquarters for its western hemisphere Canon Americas operations. It will provide a secure site for Canon's employees and will facilitate high-tech telecommunications between all of Canon's international offices.

Canon's goal is to provide a facility that is "simple, elegant, grand, and beautiful." Its corporate philosophy is based on achieving *Kyosei*, which means, "all people, regardless of race, religion, or culture, harmoniously living and working together into the future." The facility will reflect the corporation's commitment to operating an environmentally sound facility. Canon identified the following key concepts for the facility: green corporate campus, comfortable workspace, flexibility, simplicity, dignity, precision, and environmentally conscious. The corporation wishes to showcase its environmental sensitivity and philosophy of *Kyosei*.

Canon needs a new facility to replace their smaller, obsolete facility in Lake Success. This location was selected because it is close to transportation and will accommodate the company's current needs as well as its plans for the future.

2.4 LEED Certification

Canon will achieve Leadership in Energy and Environmental Design (LEED) silver certification for the project. Following are some of the items in Phase I and Phase II that will contribute to LEED credit for the proposed development.

Stormwater - The stormwater management system for Phase I has been designed such that 100% of stormwater runoff from a 100-year 24-hour storm will be contained on-site,

exceeding the LEED standard. A variety of stormwater quality measures are proposed, including bio-swales to treat runoff from the surface parking areas and stormwater quality units to remove silt and hydrocarbons from runoff from the on-site roadways. Similar design parameters will be utilized for the Phase II stormwater management system.

Construction Materials - The proposed base course for the paved areas on-site will consist of locally recycled RCA (Recycled Concrete Aggregate). All proposed drainage piping will be ADS MegaGreen ST Corrugated Polyethylene Pipe, which has a minimum recycled content of 40%. The proposed fencing will include recycled materials.

Lighting - To meet local lighting requirements and avoid light pollution, all proposed site lighting will be full cutoff.

Pavement - To avoid the heat island effect, the paving in the main driveway and the arrival circle will be constructed of light-colored concrete rather than asphalt. In addition, shade trees are proposed to cover the asphalt-paved surface parking area.

Public Transportation - The site is located on the MTA/Long Island Bus N95 route. A bus stop fronting the site on Walt Whitman Road is being considered. In addition, a private shuttle bus may be provided to transport employees to and from the nearest Long Island Railroad station

Habitat Protection - A multi-story building and multi-story parking garages are proposed to maximize open space. The amount of open space provided exceeds the LEED standard of 20% of the site area. In addition, over 60% of the steep slope/hillside area of the site (defined as any area steeper than 10% slope) is being preserved.

2.5 Operation

The Canon facility will be operational for a standard eight (8) hour business day with staggered arrivals and departures to minimize the concentration of site-generated traffic on the adjacent roadway network during peak hours. A total of 1,900 full-time occupants are anticipated upon occupation of the Phase I building. During Phase II (estimated 2020) an estimated maximum 3,000 full-time occupants will utilize the complex.

2.6 Design and Layout

2.6.1 Site Layout

The Phase I and Phase II site features are oriented east-west to take advantage of its elongated nature and to maximize the availability of natural lighting to the building interiors. The majority of the wooded portion of the property to the west is preserved. The buildings are set back over 750 feet from Walt Whitman Road. The site entrance Main Road will include a planted median and will terminate in a landscaped roundabout with reflecting pools at the building entrances. The Main Road will be flanked by two (2) ponds and other landscaped areas.

The Phase I south and north office buildings are set back 289 feet from the southern and northern property lines, the Phase II office building is planned to be in line with the north office building, and the garages are set back 103 feet from the southern and northern property lines. A berm planted with large evergreen and deciduous trees follows the southern property line. The planted berm along with additional tree plantings along the garage provides visual screening from the adjacent residential area.

2.6.2 Architecture

The offices buildings will have a contemporary architecture. They will be constructed of glass and aluminum panels with light colors. The glass exterior walls will permit the flow of daylight into the interior spaces, an important component of LEED certification. Figure 2-2 illustrates the building façade at the main entrance. Figure 2-3 shows several views of the model of the site.

The garages will be constructed of precast concrete panels. The south wall of the southern garage will be equipped with mesh paneling to facilitate the growth of vines that will help soften the appearance of the garage façade from the adjacent residential area. An example of this type of façade treatment is provided in Figure 2-4. The garages meet NY State Building Code & NFPA 88A openness requirements for an Open Parking Structure classification and mechanical ventilation is not required. Adequate ventilation will therefore be provided for vehicle air emissions.

2.6.3 Landscaping and Site Amenities

The Phase I landscaping plan includes the use of Long Island native species and ornamental plants to grace the site and provide visual buffering (Figure 2-5). A

significant number of large (three-inch caliber) native trees are provided including several species of Oaks, Gray Birch, Sweet Gum, American Hophornbeam, and others. Flowering trees include Sweet Bay Magnolia and Yoshino Cherry. Evergreen trees are incorporated into the plan and include White Pine, Japanese Black Pine, Douglas Fir, American Arborvitae, and Western Red Cedar. A Planting Schedule is provided in Table 2-1. In addition, vines such as *Hedera helix* or *Euonymus fortunei* will be planted on the southern façade of the south parking garage. Similar design criteria would be utilized for Phase II. A detailed Landscape Plan for Phase II will be provided to the Town for review and approval prior to construction.

Table 2-1. Planting Schedule

BOTANICAL NAME	COMMON NAME	CAL (inches)	Size (inches)	QTY
TREES				
<i>Aesculus flava</i>	Yellow Buckeye	2		16
<i>Amelanchier arborea</i>	Downy Serviceberry	2		16
<i>Betula populifolia</i>	Gray Birch	2.5		119
<i>Fraxinus pennsylvanica</i>	Seedless Ash	3		54
<i>Gymnocladus dioica</i>	Kentucky Coffeetree	3		18
<i>Liquidambar styraciflua</i>	Sweet Gum	3		23
<i>Magnolia virginiana</i>	Sweet Bay	2		9
<i>Ostrya virginiana</i>	American Hophornbeam	2		40
<i>Prunus yedoensis</i>	Yoshino Cherry	4		42
<i>Quercus bicolor</i>	Swamp White Oak	3		19
<i>Quercus imbricaria</i>	Shingle Oak	3		13
<i>Quercus palustris</i>	Pin Oak	3		100
<i>Quercus rubra</i>	Red Oak	3		3
<i>Salix alba Tristis'</i>	Niobe Weeping Willow	3		3
<i>Taxodium distichum</i>	Bald Cypress	3		22
<i>Tilia Americana</i>	American Linden	3		7
EVERGREEN TREES				
<i>Pinus strobus</i>	White Pine		10-12'	1
<i>Pinus thunbergii</i>	Japanese Black Pine		6-8'	9
<i>Pseudotsuga menziesii</i>	Douglas Fir		6-8'	13
<i>Thuja occidentalis</i>	American Arborvitae		6-8'	4
<i>Thuja plicata</i>	Western Red Cedar		8-10'	10
SEEDING				
Detention Basin Seed Mix (20% Wildflowers +80% Prairie Grass)				
Meadow Seed Mix (50% Wildflowers + 50% Prairie Grass)				
Low Maintenance Lawn Seed Mix				
General Lawn				
VINES				
Either <i>Hedera helix</i> or <i>Euonymus fortunei</i> will be planted on the southern façade of the south parking garage				

2.6.4 Access Improvements

Proposed access improvements are described in detail in the traffic section of this document (see Section 8.7).

2.6.5 Circulation

Access to the site from Walt Whitman Road will feed into the Main Road which will terminate at a roundabout in front of the lobby entrance. Two (2) internal roads will split from the Main Road, connect to the two (2) surface parking lots on either side of the Main Road and to the North Road and South Road. The North and South Roads connect to the east and west entrances of the two (2) parking garages. The North Road also provides access to the South Service Road.

Sidewalks from the surface parking areas to the buildings and from the buildings to the ponds and picnic area are to be constructed in Phase I.

2.7 Approval Process

2.7.1 Town of Huntington

Approvals from the Town of Huntington will be required for Site Plan, Sign Permit, Building Permit, and Highway Work Permit.

2.7.2 Water Authority

Approval would be required from the South Huntington Water District to connect to their public water system.

2.7.3 Suffolk County

Approvals from the Suffolk County Departments of Health and Public Works are required for connection to the Southwest Sewer District.

2.7.4 New York State

If necessary, the New York State Department of Transportation would issue a permit for any planned improvements to State roadways.

2.8 Construction Schedule

Construction of Phase I will require approximately 26 months. Construction of Phase II will require approximately 18 months. Weekday construction activities would be confined

to the hours of 6 AM to 6 PM. Weekend construction activities would be restricted to the hours of 7 AM to 6 PM. Heavy equipment operation or other construction activity that might be accompanied by "loud or disturbing noise" would be restricted to the weekday hours of 8 AM to 6 PM.

Figure 2-1. Building Areas and Occupancy

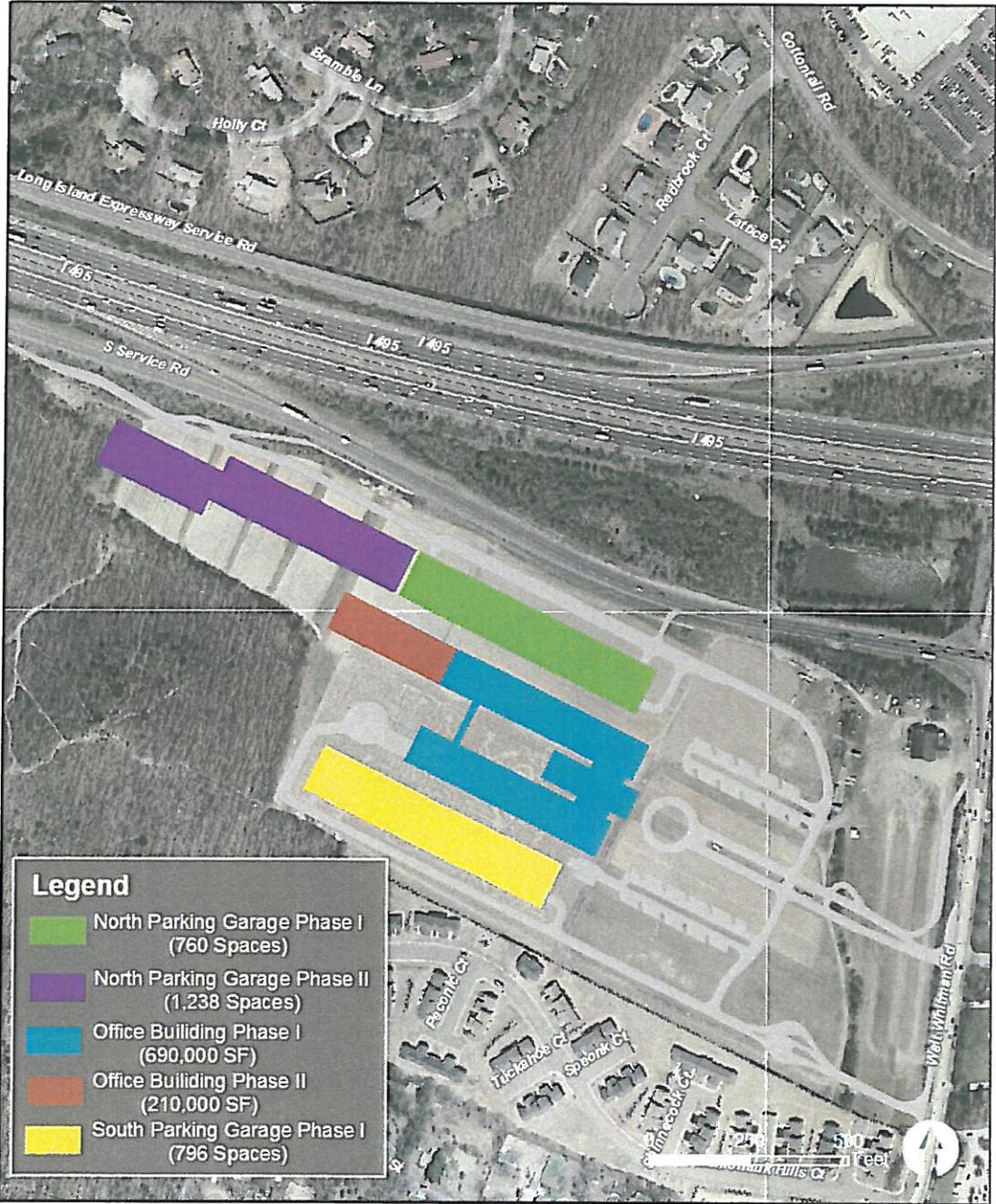
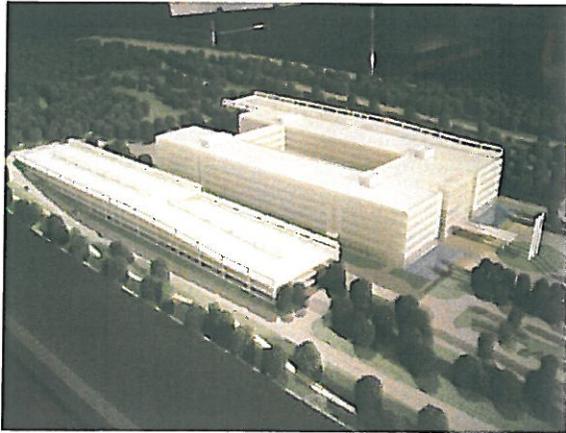


Figure 2-2. Canon Headquarters Main Building Façade

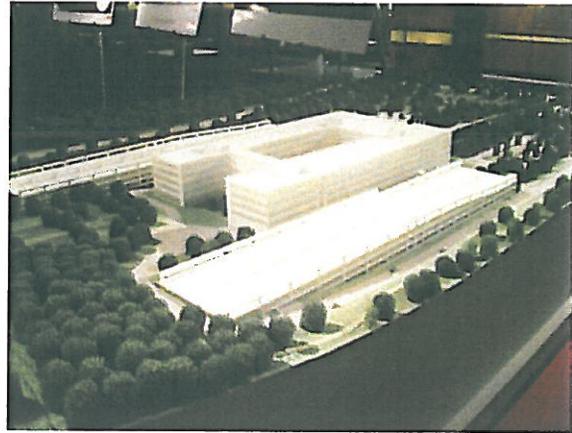


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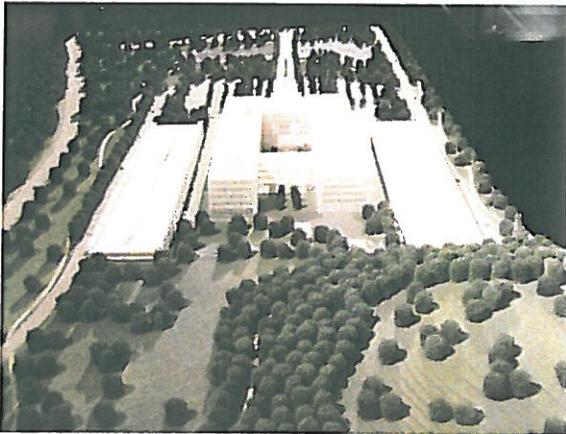
Figure 2-3. Canon Headquarters Site Model



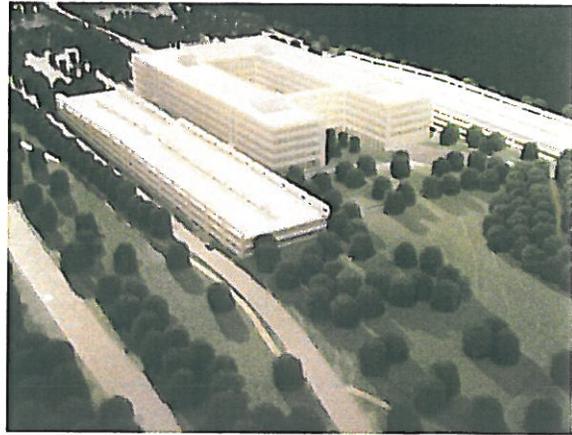
View looking North West onto site



View Looking North East onto site



View looking East onto site



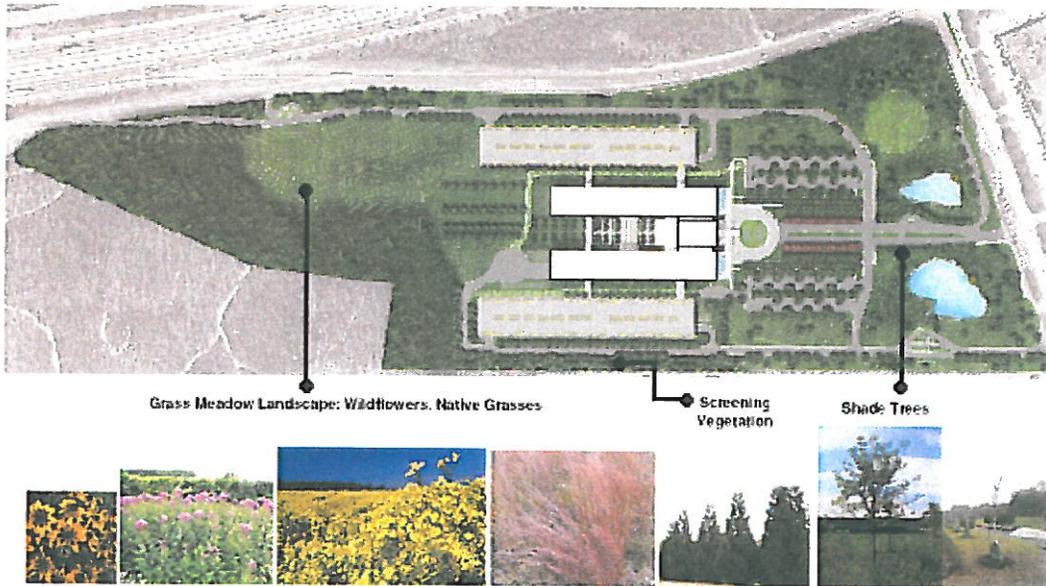
View looking South East onto site

Figure 2-4. Canon Headquarters Garage Façade



Source: HOK

Figure 2-5. Typical Landscaped Areas



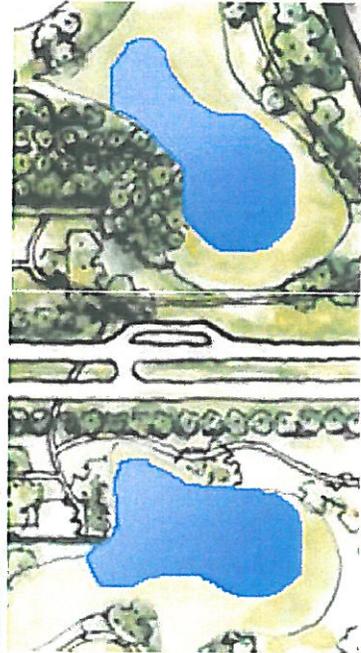
Source: HOK

Figure 2-6. Canon Headquarters Retention Pools



Retention Pond

Retention Pond Plant Materials: Wildflowers and Prairie Grass for Pond Perimeter



Source: HOK

3. Geology, Soils and Topography

3.1 Geology

3.1.1 Existing Conditions

Long Island's geology is especially important as it relates to the population's source of drinking water. Because all of Nassau and Suffolk County drinking water comes from groundwater, the geological formations that retain that water are collectively referred to as a sole-source aquifer. These aquifers are recharged by rainfall and consequently all activities that occur at the surface have the potential to impact the quantity and quality of the aquifers' recharge. Long Island ultimately rests on bedrock, impermeable rock composed of schist and gneiss.

The bedrock under Suffolk County varies in depth from 400 feet below sea level at Lloyd Neck to 2,200 feet below sea level in the south-central part of the county. The bedrock is overlain by Cretaceous sediment called the Raritan formation and the Magothy formation. The Lloyd Aquifer rests on the bedrock and is isolated from the shallower Magothy Aquifer by a 100-foot thick layer of clay. The Lloyd aquifer and overlying clay are part of the Raritan formation, which consists of fine to coarse-grained sand and gravel.

The Magothy formation consists of sand, silt, and clay fluvial deposits with scattered clay lenses. Part of the Magothy formation is overlain by Jameco gravel, which is believed to have been deposited by glaciers of the Kansan stage. These deep gravel deposits are mainly in the southwestern part of the county, and their extent is unknown. Elsewhere, the Magothy is overlain by a marine clay identified as Gardiners clay. This formation is thought to be an interglacial deposit, possibly of the Sangamon interglacial stage. In still other parts of the county, the Magothy is overlain directly by upper Pleistocene deposits.

3.1.2 Potential Impacts of Proposed Project

In Phase I and Phase II only surface glacial deposits would be impacted by the development of the site. Grading of the site would result in removal and deposition of material throughout the site (see following sections on Soils and Topography) with the exception of those areas to be preserved. Deeper geological layers would not be impacted by site development.

3.1.3 Proposed Mitigation

Mitigation for the effects of site grading are discussed in the following sections on Soils and Topography.

3.2 Soils

3.2.1 Existing Conditions – Soil Types

The Soil Survey of Suffolk County, New York (USDA, 1975) characterizes the soils of Suffolk County and separates them into “series” and “phases.” A series is a group of soils with similar composition characteristics and profiles through the soil strata. Series are broken down into phases based on differences in texture of the surface soil and in slope, stoniness, or some other difference that affects the use of the soil by man. Eight (8) soil types were identified on the project site including soils from the Plymouth Series (PIA, PIB, and PIC), the Haven Series (HaA), and the Riverhead Series (RdA, RdB, and RhB). Figure 3-1 maps the locations of these soil types on the project site. The following details the attributes of the series and soils.

Plymouth Series

The Plymouth series consists of very deep, excessively drained sandy soils formed in glacial outwash or deltaic deposits. These soils are primarily found on broad, gently sloping to level outwash plains and on undulation to steep moraines. Permeability is rapid in these soils except in those of the silty substratum phase where permeability is moderate. They are nearly level to steep soils on plains and hilly moraines. Plymouth Loamy Sand (PIA, 0-3 percent slopes) is found along the eastern edge of the site by Walt Whitman Road. Plymouth Loamy Sand (PIA, 3-8 percent slopes) is found alongside the PIA soils. Plymouth Loamy Sand (PIC, 8-15 percent slopes) is found at the far western corner of the site.

Haven Series

The Haven series consists of deep, well-drained, medium textured soils that formed in a loamy or silty mantle over stratified coarse sand and gravel. These soils are present throughout the county, but most areas are on outwash plains between the two terminal moraines. Haven Loam (HaA) is found in the south central portion of the site. It is characterized by zero to two (0-2) percent slopes.

In a representative profile, a thin layer of leaf litter and decomposed organic matter is on the surface in wooded areas. Below this is the surface layer of dark grayish-brown loam about three (3) inches thick. The subsoil is dark brown to strong brown, friable loam to a depth of about 19 inches. The lower part, to a depth of 28 inches, is yellowish-brown, friable gravelly loam. The substratum, to a depth of 55 inches, is yellowish-brown to brownish-yellow loose sand and gravel.

Haven soils have high to moderate available moisture capacity. Natural fertility is low. Internal drainage is good. Permeability is moderate in the surface layer and subsoil and rapid or very rapid in the substratum.

Riverhead Series

Riverhead soils cover the center of the site. The Riverhead Series consists of deep, well drained, moderately coarse textured soils that formed in a mantle of sandy loam or fine sandy loam over thick layers of coarse sand and gravel. These soils occur throughout the county in rolling to steep areas on moraines and in level to gently sloping areas on outwash plains. These soils range from nearly level to steep, though they generally are nearly level to gently sloping.

In a representative profile, the surface layer is brown to dark brown sand loam about 12 inches thick. The upper part of the subsoil, to a depth of about 27 inches, is strong brown, friable sandy loam. The lower part of the subsoil is yellowish-brown, very friable loamy sand to a depth of about 32 inches. Below is yellowish-brown, friable gravelly loamy sand to a depth of about 35 inches. The substratum is very pale brown and brown loose sand and gravel or sand to a depth of 65 inches.

Riverhead soils have moderate to high available moisture capacity. Internal drainage is good. Permeability is moderately rapid in the surface layer and in the subsoil and very rapid in the substratum. Natural fertility is low.

RdA – Riverhead Sandy Loam, 0 to 34 Percent Slopes – This soil had the profile described as representative of the series. It is generally on outwash plains and the areas are large and uniform. Where this soil occurs on outwash plains, it generally has slope characteristics of this landform. Slopes are undulating in places. A few small, irregular areas are on moraines.

RdB – Riverhead Sandy Loam, 3 to 8 Percent Slopes – This soil is on moraines and outwash plains. It generally is in areas along shallow, intermittent drainageways.

Slopes generally are moderately short, but large areas on moraines are undulating. The profile of this soil is similar to the one described as representative of the series, though the surface layer is likely to contain a slightly larger amount of gravel.

RhB – Riverhead and Haven Soils, graded, 0 to 8 Percent Slopes – This soil consists of areas of Riverhead sandy loam, of Haven loam, or of both. The areas have been altered by grading operations for developmental purposes. Originally, the Riverhead and Haven soils each had the profile described as representative of its respective series, but grading operations have left a man-made profile that is significantly different.

3.2.2 Existing Conditions – Past Agricultural Use

Whitestone Associates prepared a Soil Management Plan for Arsenic Contaminated Soils. The full report is provided in Appendix B, is incorporated herein, and is summarized below.

2005 Environmental Site Assessment - Approximately 45.4 acres of the subject site was formerly used for agricultural purposes. A soil sampling investigation was conducted for the Holiday Organization in 2005 as part of their due diligence. A Phase I Environmental Site Assessment (ESA) identified the site's historic agricultural use as a recognized environmental condition (REC) and recommended sampling of the agricultural areas for pesticides and metals analyses. Based on the findings of the 2005 ESA, a Phase II investigation of the agricultural areas was performed in September 2005. Fourteen shallow soil locations were sampled with a hand auger in the agricultural portion of the site in the locations identified on Figure 3-2. Two (2) samples were collected from each location at depths of 0 to 3.0 inches and 3.0 to 6.0 inches below surface grade. Retained samples were submitted to an analytical laboratory for pesticide, metals, and/or arsenic analyses.

Laboratory data and sampling results were compared to the United States Environmental Protection Agency (USEPA) Soil Screening Levels (SSL's) for a Residential Scenario and Suffolk County Department of Health Services (SCDHS) background (arsenic) as the redevelopment of the site at that time was planned as residential. Twelve arsenic exceedances were reported in the samples collected from the 0 to 3.0 inch interval, and 12 arsenic exceedances were reported in samples collected from 3.0 to 6.0 inch intervals when compared with the USEPA Residential and Commercial/Industrial Scenario SSLs and SCDHS background. A slight exceedance of USEPA SSL Residential Scenario for the pesticide dieldrin (0.044

ppm) also was reported in sample PEST-3 collected in the western portion of the site in the 0 to 3.0 inch deep sample (0.047 ppm) and in sample PEST-5 from the 3.0 to 6.0 inch deep sample (0.047 ppm). However, when compared to the USEPA SSL for Commercial/Industrial Scenarios, no pesticide exceedances were noted. Analytical results for the 2005 Phase II efforts are summarized in Appendix B and Arsenic data are provided in Table 3-1.

Table 3-1. Soil Sampling and Analysis Results for Arsenic from 2005 Phase II ESA

Sample ID	Sample Depth (Inches)	Arsenic (ppm)
PEST-1	0-3	20.9
	3-6	21.5
PEST-2	0-3	3.75
PEST-3	0-3	23
	3-6	22.5
PEST-4	0-3	10.8
	3-6	11.5
PEST-5	0-3	26.8
	3-6	26.4
PEST-6	0-3	16.6
	3-6	15.9
PEST-7	0-3	14.4
	3-6	20.3
PEST-8	0-3	31.9
	3-6	33
PEST-9	0-3	3.69
PEST-10	0-3	5.65
	3-6	6.17
PEST-11	0-3	15.1
	3-6	17.4
PEST-12	0-3	13.5
	3-6	38.6
PEST-13	0-3	37.9
	3-6	37.2
PEST-14	0-3	13.8
	3-6	13.7

USEPA SSL/SC Background - Ingestion – 4 ppm

USEPA SSL/SC Background - Inhalation – no established level

NYSDEC Recommended Soil Cleanup Objective – 7.5 ppm

Eastern United States Background - 3-12 ppm

Bold indicates exceedance of USEPA SSSL/Suffolk County background

2007 Environmental Site Assessment - Another Phase I Environmental Site Assessment was conducted at the subject property in January 2007 (Appendix B). Observations included fifty-five gallon drums of hazardous or potentially hazardous materials buried, discarded, or staged on unpaved surfaces at the subject property; stained soil in the vicinity of the on-site barn; former agricultural use of the property; and an on-site septic system associated with the barn. A limited Phase II Site

Investigation (SI) was conducted in conjunction with the Phase I ESA in January 2007 to further evaluate the arsenic and pesticide detections identified in the 2005 ESA in the shallow site soils in the agricultural areas of the property. The Phase II SI included limited soil and groundwater sampling and analyses for arsenic and pesticides in an attempt to determine if the elevated arsenic occurrences identified in 2005 were naturally-occurring or the result of historic application of pesticides. A further goal of the Phase II SI was to characterize soils for the purpose of evaluating possible on- and/or off-site soil reuse options during site redevelopment activities based on the initial site redevelopment plans presented by Canon.

Seven (7) borings (B-1 through B-7) were advanced throughout the site at the locations identified on Figure 3-2 to facilitate soil and groundwater sampling. The soil samples retained for arsenic and pesticide analyses were collected from within initially proposed redevelopment "cut zones" that ranged in depth from seven (7) feet to 24 feet below ground surface (fbgs) across the site. Additionally, two (2) shallow (0 fbgs to 0.5 fbgs) soil samples (S-1 and S-2) were collected from non-agricultural, wooded areas located in the northeastern and southwestern portions of the site to establish background conditions in non-farmed areas.

Two (2) groundwater samples were also collected for arsenic and pesticide analyses from temporary wellpoints (TWPs) installed in the central portion of the site in soil borings B-3 (TW-1) and B-1 (TW-2). Groundwater was encountered in boring B-3 at 49.5 fbgs and in boring B-1 at 41.6 fbgs.

Soil Analytical results for the January 2007 Phase II SI sampling are summarized in Table 3-2. Groundwater Analytical results for the January 2007 Phase II SI sampling are summarized in Table 3-3.

As summarized in Table 3-2, arsenic was detected in the soil samples collected from borings B-2, B-3 and B-5 (advanced in the western portion of the site) and in the background sample S-1 (collected in a brush area in the northeastern portion of the site) at concentrations exceeding the SCDHS background. The elevated arsenic concentration in a non-farmed area (sample S-1) may have resulted from wind or surface water run-off of arsenic to this low area of the site and not from direct application of pesticides.

Table 3-2. Soil Analysis Results –January 2007

Sample ID	Sample Depth (feet below ground surface)	Arsenic (ppm)
S-1	0-2	23
S-2	0-2	2.1 U
B-1A	2-4	2 U
B-1C	6-8	2 U
B-2A	2-4	20
B-2B	4-6	12
B-2C	6-8	5.8
B-3A	2-4	13
B-3B	4-6	4.9
B-4A	2-4	2.9
B-4B	4-6	2 U
B-5A	0-2	13
B-5B	2-4	8.7
B-5C	4-6	3.1
B-5D	6-8	3.7
B-6A	2-4	2.1 U
B-6B	10-12	2.1 U
B-7A	2-4	2.4
B-7B	4-6	2.1 U
B-7C	6-8	2.1 U

USEPA SSL/SC Background - Ingestion – 4 ppm

USEPA SSL/SC Background - Inhalation – no established level

NYSDEC Recommended Soil Cleanup Objective – 7.5 ppm

Eastern United States Background - 3-12 ppm

Bold indicates exceedance of USEPA SSSL/Suffolk County background

U – Not detected

As summarized in Table 3-3, arsenic was detected in groundwater sample TW-1 (collected from soil boring B-3) at 36 parts per billion (ppb), slightly in excess of the NYSDEC Technical and Operations Series Guidance (TOGS) 1.1.1 Ambient Groundwater Quality Standard (AGQS) of 25 ppb. This arsenic detection likely is attributable to sample turbidity and the potential presence of arsenic containing sediments, which is common when sampling from temporary wellpoints. Arsenic was not detected at a concentration exceeding the laboratory MDL or NYSDEC AGQS in the groundwater sample collected from soil boring B-1 (TW-2).

Pesticides were not detected in either groundwater sample at concentrations exceeding the laboratory MDL or NYSDEC AGQS.

Table 3-3. Groundwater Analysis Results – January 2007

Sample ID	TW-1	TW-2	NYSDEC Technical and Operations Series (1.1.1) Ambient Water Quality Standards
DTW (fbgs)	49.5	41.6	
Parameter			
Arsenic	36	4 U	25
Pesticides	<i>No pesticides detected exceeding established criteria</i>		

2007 Supplemental Environmental Site Assessment – A supplemental Phase II SI (SS1) was conducted at the subject property in February (Appendix B). Eight (8) additional subsurface soil samples were collected (SS-1, SS-2, SS-3, SS-4, SS-5B, SS-6, SS-7, and SS-8C) throughout the agricultural portions of the site for arsenic analysis in an effort to further delineate the vertical extent of the elevated arsenic. Additionally, two (2) near surface soil samples (SS-9 and SS-10) were also collected in previously non-agricultural portions (native soils) in the southwestern portion of the site for arsenic analyses, and three (3) soil samples (SS-5A, SS-8A and SS-8B) were collected from two (2) locations in the western portion of the site for pesticide analyses where the pesticide compound dieldrin was identified in the 2005 ESA at a concentration meeting USEPA SSL for a Residential Scenario. Two (2) additional groundwater samples were collected for arsenic analysis from two (2) additional temporary wellpoints (TWPs) installed in the central and eastern portions of the site (TW-3 and TW-4) Both filtered (TW-3F and TW-4F) and unfiltered (TW-3U and TW-4U) groundwater samples were collected. The sample locations are identified in Figure 3-2.

As summarized in Table 3-4, arsenic was detected in soil samples SS-2, SS-3, SS-4, SS-5B, SS-6, SS-7 and SS-8C collected from the agricultural portions of the site and in the background sample SS-9 at concentrations exceeding SCDHS background of 4.0 ppm. Arsenic was not detected in the background sample SS-10 collected from the non-agricultural/wooded area (native soils) in the southwestern portion of the site at a concentration exceeding SCDHS background.

Table 3-4. Soil Analysis Results - February 2007

Sample ID	Sample Depth (feet below ground surface)	Arsenic (ppm)
SS-1	1.0-1.5	3.4
SS-2	1.0-1.5	39
SS-3	1.0-1.5	24
SS-4	1.0-1.5	51
SS-5B	1.0-1.5	30
SS-6	1.0-1.5	27
SS-7	1.0-1.5	20
SS-8C	1.0-1.5	15
SS-9	0.0-0.5	6.7
SS-10	0.0-0.5	2.4

USEPA SSL/SC Background - Ingestion – 4 ppm

USEPA SSL/SC Background - Inhalation – no established level

NYSDEC Recommended Soil Cleanup Objective – 7.5 ppm

Eastern United States Background - 3-12 ppm

Bold indicates exceedance of USEPA SSSL/Suffolk County background

U – Not detected

The pesticides dieldrin, 4,4' DDE, 4, 4' DDT and/or 4, 4' DDE were detected in soil samples SS-5A, SS-8A and SS-8B at concentrations exceeding the laboratory Method Detection Limit, however, less than USEPA SSL's.

As summarized in Table 3-5, arsenic was detected in the unfiltered groundwater sample (TW-3U) collected from TWP-3 at 31 parts per billion (ppb), which slightly exceeds the NYSDEC AGQS of 25 ppb. However, the filtered sample (TW-3F) from this location did not exhibit arsenic at a concentration exceeding the laboratory MDL or NYSDEC AGQS, confirming that the presence of arsenic was related to sediment entrained in the sample and not a groundwater contamination condition. Arsenic was not detected in the unfiltered (TW-4U) or filtered (TW-4F) sample collected from TWP-4 at a concentration exceeding the laboratory MDL or NYSDEC AGQS.

Table 3-5. Groundwater Analysis Results – February 2007

Sample ID	TW-3U	TW-3F	TW-4U	TW-4F	NYSDEC Technical and Operations Series (1.1.1) Ambient Water Quality Standards
	<i>Unfiltered</i>	<i>Filtered</i>	<i>Unfiltered</i>	<i>Filtered</i>	
DTW (fbgs)	46.3		38.7		
Arsenic	31	0.5 U	0.5 U	0.5 U	25

Based on the sampling and analyses performed in 2005 and 2007, the arsenic detections appear to be confined primarily to the organic layer of topsoil (ranging in thickness from zero to 10 inches and averaging approximately five to six (5-6) inches across the site, with only several detections at or below the plough horizon (2.0 fbg to 4.0 fbg interval). Accordingly, the topsoil layer and the sands comprising the upper two (2) feet of the soil horizon will be treated as arsenic-impacted for the purposes of the Soil Management Plan and the proposed redevelopment.

3.2.3 *Potential Impacts of Proposed Project*

Grading of the property in Phase I and Phase II would be required for building and site improvements. All arsenic-impacted soils would be remediated in Phase I.

3.2.4 *Proposed Mitigation – Soil Management*

A Soil Management Plan (SMP) was required by the Town of Huntington due to the presence of arsenic-impacted soils across the site at concentrations generally exceeding the USEPA SSL of 4.0 ppm. The Town required that arsenic-impacted soils be managed in accordance with SCDHS Guidance. The Soil Management Plan (Appendix B) is summarized below.

The Phase I development activities will require stripping the topsoil as this material is not suitable for use as structural fill or backfill in its current state. Surficial re-use of this material is not permitted by the Town of Huntington. Accordingly, the topsoil will be buried in areas of the site where structural fill or backfill are not required (e.g. beneath landscape areas and berms) or may be blended to reduce arsenic concentrations and/or organic content for surficial application or use as road/parking lot base. Similarly, the shallow arsenic-impacted sands beneath the topsoil will be buried within the roadway embankment in the northwestern portion of the site, or encapsulated to establish compliance with the SCHDS Guidance, Town of Huntington requirements, and project objectives for on-site or off-site beneficial re-use. The Town of Huntington resolution approving the Soil Management Plan, adopted on August 20, 2008, is provided in Appendix B

3.2.5 *Proposed Mitigation – Construction Related*

The health and safety procedures and dust mitigation measures outlined in *Site-Specific Health and Safety Plan for Earthwork Operations* (HASP) will apply to all on-site earthwork activities involving arsenic impacted soils/sands (Appendix C). By

employing proper safety and precautionary procedures during site earthwork activities, including dust suppression and ambient particulate monitoring, the arsenic impacted soils can effectively be managed on site in accordance with the recommendations established pursuant to the SCDHS Guidance. The combination of preventing/mitigating dust emissions during construction and redeveloping the site as proposed will provide for a protective environment with respect to residual arsenic concentrations post-development.

Concurrently with the on-site management of the elevated arsenic containing soils, ambient particulate air monitoring services will be performed in accordance with the HASP. Ambient particulate (dust) concentrations will be monitored at the perimeter of the site during earthwork activities involving management of arsenic-containing soils. Water trucks and other measures will be provided to conduct dust suppression activities during earthwork operations involving disturbance of soils with elevated arsenic levels. Dust mitigation through water application will be repeated in areas where visible evidence of particulate liberation is observed and where elevated particulate levels are recorded. Specifically, a continuous readout, fixed based air monitoring station will be established between the site and adjoining residential properties to the south to provide a record of ambient particulate (dust) levels during arsenic soil management activities. Details of the air monitoring program will be included in the HASP.

As soils at the property contain arsenic at a concentration that exceeds SCDHS Guideline of 4.0 ppm, appropriate future operations and maintenance considerations must be adhered to ensure future protection of site occupants and other personnel.

As specified in the HASP:

- No person shall make any alteration, improvement, or create a disturbance to the site, which interferes with any engineering control or area of arsenic contaminated soil without first obtaining approval from the property owner/operator and the Town of Huntington, as necessary.
- Upon completion of any disturbance of engineering control or arsenic contaminated soils these disturbed areas must be restored to pre-disturbance conditions.
- The owner or operator shall ensure that all applicable worker health and safety laws and regulations are followed during the alteration, improvement,

or disturbance, and during the restoration, and that exposure to arsenic contamination in excess of the applicable standards does not occur.

- The owner or operator shall maintain records of the nature of the alteration, improvement, or disturbance, the dates and duration of the alteration, improvement, or disturbance, the name of key individuals and their affiliations conducting the alteration, improvement, or disturbance, the amounts of soil generated for disposal, if any, the final disposition and any precautions taken to prevent exposure.
- The persons responsible for conducting the remediation of the arsenic, the Owner, and the subsequent owners, lessees, and operators, shall monitor and maintain the engineering controls to ensure that the controls instituted continue to be protective of the public health and safety and of the environment. If at any time, the proposed controls are determined to no longer be protective, additional remediation or protective measures may be warranted or required.

3.2.6 Proposed Mitigation – Erosion and Sediment Control

Final site design for Phase I and Phase II would incorporate methods to control erosion and sedimentation and limit transport of sediment to offsite areas. Guidance would be taken from the Best Management Practices (BMP's) recommended in the latest New York Guidelines for Urban Erosion and Sediment Control³ as well as the NYSDEC's Urban Stormwater Runoff Management Practices Catalogue⁴. Those methodologies would be coordinated with the Health and Safety Plan for Earthwork Operations, described in the section above.

An extensive erosion control plan will reduce runoff during both phases of construction. A controlled sequence of measures would insure that runoff and sediment receiving areas are prepared in advance of major site disturbances. An erosion-control seed mixture would be used containing 50% annual ryegrass and

³ *New York Guidelines for Urban Erosion and Sediment Control*, USDA, Natural Resources Conservation Service, Printed by the Empire State Chapter, Soil and Water Conservation Society, Fourth Printing, April 1997

⁴ *Urban Stormwater Runoff Management Practices Catalogue for Nonpoint Source Pollution Prevention and Water Quality Protection in New York State*. NYS Department of Environmental Conservation, 1996.

50% perennial ryegrass for quick and effective stabilization of the soils. A series of hay bales and silt fences would be placed to capture coarse and fine sediment.

Silt fences would also be installed to prevent material from washing away. Earth stockpiled for longer than fifteen (15) days would be stabilized by either seeding it with the erosion control seed mixture referred to above, or mulching it with hay.

Maintenance of the erosion control measures would include removal of accumulated sediment and trash from all control structures and the basin, repair or replacement of damaged swales, diversions, silt fencing, hay bales, and reseeding where necessary. The construction entrance would be stabilized with crushed stone to prevent soil and debris from being carried onto roads. Construction-related erosion control measures would be removed during final landscaping.

Table 3-6 and Table 3-7 detail the BMP activities for each phase of construction. The BMP activities identified for each phase will be implemented at the start of each phase and be maintained until permanent stabilization is achieved.

Table 3-6. BMP Implementation and Maintenance Schedule

Construction Phase	BMP Activities	Maintenance Frequency
I		
1. Pre-construction	Evaluate the site	As required
	Evaluate the steep slope areas and identify methods to establish temporary stabilization during construction. Submit recommendations/concerns in writing to engineer on record	
	Identify the soil stockpile, storage and construction staging areas	
	Review soil remediation plan, geotechnical and environmental investigation reports and project SWPPP	
	Receive approval from the engineer	
2. Install erosion control practices	Protect trees to remain	Weekly or as required
	Install silt fence around the perimeter and/or as shown on plan	
	Install stabilized construction entrances/exits	
	Protect down slope areas	
	Install temporary sediment basins and diversion/infiltration swales as shown on plan	
	Protect existing storm sewer and drainage structures within R.O.W. (if necessary)	
3. Prepare the site for removals	Follow the removals in the civil site plan package and soil remediation plan	As required
4. Prepare the site for construction	Adjust locations of construction entrances/exits, silt fencing and temporary diversion/infiltration swales as necessary	Weekly or as required
	Locate or adjust locations of soil stockpile and waste management/staging areas	
5. Build the structures	Grade site areas	Weekly or as required
	Construct office building and parking garage (phase I)	
	Stabilize exposed areas	
	Apply dust control practices	
	Install temporary run-off and drainage controls	
	Provide temporary seeding and install live fascines per engineers recommendations	

Table 3-7. BMP Implementation and Maintenance Schedule - Phase II

Construction Phase II	BMP Activities	Maintenance Frequency
6. Maintain erosion control practices	Maintain all erosion and sediment control practices until construction is completed and site is stabilized	As required
	Inspect the control practices at a minimum of twice a week	
	Sweep the soil on roadways daily	
	Do not flush areas with water, except where identified on the plan	
7. Install permanent drainage structures	Maintain temporary seeding on steep slope areas	
	Install permanent wet ponds and drywell structures	Weekly or as required
	Grade site areas to direct stormwater runoff toward permanent drainage systems	
8. Revegetate site	Install inlet protection for new drainage system	
	Finalize grading and landscaping	As required
	Establish permanent vegetation	
9. Construction of phase II buildings	Water newly seeded or sodded areas	
	Construct office building and parking garage (phase ii) as per the general contractor and client approved sequence of construction	Weekly or as required
10. Post construction management	Employ same bmp and erosion control practices as recommended in the project SWPPP	
	Remove temporary erosion and sediment control measures	As required
Inspections	Clean all drainage structures and interconnecting pipe	
Preconstruction, 7 day, post rainfall, post construction	Inspect sediment traps, perimeter controls, stabilized entrance, inlet protection and other BMPs	As required

3.3 Topography

3.3.1 Existing Conditions

The central area of the site is relatively flat (elevation 130 feet above mean sea level) rising only approximately eight (8) feet over a considerable distance. The eastern portion slopes down to Walt Whitman Road to a low of 108 feet. The western portion of the site slopes upward to the wooded area in the northwestern corner to a maximum of 220 feet in the northwestern corner. There are relatively steep slopes on the western portion of the site as well as in the northeastern corner. Topography is shown in Figure 3-3 and a steep slope analysis is provided in Figure 3-4. Slopes greater than ten percent are shown on the figure.

3.3.2 Potential Impacts of Proposed Project

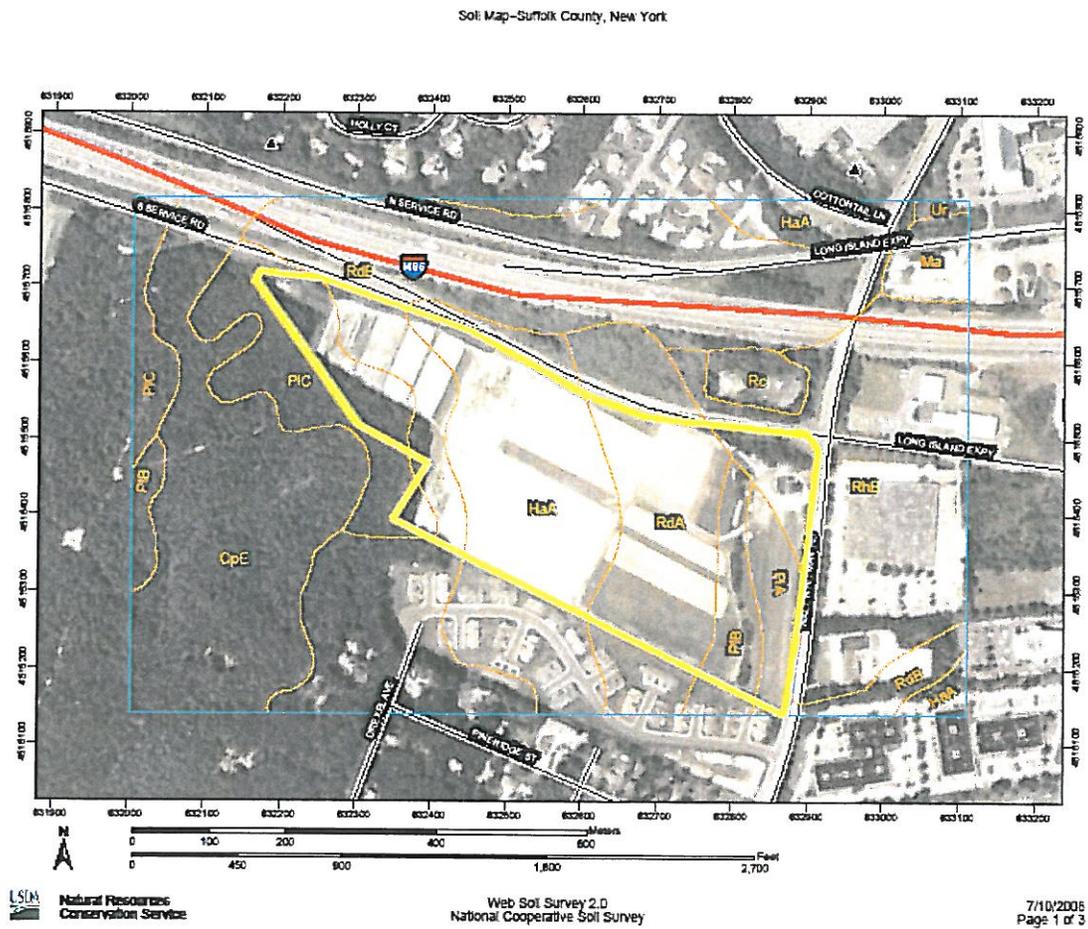
The topography of the majority of the western wooded portion of the site would be preserved along with a northeastern portion along the South Service Road. The remainder of the site would be graded to accommodate the proposed development, landscaped areas, stormwater ponds and other drainage features. A berm would be

constructed along the southern property line. Two (2) ponds would be excavated on the eastern portion of the site and two (2) drainage recharge areas excavated in the central western portion of the site. The proposed grading of the site will result in no net import or export of soils.

3.3.3 Proposed Mitigation

The proposed site development preserves a substantial portion of the wooded steep slopes on the western portion of the site as well as the steep slopes in the northeastern corner of the property (see Figure 3-4). Typical erosion control measures would be taken, as discussed in the Soils section above, to protect the site during construction. The final grade surface, once established, would be stable, non-erosive, and fully vegetated, where appropriate.

Figure 3-1. Soil Map



Source: Natural Resources Conservation Service

Figure 3-3 Topographic Map

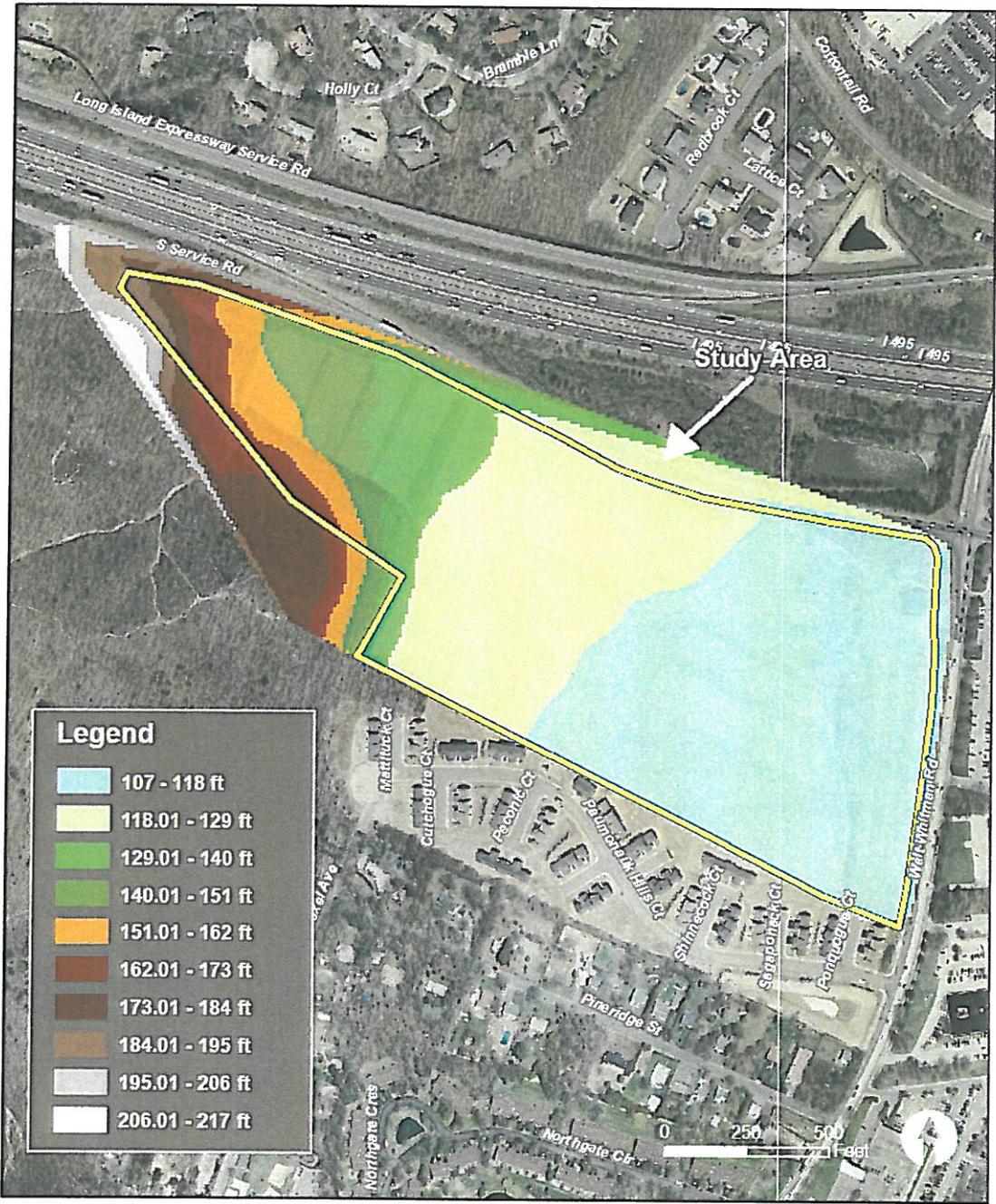
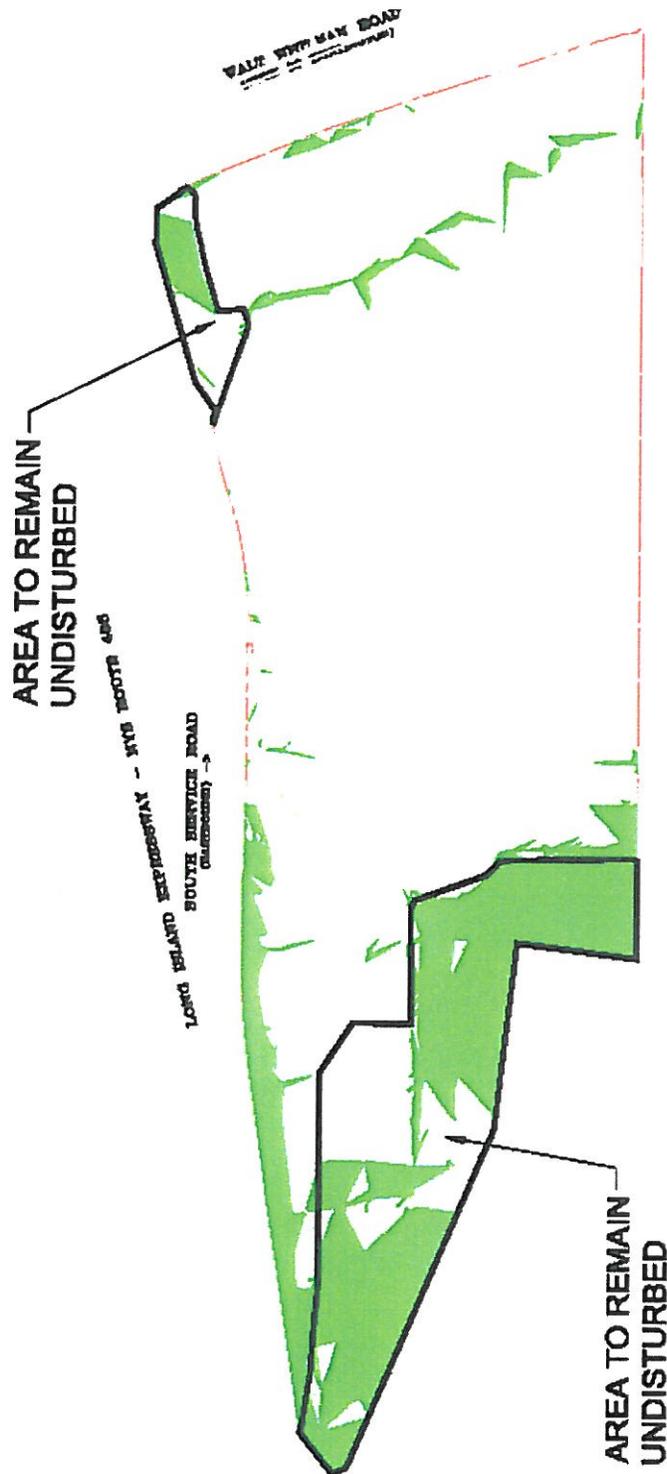


Figure 3-4. Steep Slope Analysis Map



Source: Bohler Engineering, June 2008

4. Groundwater

4.1 Groundwater

4.1.1 Existing Conditions

The entire project site lies within Hydrogeologic Zone I, which is characterized by a deep flow system, which generally contributes water to the middle or lower portions of the Magothy aquifer, a primary source of drinking water for both Long Island counties. According to the 1991 Long Island Special Groundwater Protection Area Plan by the LI Regional Planning Board, the project site lies at the southwestern edge of the West Hills/Melville Special Groundwater Protection Area (SGPA). The site is south of the groundwater divide and consequently groundwater flows in a south southeasterly direction toward the Great South Bay. Vertical flow in the West Hills/Melville SGPA is fastest near the groundwater divide where it moves at approximately six (6) feet per year. Groundwater quality in the SGPA was identified in the 1991 report as "good to excellent." Water quality "just south of the SGPA" in the Glacial and Magothy was "pristine" at the time the report was prepared "reflecting the low intensity of land use in upgradient areas." However, water quality near the divide (north of the site) was "impacted somewhat by past agricultural activities and more recent residential and commercial development." Over time, this water will travel south past the site. The study identified "past and continuing use of agricultural chemicals and the compatibility of farm practices with groundwater protection [as] another concern."

Article VI of the Suffolk County Sanitary Code was drafted to help protect the aquifer by regulating the discharge of sewerage and industrial wastewater. Office projects are covered under section §760-607 "Sewage Facilities Requirements for Construction Projects Other Than Conventional Single-Family Residential Realty Subdivisions and Developments." The ordinance requires a "community sewerage system method of sewage disposal" when the "project is located outside of Groundwater Management Zones III, V and VI, and the population density equivalent is greater than that of a realty subdivision or development of single-family residences in which all parcels consist of an area of at least 20,000 square feet." The Canon USA project is therefore regulated by this part and will connect to the Southwest Sewer District No. 3.

Groundwater data was collected by Soil Mechanics Drilling Corp. for the 1993 Draft Supplement to the Melville-Route 110 Area Generic Environmental Impact

Statement. Data from four (4) monitoring wells revealed groundwater at a depth of 69 to 71 feet above mean sea level for the eastern portion of the site where the wells were located. Their water samples contained "no detectable levels of volatile organics, pesticides, or herbicides." No mention was made of metals. According to the same document, well number 26071, owned by the South Huntington Water District, is located downgradient of the site. Groundwater flow in a southeasterly direction was confirmed by the 1993 monitoring well data.

As discussed in the *Soils - Past Agricultural Use* Section, the Environmental Site Investigations determined that the current groundwater quality at the site does not appear to be impacted.

4.1.2 *Potential Impacts of Proposed Project*

Impacts to groundwater include those related to withdrawals and others related to infiltration. This project would result in increased groundwater withdrawals from wells operated by the South Huntington Water District. Water consumption at the completion of Phase II would be approximately 58,566 gallons per day (gpd) (see Section 14.1 and Table 4-1). A water availability letter from the Water District was received and is reproduced in Appendix A.

4.1.3 *Proposed Mitigation*

As recommended in the 1991 SGPA plan, the majority of site development will be in the eastern area and most of the western, forested area will be preserved.

The SGPA Plan anticipated residential use. However, the office development, in accordance with Town zoning, allows a single user to control all activities on the site. This assures onsite quality control and implementation of best management practices for groundwater protection as advocated in the SGPA Plan. Connection to an existing sewer system eliminates potential impacts to groundwater at this location in the SGPA.

Water conservation methods (as described in the Utilities section) would reduce consumption of public water. Design improvements made to obtain LEED Silver certification will lower water consumption. Public water will be utilized for irrigation of the entry area and for dry-weather water level maintenance of the ponds. No dyes or deleterious chemicals will be used in the maintenance of the ponds. Use of irrigation will be reduced by 50% to meet the Water Efficient Landscaping

requirements of LEED silver certification. The reduction in irrigation to meet LEED guidelines will require approval by the Planning Board as it is contrary to Town Code requirements. The irrigation system, used only seasonally, would be tied to moisture sensors and limited to the early morning to reduce unnecessary water consumption caused by evaporation losses. Drip irrigation would be utilized wherever possible in those areas specified for irrigation. Much of the site will be planted with drought-tolerant plants that require minimal or no irrigation. Stormwater would be efficiently managed to maximize treatment prior to recharge. The stormwater management plan is designed to collect and recharge 100% of site runoff from a 100-year frequency rain event (7.5-inch rainstorm). Section 5 describes the stormwater management plan.

The Long Island Segment of the Nationwide Urban Runoff Program (NURP) contains five (5) recommendations to protect groundwater. The proposed project would comply with these recommendations in the following manner:

- GW 1 - Continue to use recharge basins wherever feasible for the disposal of stormwater and the replenishment of groundwater.
 - Two (2) stormwater detention ponds are proposed to collect much of the stormwater from the eastern portion of the site prior to discharge to groundwater.
 - Two (2) vegetated drainage recharge areas are proposed on the western portion of the site to collect stormwater from that part of the property.
- GW 2 - Avoid maintenance practices that would interfere with the natural revegetation of basins by grasses and shrubs.
 - The stormwater detention ponds will be landscaped with low maintenance grasses. Maintenance will involve removal of undesirable grasses and shrubs, leaves and debris.
- GW 3 - Use "ecological recharge basins" only where their aesthetic value justifies the additional cost.
 - The proposed stormwater detention ponds and drainage recharge areas will provide aesthetic value in addition to treatment and recharge.
- GW 4 - Consider the use of in-line storage leaching drainage systems, or components thereof, as a substitute for recharge basins in areas, other than parking lots, where maintenance will be assured and the value of the land for development purposes is greater than the cost of installing and

maintaining the underground system. These systems should also be considered for use where the installation of recharge basins is not feasible.

- Drywells that are part of the proposed stormwater system will be monitored routinely and maintained as required to insure that they continue to function as designed.
- GW 5 - Prevent illegal discharges to drainage systems or recharge basins. Such discharges, which often result from improper storage or deliberate dumping of chemicals, must be controlled at the source.
 - Site activities will be monitored and all substances that might be deleterious to groundwater will be properly stored.
 - Site access will be controlled at guard booths to prevent unauthorized entry. Only employees and authorized visitors will access the site.
 - Ponds will be maintained using natural agents to the maximum extent possible.

The Long Island Comprehensive Waste Treatment Management Plan (208 Study) includes area-wide recommendations. The proposed project would comply with the following applicable recommendations:

- Control Stormwater Runoff:
 - "Best Management Practices" ("BMPs") for stormwater include the use of stormwater detention ponds and drywell systems. Based upon the August 2003 *New York State Stormwater Management Design Manual*, these types of infiltration practices receive the highest ratings for BMPs with respect to pollutant removal (i.e., phosphorus, nitrogen, metals [cadmium, copper, lead and zinc]) and pathogens (*Coliform*, *Streptococci* and *E. coli*).
 - A Stormwater Pollution Prevention Plan will be prepared and implemented in conformance with the Phase II Stormwater Regulations, and construction will be conducted in accordance with the New York State Guidelines of Urban Erosion and Sediment Control Manual, latest edition.
 - All of the stormwater generated by the proposed development would be contained on the site through the use catch basins, drywells and the stormwater detention ponds to minimize transport of sediments, nutrients, metals, organic chemicals and bacteria to ground and surface waters. No stormwater runoff would be directed offsite.

- Reduce the use of Fertilizers:
 - A preponderance of native plant species will be used that require fertilizer only for establishment.
 - Canon's maintenance agreement with their landscape contractor will specify limited use of slow-release fertilizer and use of pesticides only for limited treatment of infestations. This agreement will be available for review by the Town if so desired.
- Promote Water Conservation:
 - Low-flow fixtures and moisture sensors will be utilized. Reduced water use is a requirement of the LEED silver certification.

4.2 Sewage Disposal

4.2.1 Existing Conditions

As the site is undeveloped, no wastewater is generated.

4.2.2 Potential Impacts of Proposed Project

The Suffolk County Department of Health Services (SCDHS) identifies the project site as entirely within the boundaries of Groundwater Management Zone I. The discharge of wastewater is regulated by the Suffolk County Code, Article 6. The project will connect to the Southwest Sewer District No. 3 (see letter of availability in Appendix A). The proposed development of 900,000 square feet anticipates 1900 occupants at move-in and 3,000 occupants when Phase II is completed. Estimated wastewater flow is found in Table 4-1, below.

Table 4-1. Estimated Wastewater Flow

Use	Floor Area SF	Cafeteria Users	Total Flow Rate	Total Flow GPD
Non-medical office	712,491		0.06 GPD/SF	42,749
Cafeteria (integral to office)	31,738	3,000	2.50 GPD/capita	7,500
General Industrial	44,365		0.04 GPD/SF	1,774
Fitness Center w/shower	5,400		0.30 GPD/SF	1,620
Medical Office	150		0.10 GPD/SF	15
Industrial	3,375		0.04 GPD/SF	135
Industrial	68,812		0.04 GPD/SF	2,752
Non-medical office	19,169		0.06 GPD/SF	1,150
Non-medical office	14,500		0.06 GPD/SF	870
total	900,000			58,566

Assumptions:

- 1- Cafeteria per capita number based on the entire building population per SCDHS requirements.
- 2- Parking garages are an outdoor, unheated space and do not contribute any sanitary waste.
- 3- Restrooms, elevators and stairwells have been included at office flow rate.
- 4- Lab and receiving space has been computed as industrial.

4.2.3 Proposed Mitigation

Water conservation methods (as described in the Utilities section) including those made as part of the LEED certification process will significantly reduce the generation of wastewater.

5. Stormwater Collection, Treatment, and Recharge

5.1 Existing Conditions

The existing 52.17-acre site is undeveloped. Stormwater flow follows the topography moving generally from west to east.

5.2 Potential Impacts of Proposed Project

The proposed Phase I development of the 52.17-acre site will result in 32.54 acres of pervious surface area (62 percent of the site) and 19.63 acres of impervious surface area (38 percent of the site). Phase II pervious and impervious areas will be determined during the detailed design portion of Phase II of the project. Stormwater management will use a combination of drainage reserve areas and drywells. The subject parcel is divided into six (6) separate tributary areas, identified from east to west as Tributary Areas A through F. The location of the tributary areas and drainage reserve areas are shown in Figure 5-1. Table 5-1 provides drainage calculations..

Table 5-1. Stormwater Drainage Calculations

System Name	Area	Tributary Areas (SF)	Storage Required (CF)	Storage Provided in Ponds (CF)	Storage Depth Required Via Drywells (VF)	Storage Depth Provided Via Drywells (VF)*	Total Storage Provided (CF)*
A	Pavement	335,808	133,324.3	396,190	0.0	192.0	396,190 + 19,369 415,559
	Roof	298,907					
	Landscape	777,539					
	Pond	48,600					
B	Pavement	24,485	11,460.4	0	113.6	120.0	12,106
	Roof	0					
	Landscape	20,133					
C	Pavement	0	7,287.4	59,000	0.0	67.8	59,000 + 6,839 65,839
	Roof	0					
	Landscape	241,822					
	Landscape Off Site	49,672					
D	Pavement	0	29,628.4	82,670	0.0	76.0	82,670 + 7,267 90,337
	Roof	0					
	Landscape	440,526					
	Landscape Off Site	744,609					
E	Pavement	10,400	2,217.1	0	22.0	42.0	4,237
	Roof	0					
	Landscape	19,350					
	Landscape Off Site	0					
F	Pavement	38,880	6,850.0	0	67.9	90.0	9,079
	Roof	0					
	Landscape	14,800					
	Landscape Off Site	0					

*Drywells in Tributary Area A, C, and D are provided for processing, rather than storage, and are designed to process a 7.5" storm

Drywells in Tributary Area B are provided to store runoff from a 5" storm and process runoff from a 7.5" storm

5.2.1 Tributary Area A

Tributary Area A includes the main building roof, garage roofs, landscaped areas between the main building and the garages, the surface parking areas, the majority of the on-site pavement, and the majority of the unpaved areas between the western edge of the buildings and the east property line. Runoff from the main building and garage roofs will be conveyed utilizing corrugated plastic pipe to Drainage Reserve Area A and released without treatment. Runoff from the garden areas between the main building and the garages, and from the two surface parking areas, will be directed through a pair of bio-swales for treatment prior to being piped to Drainage Reserve Area A. Runoff from the roadways on-site will be collected in catch basins and in shallow drywells. These drywells are intended primarily to collect runoff, not for storage, and as such are not included in any storage computations. The drywells shall be interconnected and piped to a stormwater quality unit where runoff will be treated prior to being released into Drainage Reserve Area A.

Drainage Reserve Area A is located at the east side of the site. It covers approximately 2.5 acres and includes two (2) wet ponds. The storage volume of Drainage Reserve Area A is measured from elevation 100.0, which is the top of the wet pond, to elevation 105.0. The available storage volume is approximately 428,000 cf. Drywells will be installed in Drainage Reserve Area A with the lowest inlet elevation set at elevation 101.0 ft. This will allow stormwater to replenish the pond first, with excess stormwater entering the drywell system for disposal.

The design of Drainage Reserve Area A assumes that all stormwater leaching will occur in the drywells. This is intended as a conservative design to ensure that the system will function adequately if a major rainstorm occurs during a time when the surface soils are frozen. The drywells, in conjunction with the surface storage, are adequate to process runoff from a 100-year 24-hour storm event without exceeding the top elevation of the drainage reserve area.

To ensure the safety of people using the subject property, the wet ponds have been designed with side slopes no steeper than 25%. The ponds will be stocked with fish; koi for ornamental purposes and mosquito fish to reduce the potential for mosquito reproduction in the ponds, and planted with appropriate vegetation.

5.2.2 Tributary Area B

Tributary Area B includes a small landscape area, a small portion of the on-site roadway, the truck turning area, and the truck docks. Stormwater disposal for this area is provided in drywells. Because this tributary area includes a truck well, the drywells have been sized to store runoff from a five (5) inch storm. The drywells are adequate to process a 100-year 24-hour storm without surface ponding.

5.2.3 Tributary Area C

Tributary Area C includes landscaped and wooded areas just west of the buildings and garages. Runoff from these areas will be directed into a drainage reserve area located to the north of the truck turning circle. The drywells in this Drainage Area C, in conjunction with the surface storage available, are adequate to process runoff from a 100-year 24-hour storm without exceeding the top elevation of the drainage reserve area. As with Drainage Reserve Area A, it has been assumed that all leaching will occur in the drywells, to ensure that this system will function adequately when surface soils are frozen.

5.2.4 Tributary Area D

Tributary Area D includes the remainder of the western portion of the site (landscaped and wooded areas) plus approximately 17.1 acres of wooded Town property off site. Runoff from these areas is directed into Drainage Reserve Area D. The drywells in Drainage Reserve Area D in conjunction with the surface storage available, are adequate to process runoff from a 100-year 24-hour storm without exceeding the top elevation of the drainage reserve area. As with Drainage Reserve Area A, it has been assumed that all leaching shall occur in the drywells, to ensure that this system will function adequately when surface soils are frozen.

5.2.5 Tributary Area E

Tributary Area E is small and includes only a small area in the very southeastern corner of the site. Drainage from this area will be directed into a four (4) drywells.

5.2.6 Tributary Area F

Tributary Area F includes the access drive off Walt Whitman Road and a portion of the Main Road entry drive. Drainage from this area will be directed into a six (6) drywells.

5.3 Proposed Mitigation

The proposed drainage design of Phase I (Table 5-1) and Phase II will improve the quality of stormwater through natural, aesthetically pleasing, on-site treatments, and maximization of on-site recharge. The stormwater collection and treatment design will contain a 7.5 inch rainfall event (from a 100-year frequency storm event) on site, exceeding the LEED standard. After grading, all runoff will be collected and recharged on site. Overflow from the drainage collection system will be conveyed to a pond system to be constructed on site. In accordance with SPDES recommendations, priority is given to natural drainage systems. Only limited undisturbed perimeter areas would remain outside the drainage system.

One of the major features of the proposed drainage is the construction of drainage reserve areas (DRA's) on the property to collect site drainage. The DRA's would receive direct runoff from all areas of the site except the paved areas. The drainage from paved areas would be directed to catch basins that are piped to drywells with overflow pipes leading into the DRA's.

Stormwater collected in leaching basins would recharge the groundwater. Bacteria in the soil are known to break down many of the compounds that are commonly found in stormwater. Other compounds such as metals often bind to the organic materials that are found in soil.

The quality of the stormwater discharged from the site in Phase I and Phase II will meet or exceed the requirements of the State Pollutant Discharge Elimination System (SPDES) General Permit for Construction Activities required for all projects of five (5) or more acres. The SPDES requires that "the release of stormwater runoff from development should not exceed predevelopment (natural) conditions...the site will generate no greater peak than prior to development for a 2-year, 10-year, and 100-year 24-hour storm considered individually. Attenuation of the 2-year frequency design storm is intended to achieve the stream channel erosion objective. Attenuation of the 10-year frequency design storm is intended to assure the adequacy of existing and proposed culverts and storm drain systems. Attenuation of the 100-year frequency design storm is intended to reduce the rate of runoff from development to prevent expansion of the 10-year floodplain so as to alleviate flooding of improved properties and roadways."⁵

⁵ *General Permit for Construction Activities, Stormwater Guidelines for New Development.* New York State Department of Environmental Conservation, Technical and Operational Guidance Series 5.1.10

Per SPDES, safe overland conveyance of flow from a 100-year storm is provided. Control of the "first flush" (0.5 inches of rainfall) is provided by the collection system and pond. The proposed stormwater collection system follows the SPDES order of preference; infiltration, retention, and extended detention. Flow from impervious areas goes first to dry wells, overflows to the ponds (retention) and overflows the pond into extra large drywells (extended detention and infiltration).

Wherever possible, abrupt grade changes would be stabilized with natural materials and plantings. Biodegradable mulches such as hay, wood or paper fiber, or composted yard waste would be used to control runoff and preserve soils while vegetation becomes established. Biodegradable erosion control blankets (Jute, Coir, or hay) with natural or synthetic netting would be used to support vegetation selected to control erosion on steeper slopes. Where slopes may be too steep for these materials, various types of retaining walls would be erected to prevent erosion by stormwater. The walls would be constructed of stone and concrete materials that blend well with the architectural features of the site.

In the winter when irrigation systems are shut down there is typically no application of fertilizer and pesticide. Other vegetated areas would be treated only occasionally with fertilizer, and only as necessary with pesticide. Pesticide used in these areas would not be broadcast, but applied judiciously and directly onto plant surfaces. Wherever possible, short-lived, naturally degradable fertilizers will be used. Canon's maintenance agreement with their landscape contractor will specify this limited use of fertilizer and pesticides. This agreement will be available for review by the Town if so desired. Consequently, stormwater from landscaped areas would carry very limited quantities of these contaminants. Stormwater from the building roofs would be relatively free of contaminants.

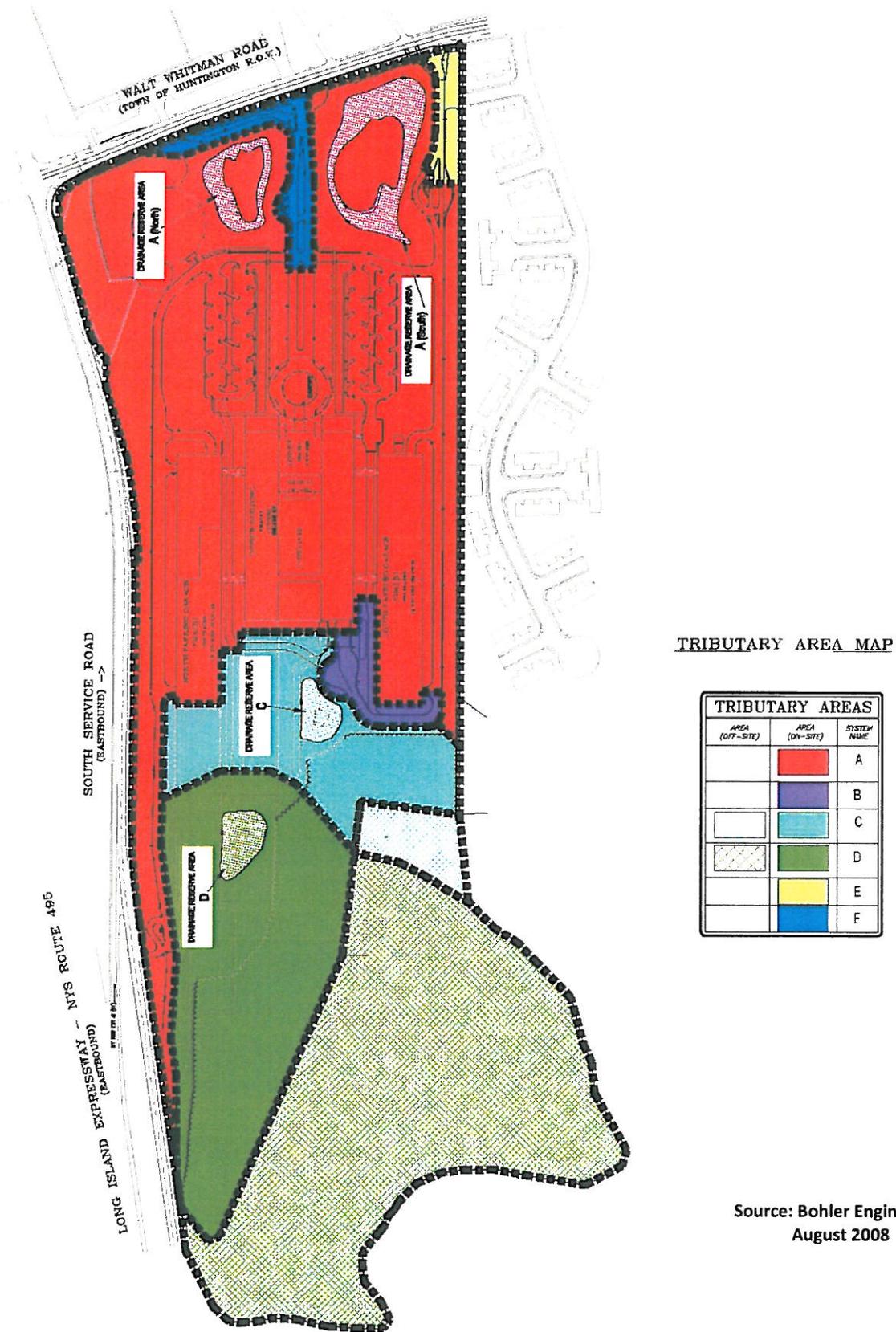
Many pond components would be based on features recommended in publications such as *Design of Stormwater Wetland Systems*⁶ and Best Management Practices recognized by the NYSDEC. Stormwater reaching the pond would be treated by natural systems incorporated into its design. The emergent plants recommended for the pond would help treat stormwater by removing nutrients and settling fine solids with their associated contaminants. Bacteria in the pond bottom would break down nitrogen compounds and organic materials. The vegetation would provide forage and cover for wildlife including

⁶ *Design of Stormwater Wetland Systems* - Anacostia Restoration Team, Metropolitan Washington Council of Governments, October 1992.

fish, amphibians, and birds. Mosquitofish would be stocked in the pond to consume insects including mosquito larvae.

The stormwater treatments described above in conjunction with the Grading and Drainage Plan and the Erosion and Sedimentation Control Plan constitute the Stormwater Pollution Prevention Plan.

Figure 5-1. Stormwater Drainage Tributary Areas



Source: Bohler Engineering
August 2008

6. Ecological Resources

6.1 Vegetation

6.1.1 Existing Conditions

An ecological survey was conducted as part of the previous EIS (1993 Draft Supplement to the Melville-Route 110 Area Generic Environment Impact Statement). The EIS noted that approximately 43.6 acres of the site had been cleared for agricultural use. Of the inventoried trees, 697 were identified with a diameter of eight (8) inches or more at a height of 4.5 inches from the ground. Only 16 of those trees were located outside of the 7.8 acre wooded area on the western end of the property. Of the total, 80 percent (557 trees) were identified as oaks, eight (8) percent (53 trees) were lindens, three (3) percent (22 trees) were walnuts, and three (3) percent (21 trees) were maples. Other trees include 12 birches, 10 cherries, six (6) pines, and four or fewer of each of the following species: dogwood, chestnut, magnolia, pear, apple, cherry, tree-of-heaven, and royal paulownia.

There are three (3) ecological community types according to the Reschke community classification system (updated by Edinger): Cropland/Row Crops and Cropland/Field Crops, and Pitch Pine Oak Forest as described below.

Pitch Pine-Oak Forest – according to Reschke, the pitch pine-oak forest is “a mixed forest that typically occurs on well-drained, sandy soils of glacial outwash plains or moraines; it also occurs on thin, rocky soils of ridgetops. The dominant trees are pitch pine (*Pinus rigida*) mixed with one or more of the following oaks: scarlet oak, (*Quercus coccinea*), black oak (*Q. alba*), red oak (*Q. rubra*), or black oak (*Q. velutina*). The relative proportions of pines and oaks are quite variable within this community type.” This community is predominantly oaks on the subject property with only a few pines represented.

Cropland /Row Field Crops - according to Reschke, the cropland/row crops community is “an agricultural field planted in row crops such as corn, potatoes, and sobeans.”

Cropland / Field Crops - according to Reschke, the cropland/field crops community is “an agricultural field planted in field crops such as alfalfa, wheat, timothy, and oats.

No animal or plant species considered threatened, rare, threatened, endangered, or of special concern were identified on the site.

6.1.2 Potential Impacts of Proposed Project

In Phase I and Phase II the two (2) former cropland communities would be replaced by the proposed development. Most of the Pitch Pine-Oak Forest would remain. The proposed landscaped areas and the two (2) ponds would provide new and different habitat, although the available open land area would be reduced. The net impact of the proposed project would be a moderate reduction in wildlife habitat due to the decrease in agricultural land (fallow field and edge field) which provided food, cover and nesting material for a limited number of wildlife species.

6.1.3 Proposed Mitigation

A variety of ornamental landscapes would be created on the site in Phase I and Phase II. They would include courtyard plantings, managed landscapes in areas such as the parking area medians, "natural" areas with native Long Island species, drainage recharge areas planted with local grasses, and numerous wetland species associated with the ponds. All the various landscapes would enhance the appearance of the site and be coordinated with the structures and other amenities. The plantings, particularly the trees, would help reduce the visual impacts of the development on adjacent properties and uses.

The two (2) cultural communities represented on the subject site are man-made and maintained by human activity for crop production. Most of these areas have been in cultivation for at least several decades and have remained unforested to date.

Use of native plants that require little or no pesticide, fertilizer, and minimal supplemental water can earn a credit as part of the LEED certification process. The project may be eligible for the LEED Water Efficient Landscaping credit (Credit 1.1) if the project uses 50 percent less water for landscape irrigation than traditional landscape projects. Entryway landscaping will be irrigated and only temporary irrigation used for the other areas for plant establishment. Calculations of irrigation water use will be conducted during the LEED certification application process.

The two (2) ponds constructed as part of the stormwater collection and treatment system will provide new habitat for a variety of aquatic plants and animals.

Indigenous plant and animal species will populate the ponds once the ponds become established.

6.2 Wildlife

6.2.1 Existing Conditions - Birds

Fifteen bird species were identified in the area of Melville, New York in the Draft Generic Environmental Impact Statement (DGEIS) for the Melville-Route 110 Area (1987) as listed in Table 6-1, below. The 2000-2005 NYS Breeding Bird Atlas for Block 6252D, which includes the subject property, lists a total of 64 bird species, 9 'Possible,' 20 'Probably,' and 35 'Confirmed.' See the NYS DEC website for the complete listing (www.dec.ny.gov/cfm/xtapps/bba/).

Table 6-1. List of Avian Species from 1987 DGEIS

Scientific Name	Common Name
<i>Agelaius phoeniceus</i>	Red-winged Blackbird
<i>Cardinalis cardinalis</i>	Cardinal
<i>Centurus carolinus</i>	Red-bellied Woodpecker
<i>Contopus virens</i>	Eastern Wood Peewee
<i>Coryus brachyrhyncus</i>	Common Crow
<i>Cyanocitta cristata</i>	Blue Jay
<i>Dumetella carolinensi s</i>	Grey Catbird
<i>Melospiza melodia</i>	Song Sparrow
<i>Parris atricapillus</i>	Black-capped Chickadee
<i>Parus bicolor</i>	Tufted Titmouse
<i>Quiscalus quiscula</i>	Common Grackle
<i>Sitta carolensis</i>	White-breasted Nuthatch
<i>Sturnus vulgaris</i>	Starling
<i>Turdus migratorius</i>	American Robin
<i>Zenaida macroura</i>	Mourning Dove

From Melville-Route 110 Area DGEIS, LKB, 1987.

The 1987 DGEIS noted that the "existing woodlands, particularly the larger parcels, provide habitat for the greatest diversity of wildlife."

6.2.2 Existing Conditions – Mammals and Other Wildlife

The 1987 DGEIS listed the following six (6) mammal species found in the Melville-Route 110 Area:

<i>Diselphis virginiana</i>	Opossum
<i>Peromyscus leucopus</i>	White-footed Mouse
<i>Procyon lotor</i>	Raccoon
<i>Rattus norvegicus</i>	Brown Rat
<i>Sciurus carolinensis</i>	Common Grey Squirrel

Sylvilagus floridanus Eastern Cottontail

The 1971 publication by P.F. Connor, "The Mammals of Long Island, New York"⁷ lists additional species that occur in Long Island forest communities (his Figure 1). These may also occur on the subject site as his northern Nassau County forest is similar to the pitch pine-oak forest found on the subject property. Connor lists the following additional mammal species:

<i>Blarina brevicauda</i>	Short-tailed Shrew
<i>Microtus pennsylvanicus</i>	Meadow Mouse
<i>Pitymys pinetorum</i>	Pine Mouse
<i>Scalopus aquaticus</i>	Eastern Mole
<i>Sorex cinereus</i>	Masked Shrew
<i>Vulpes vulpes</i>	Red Fox

It is highly unlikely that any herpetofaunal species are present on the subject property as the wetlands or surface waters required for their habitat are not present.

6.2.3 Potential Impacts of Proposed Project

The development of the property would eliminate the cropland communities. Those communities, however, provide limited habitat for wildlife. The proposed landscaped areas and the two (2) ponds will make new and different habitat available, although overall open land area would be reduced. The net impact of the proposed project would be a moderate reduction in wildlife habitat due to the decrease in open area and agricultural land (fallow field and edge field), which provides food, cover and nesting material for some wildlife species.

6.2.4 Proposed Mitigation

Although habitat would be reduced, additional, though different, wildlife habitat will be created through the construction of the ponds. Aquatic and avian wildlife habitat will be created in and around the pond. Fish and amphibians, if possible, would be stocked in the pond. Once established, aquatic invertebrates and birds would also utilize the pond. Site plantings will include a preponderance of native Long Island species that will offer a more effective wildlife habitat than imported ornamentals.

⁷ CONNOR, P. F. 1971. The mammals of Long Island, New York. New York State Museum and Sci. Service Bull., 416:1-78.

7. Land Use and Zoning

7.1 Land Use

7.1.1 Existing Conditions

Recently the Town has begun the process of preparing a new Comprehensive Plan. In 2004, the Town issued a Community Visioning Report, followed in 2006 by a Comprehensive Plan Update Goals, Policies, and Action Strategies Report. The Strategic Initiatives identified through this process are:

- Enhance the efficiency of the road network to reduce traffic congestion
- Preserve open space
- Alleviate substandard housing conditions while promoting a more diverse, affordable housing stock.
- “Raise the bar” on development quality
- Improve the appearance and utility of commercial corridors.

The Generalized Future Land Use (Figure 7-1) shows the project site to be part of the Melville Employment Center.

The subject property is comprised of several tax lots (Tax Map Nos. 400-254-1-4, p/o 400-254-1-8, 400-254-1-9 and 400-254-2-4) and is currently vacant. Approximately 40 of the acres were in agricultural use.

7.1.2 Potential Impacts of Proposed Project

The land use would change from agricultural to office. The proposed office use would increase noise and traffic over the current use and would change the visual environment. The proposed use is typical of other office uses on properties adjacent to the Long Island Expressway and in the Melville-Route 110 Corridor. The Canon project will improve the character of development by providing a Silver LEED certified development that will promote corporate expansion and jobs in the Melville Employment Center.

7.1.3 Proposed Mitigation

Mitigation measures to reduce impacts on the physical environmental are discussed in the sections on topography, soils, groundwater, stormwater, and ecological resources. Proposed mitigation techniques to reduce the human impacts of the

change in land use are included in the discussions of noise, transportation, community services, visual quality, and utilities.

7.2 Zoning

7.2.1 Existing Conditions

The existing zoning for a majority of the site is Light Industry 1 (I-1). A small corner of the property is Residential 40 (R40). The proposed project meets the I-1 zoning code requirements. The bulk dimensions for the Light Industry code and the dimensions proposed for this project are listed in Table 7-1.

The site and surrounding zoning are shown in Figure 7-2. The area immediately adjacent to the site and to the south is zoned Residential 7 (R-7) and Residential 40 (R-40) to the west. The properties to the east are zoned Commercial 6 (C-6). Parcels north of the Long Island Expressway are zoned I-1, R-40, and C-10.

Table 7-1. Bulk Dimensions for Required and Provided Light Industry Zoning

ITEM	REQUIRED	PROVIDED
Min. Lot Area (Building over 58' High)	10 AC	2,272,866sf (52.17AC)
Min. Lot Width	400'	870.2'
Min. Front Yard Walt Whitman Road	100'	273' (Guard Booth) 806.7' (Bldg.); 789.8' (Garage)
Min. Side Yard (LIE South Service Road)	50'	50' (Guard Booth) 103.3" (Garage); 289.4' (Bldg.)
Min. Rear Yard	50'	266.7' (Garage); 489' (Bldg)
Max. Building Height: Stories (Height)	6 stories (90')	5 Stories and 1 Basement
Max. Lot Coverage for Principal Building (Excluding Parking Structure)	20% of 2,272,886 SF = 454,577.2 SF	Phase I = 137,423 SF ++ Phase II = 42,000 SF TOTAL = 179,423 SF (7.9%)
Residential Setback for Exterior Walls Greater than 58' Above Finished Grade	250'	289.2'

7.2.2 Potential Impacts of Proposed Project

The small area zoned R-40 will remain undeveloped. The existing I-1 zoning on the majority of the property is compatible with the adjacent commercial and industrial zoning. The Long Island Expressway to the north would serve as an effective barrier between the proposed development and uses to the north. The preservation of most of the wooded area on the western portion of the site would buffer the proposed use and the R-40 zone to the west. Minor impacts may be evident between the proposed use and the R-7 zone immediately to the south of the subject property. Agricultural open space and productive agricultural soils will be eliminated on this site.

7.2.3 Proposed Mitigation

The I-1 zoning would be adjacent to the R-7 zone immediately to the south of the subject property. The southernmost proposed structure, the parking garage, would be located 100 feet north of the property line. A berm will be constructed along the southern property line that would be planted with shrubs and trees. The berm and plantings would provide both visual and auditory mitigation. Additional site landscaping and building architectural features, described elsewhere, would provide further visual and auditory buffering, help soften the interface between the uses, and incorporate the proposed office development into the area.

Figure 7-1. Generalized Future Land Use

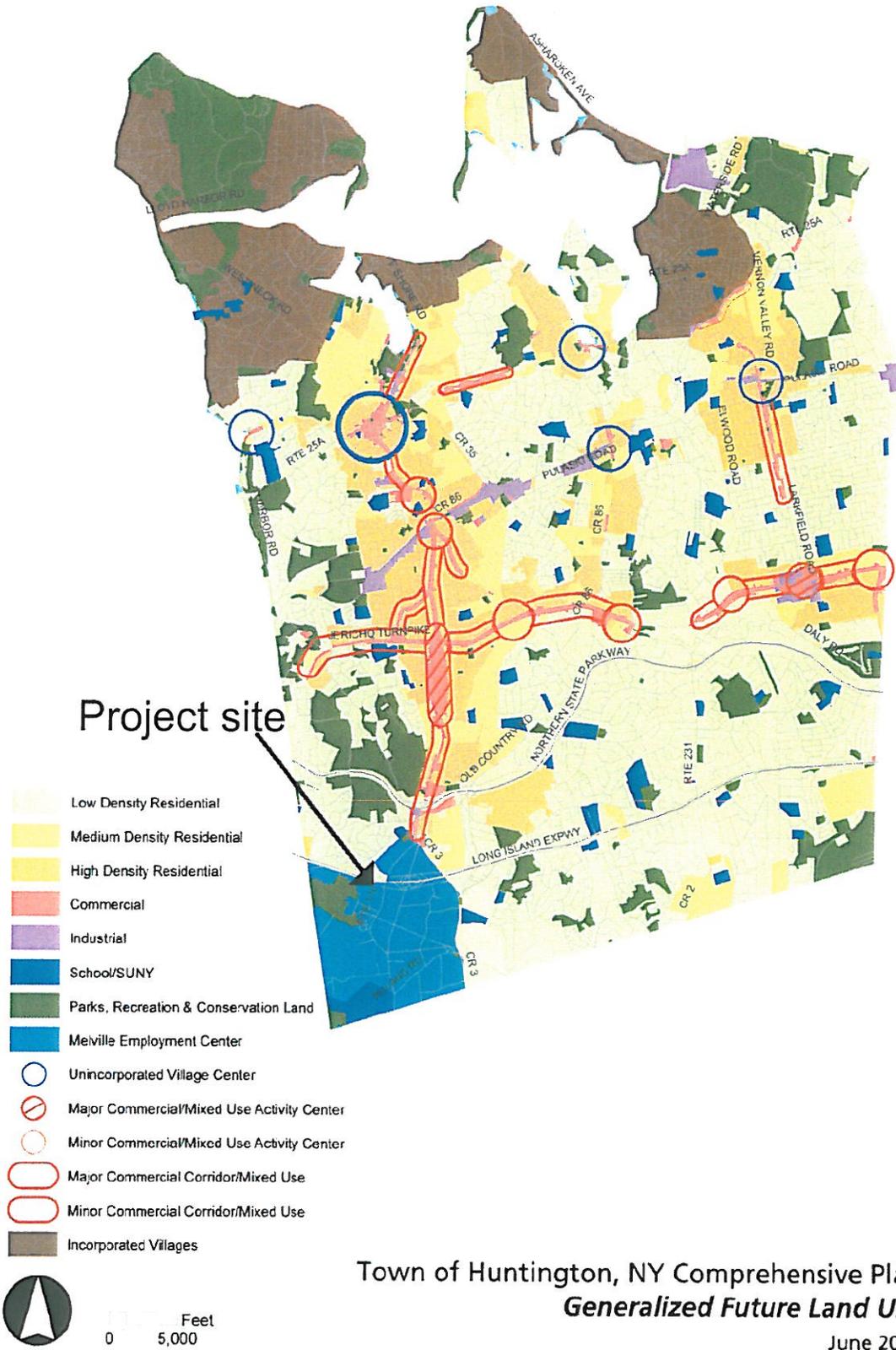
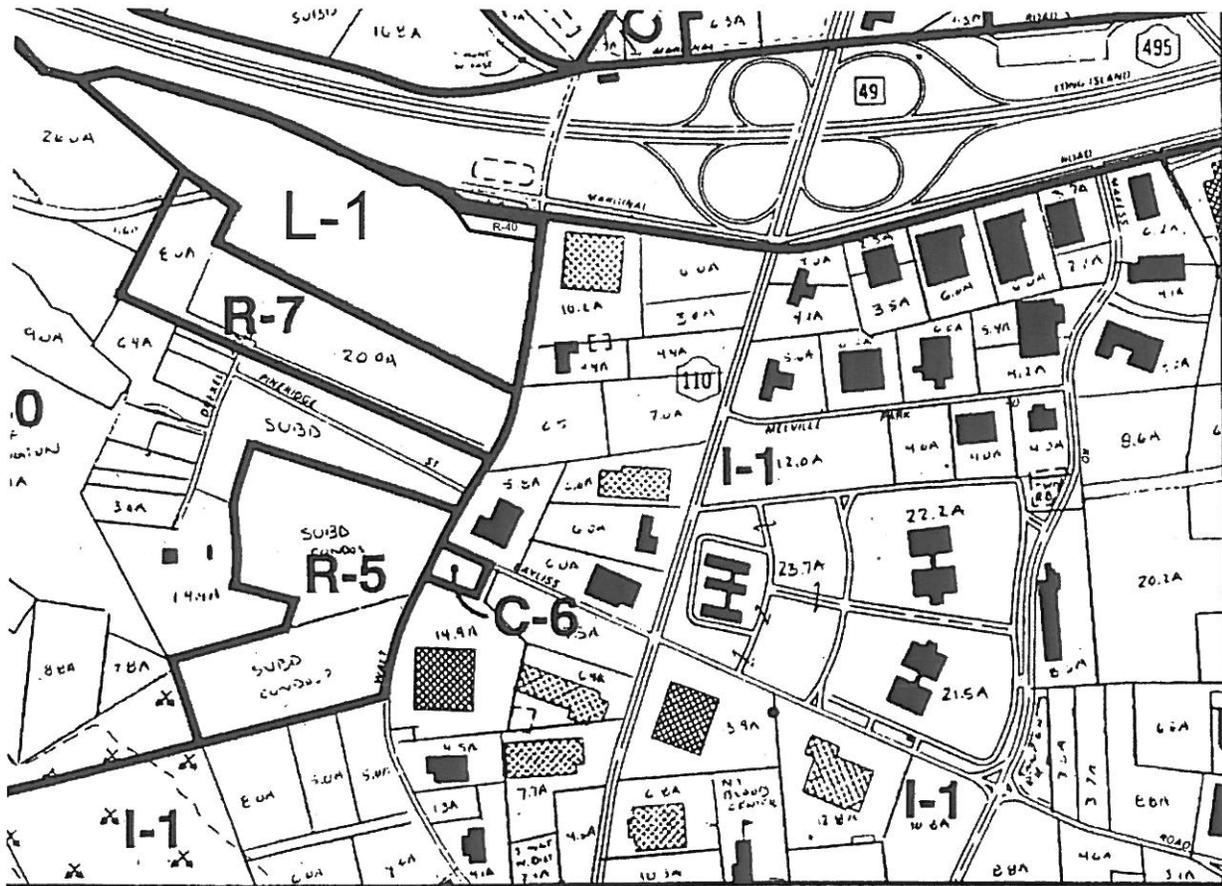


Figure 7-2. Area Zoning Map



Source: Draft Supplement to the Melville-Route 110 Area GEIS, 1993

8. Transportation

A Traffic Impact Analysis was conducted for Canon USA and completed in August 2008. The full report is found in Appendix D and is summarized below.

8.1 Traffic - Existing Conditions

8.1.1 Roadway and Intersection Descriptions

The subject property is located at the southwest corner of the Long Island Expressway (LIE) South Service Road-Old Walt Whitman Road intersection in Melville, which is part of the Town of Huntington. The property has approximately 2,500 feet of frontage along eastbound LIE South Service Road and approximately 1,200 feet of frontage along southbound Old Walt Whitman Road. A description of area uses and the surrounding roadway network are found in the Traffic Report (Appendix D). The following roadways were evaluated in the Traffic Report:

- The LIE, also known as Interstate 495
- The LIE South Service Road
- The LIE North Service Road
- Old Walt Whitman Road
- NYS Route 110
- Round Swamp Road
- Old Country Road
- Sweet Hollow Road
- Pinelawn Road
- Pineridge Street
- Northgate Circle
- Baylis Road
- Duryea Road
- Cottontail Road
- Park Drive

A description of area intersections is found in the Traffic Report (Appendix D). The following intersections were evaluated in the Traffic Report:

- Old Walt Whitman Road and LIE South Service Road
- Old Walt Whitman Road and LIE North Service Road
- Old Walt Whitman Road and Sweet Hollow Road/Pinelawn Road (C.R. 3)
- Old Walt Whitman Road and Pineridge Street
- Old Walt Whitman Road and Northgate Circle/Baylis Road
- NYS Route 110 and Old Walt Whitman Road/Duryea Road
- NYS Route 110 and LIE South Service Road
- NYS Route 110 and LIE North Service Road
- NYS Route 110 and Old Country Road
- Old Walt Whitman Road and Old Country Road
- Round Swamp Road and LIE South Service Road
- Old Walt Whitman Road and Cottontail Road
- Old Walt Whitman Road and Park Drive

8.1.2 Traffic Counts

Manual turning movement counts were collected during the typical weekday morning and evening time periods to evaluate the existing traffic conditions and identify the specific hours when traffic activity on the adjacent roadways is at a maximum and could be potentially impacted by the proposed development. The counts were collected on Thursday, January 31, 2008 from 7:00 a.m. to 9:00 a.m. and from 4:00 p.m. to 6:00 p.m. The time periods were identified based on the traffic engineering standards provided by the Institute of Transportation Engineers (ITE) and traffic characteristics associated with office developments. The following intersections were surveyed:

- Old Walt Whitman Road and Old Country Road
- Old Walt Whitman Road and Sweet Hollow Road/Pinelawn Road (C.R. 3)
- Old Walt Whitman Road and Cottontail Road
- Old Walt Whitman Road and the LIE North Service Road
- Old Walt Whitman Road and the LIE South Service Road
- Old Walt Whitman Road and the existing FedEx Driveways
- Old Walt Whitman Road and Pineridge Street
- Old Walt Whitman Road and Northgate Circle/Baylis Road
- NYS Route 110 and Old Walt Whitman Road/Duryea Road
- NYS Route 110 and Old Country Road
- NYS Route 110 and LIE North Service Road
- NYS Route 110 and LIE South Service Road
- Round Swamp Road and LIE South Service Road

Spot counts were also conducted on the LIE Exit 49S off-ramp to confirm traffic conditions during the peak times. The spot counts were collected on Thursday, June 26, from 8:00 a.m. to 9:00 a.m. and from 5:00 p.m. to 6:00 p.m.

In addition, traffic count data was obtained from the Town of Huntington for the intersection of Old Walt Whitman Road and Park Drive.

The results of the traffic count program indicate that there is a distinct hour during the weekday mornings and weekday evenings when traffic experiences its highest levels. The weekday morning peak hour was found to occur from 8:00 a.m. to 9:00 a.m., and the weekday evening peak hour was found to occur from 5:00 p.m. to 6:00 p.m.

8.1.3 Level of Service and Capacity Analysis

Level of Service/Volume-Capacity analyses were conducted for the study intersections using Synchro 6 Software and Highway Capacity Software Plus (HCS+).⁸

Table 8-1 provides the existing Levels of Service experienced at each of the signalized intersections that were analyzed utilizing HCS+ software. The signalized intersections are listed along with their overall Level of Service.

Table 8-1. Existing Conditions Analysis Utilizing HCS+ Software

Intersection	Existing LOS	
	AM	PM
NYS Route 110 and Old Walt Whitman/Duryea Road	E	F
NYS Route 110 and Old Country Road	F	F

Table 8-2 provides the existing Levels of Service experienced at each of the signalized intersections that were analyzed utilizing Synchro methodology. The signalized intersections are listed along with their overall Level of Service.

Table 8-2. Existing Conditions Analysis Utilizing Synchro Software (Synchro Methodology)

Intersection	Existing LOS	
	AM	PM
Old Walt Whitman Road and Sweet Hollow Road/Pinelawn Road (C.R. 3)	B	B
Old Walt Whitman Road and LIE North Service Road	B	D
Old Walt Whitman Road and LIE South Service Road	D	C
Old Walt Whitman Road and Pineridge Street	A	A
Old Walt Whitman Road and Northgate Circle/Baylis Road	F	C
NYS Route 110 and LIE North Service Road	C	C
NYS Route 110 and LIE South Service Road	C	E
Round Swamp Road and LIE South Service Road	C	C

Table 8-3 provides the existing Level of Service of the critical intersection approach at the unsignalized intersections analyzed utilizing HCS+ software. Note that HCS+ does not provide an overall Level of Service for unsignalized intersections.

⁸ See Technical Appendix of the Traffic Study for Level of Service/Volume-Capacity descriptions

Table 8-3. Existing Conditions Analysis for Unsignalized Intersections(HCM Methodology)

Intersection	Existing LOS	
	AM	PM
Old Walt Whitman Road and Old Country Road	F	F

Table 8-4 provides the existing Intersection Capacity Utilization (ICU) Level of Service experienced at each of the unsignalized study intersections that were obtained utilizing Synchro software.

Table 8-4. Existing Conditions Analysis for Unsignalized Intersections (Synchro Methodology)

Intersection	Existing LOS	
	AM	PM
Old Walt Whitman Road and Cottontail Road	B	A
Old Walt Whitman Road and Existing FedEx Driveway North	F	B
Old Walt Whitman Road and Existing FedEx Driveway South	D	B
Old Walt Whitman Road and Park Drive	C	A

The Traffic Study identifies several operational constraints which are fully described in that document. The individual approach delays and associated Levels of Service are shown in the Technical Appendix in the full report (Appendix D).

8.2 Traffic – Future Conditions without the Proposed Project

8.2.1 Future Base Conditions

Traffic volumes are projected two (2) years into the future utilizing local information on background traffic growth and research on projects that may influence traffic in the surrounding area prior to the opening of the proposed office development. This step in the analysis is known as the no-build condition.

It is anticipated that the proposed development will be completed within two years. An ambient growth rate was obtained from the NYSDOT, specifically for the Town of Huntington, and was applied directly to the existing traffic volumes to generate the 2010 future “base” traffic volumes, which take into account potential traffic growth peripheral to the subject site. The 2010 future “base” traffic volumes are depicted on Figures 6 and 7 of the full report (see Appendix D) for the weekday morning and evening peak hours.

8.2.2 Future Roadway Improvements

The Melville area would likely experience significant changes to its transportation roadway network over the next 2 to 4 years, based on research and continued due

diligence with the NYSDOT and the Town of Huntington, two roadway improvement projects are planned for the NYS Route 110 and Old Walt Whitman Road corridors. These projects are identified herein because they would introduce significant changes to the surrounding transportation network in an overall attempt to improve mobility throughout the Melville area. Both projects are expected to have positive effects on the Canon development project, and would comprise, in part, the off-site mitigation package identified in this report.

Roadway Improvements for Old Walt Whitman Road from NYS Route 110 to Old Country Road, NYSDOT PIN 0758.58

The Town of Huntington, with financial administration from the NYSDOT, would be initiating this project to upgrade Old Walt Whitman Road. Construction is scheduled to begin in 2009, based on information provided by the Town engineering staff. In general, the project would improve the road surface and pavement markings, replace and add traffic signal infrastructure, improve pedestrian facilities (sidewalks and ramps), and, at some intersections, improve vehicular capacity through the installation of turn bays and channelized right-turn lanes. New pavement markings would delineate a center two-way left-turn lane and new shoulder lines within the general limits of the existing pavement width.

The approved design plans were obtained from the Town and the key elements of the project incorporated into the future capacity analysis herein. Any frontage improvements identified in this assessment would be directly coordinated with the Town's project.

Northern State Parkway and LIE Interchange Improvements Project at NYS Route 110, NYSDOT PIN 0516.41

The NYSDOT has proposed a series of roadway improvements that would upgrade the NYS Route 110 corridor and its junctions with Old Country Road, the Northern State Parkway and the LIE. Based on information obtained from the NYSDOT's project management staff, the improvement project would be phased in two parts: Phase 1, which extends northerly from the LIE to Arlington Street, is scheduled for construction in 2009; Phase 2, which extends northerly from Arlington Street to Arrowwood Lane (incorporating the Northern State Parkway interchange), is scheduled for construction in 2010. In general, the project would add one northbound and one southbound travel lane on NYS Route 110, beginning at

Arrowwood Lane and meeting the existing 6-lane section just south of the LIE. Consequently, other major improvements are proposed, including a full bridge replacement at the Northern State Parkway, reconfiguration and signalization of the Old Walt Whitman Road-Old Country Road intersection, and miscellaneous capacity upgrades to the LIE Service Roads and other key intersections within the project limits.

The approved design plans and design report were obtained from the NYSDOT and the key elements of the project incorporated into the future capacity analysis. Any off-site improvements identified would be coordinated with the NYSDOT's project during the permit review process.

For additional information pertaining to how these projects relate to the future traffic conditions and proposed mitigation package, please refer to the Recommended Mitigation Measures (Section 8.4) and the Traffic Report (Appendix D).

8.2.3 Other Planned Development

Based on research with the New York State Department of Transportation and the Town of Huntington, a 103,000-square-foot Rubie's Costume Company office complex, consisting of 91,800 square feet of office space, an 8,000-square-foot restaurant, and a 3,200-square-foot bank, is proposed to be constructed at the southwest corner of the NYS Route 110-LIE South Service Road intersection. Traffic volumes associated with the Rubie's Costume Company office building were obtained from the Traffic Impact Study last revised November 2006 prepared by RMS Engineering. The traffic volumes attributed to this other planned development are illustrated in Figures 8 and 9 of the Technical Appendix of the Traffic Report (Appendix D).

8.2.4 Future No-Build Traffic Volumes

The volumes from the other area development were added to the 2010 future "base" traffic volumes to develop the 2010 future "No-Build" traffic volumes. Figures 10 and 11 of the Technical Appendix (Appendix D) depict the 2010 future "No-Build" traffic volumes for the study peak hours.

8.3 Traffic – Future Conditions with the Proposed Project

8.3.1 ITE Trip Generation

The volume of trips generated by the proposed development was determined by using standard calculations compiled by the Institute of Transportation Engineers (ITE) in its 7th edition of Trip Generation, 2003. The trip generation was calculated as Land Use 710, “General Office Building,” for the proposed 900,000-square-foot development. The Trip Generation for the proposed development is summarized in the table below:

Table 8-5. Trip Generation for the Proposed Project

	Weekday Morning Peak Hour	Weekday Evening Peak Hour
Entering	1,224	225
Exiting	171	1,116
Total	1,395	1,341

8.3.2 Trip Distribution

The site-generated traffic attributed to the proposed office development has been assigned to the roadway network based on current employee zip code data derived from the Lake Success Canon office complex and a reasonable assumption of modification to that traffic assignment as a result of the future relocation to Melville. Analysis of the data indicates that of the Long Island employee base, 75% reside in Nassau County and 25% reside in Suffolk County. Based on the population density of Nassau County, it is expected that the majority of traffic associated with the proposed office complex in Melville would still be drawn from Nassau County. However, with the relocation to Melville, it is anticipated that the Nassau County employee base would reduce by 25% in the future to account for employee relocations and new hires, therefore reflecting a more balanced distribution of traffic.

The resulting traffic distribution and assignment of the future site-generated traffic to the adjacent roadway network utilized for this study is shown in Figures 14 through 21 the Technical Appendix of the Traffic Report (Appendix D) for the weekday morning and weekday evening peak hours. Note, at the proposed LIE South Service Road site driveway, vehicles would only be able to enter the site during the morning peak period and exit during the evening peak period. Please note that no additional consideration was given for mass transportation or ride-share specific to this office development. To lessen the impact of Canon’s trip generation on the peak hour of the

adjacent roadway network, Canon has committed to implementing the following staggered arrival-departure hours program:

- 8:00 a.m. – 4:00 p.m.
- 8:30 a.m. – 4:30 p.m.
- 9:00 a.m. – 5:00 p.m.
- 9:30 a.m. – 5:30 p.m.

As a result, it would be expected that the trip generation of the proposed office building would be spread throughout the morning and evening periods and therefore the analysis contained herein which superimposes all of the site generated traffic onto the single busiest hour during the morning and evening peak periods would represent a “worst-case” scenario.

8.3.3 Future “Build” Traffic Volumes

The 2010 future “Build” traffic volumes were established by surcharging the site-generated traffic volumes onto the 2010 future “No-Build” traffic volumes. The resulting 2010 future “Build” traffic volumes are shown on Figures 22 and 23 of the Traffic Study (Appendix D).

8.3.4 Future “Build” Traffic Analysis

Level of Service/Volume-Capacity analyses were conducted under the future no-build and build conditions. Note that the following “No-Build” and “Build” analyses only incorporate the Town of Huntington’s proposed roadway improvements along Old Walt Whitman Road.

The following Table 8-6 provides the future “No-Build” and “Build” Levels of Service at each of the signalized intersections that were analyzed utilizing HCS+ software. The signalized intersections are listed along with their overall Level of Service.

Table 8-6. No-Build and Build Analysis for Signalized Intersections (HCM Methodology)

Intersection	No Build/Build LOS	
	AM	PM
NYS Route 110 and Old Walt Whitman/Duryea Road	E/E	F/F
NYS Route 110 and Old Country Road	F/F	F/F

Table 8-7 provides the future “No-Build” and “Build” Levels of Service of each of the signalized intersections that were analyzed utilizing Synchro methodology in Synchro software. The signalized intersections are listed along with their overall Level of Service.

Table 8-7. No-Build and Build Analysis for Signalized Intersections (Synchro Methodology)

Intersection	No Build/Build LOS	
	AM	PM
Old Walt Whitman Road and Sweet Hollow Road/Pinelawn Road (C.R. 3)	B/C	B/B
Old Walt Whitman Road and LIE North Service Road	B/D	D/F
Old Walt Whitman Road and LIE South Service Road	D/D	C/E
Old Walt Whitman Road and Pineridge Street	A/A	A/A
Old Walt Whitman Road and Northgate Circle/Baylis Road	A/B	A/A
NYS Route 110 and LIE North Service Road	D/E	C/D
NYS Route 110 and LIE South Service Road	D/D	F/F
Round Swamp Road and LIE South Service Road	C/D	C/C
Old Walt Whitman Road and Park Drive	A/A	A/A
Proposed Canon Main Site Driveway/Existing FedEx Driveway South & Old Walt Whitman Road	-/B	-/F

Table 8-8 provides the “No-Build” and “Build” Level of Service at the unsignalized intersections that were analyzed utilizing HCS+ software.

Table 8-8. No-Build and Build Analysis for Unsignalized Intersections (HCM Methodology)

Intersection	No-Build/Build LOS	
	AM	PM
Old Walt Whitman Road and Old Country Road	F/F	F/F
Proposed Site Driveway & LIE South Service Road	-/-	-/D

Table 8-9 provides the “No-Build” and “Build” Intersection Capacity Utilization (ICU) Levels of Service experienced at each of the unsignalized study intersections that were analyzed utilizing Synchro software.

Table 8-9. No Build and Build Analysis for Unsignalized Intersections (Synchro Methodology)

Intersection	No Build/Build LOS	
	AM	PM
Old Walt Whitman Road and Cottontail Road	B/B	A/A
Old Walt Whitman Road and Existing FedEx Driveway North	E/A	B/A
Proposed Canon South Driveway & Old Walt Whitman Road	-/A	-/A

The Traffic Report identified persisting capacity constraints or changes in level of service at many of these intersections. The individual approach delays and associated Levels of Service are shown in the Technical Appendix (see Traffic Report Appendix D).

8.4 Traffic - Recommended Mitigation

To address existing roadway network constraints as well as the anticipated impact associated with the proposed Canon Americas Headquarters, a series of mitigation measures within the surrounding roadway network have been identified. The mitigation package maintains the calculated base "No-Build" traffic condition at the intersections under review by introducing capacity upgrades, and, in some areas, incorporating the NYSDOT and Town of Huntington's improvement projects as discussed earlier. These agencies have proposed improvements that are extensive in scope and aim to address the area-wide transportation welfare. As a result, Canon's proposed mitigation improvements are assumed to be implemented when the NYSDOT and the Town of Huntington construct their respective projects, rather than being directed by Canon's construction schedule.

The following mitigation package includes improvements to the area-wide transportation network that would be required to address Canon's traffic impact on the noted intersections. These modifications are regionalized improvements and are not necessarily required for the efficient ingress to and egress from the site itself. As such, the funding and implementation mechanisms for these improvements are expected to be derived from public entities that may view them as significant benefits to the traveling public, in addition to just Canon's employees and visitors. Meetings have been conducted, and will continue to be conducted under the leadership of the Town of Huntington, to fashion sources of funds to implement these off-site mitigation recommendations. These improvements are described in detail and comprise the "Build with Mitigation" scenario.

The Traffic Study (Appendix D) includes Conceptual Roadway Improvement Plans which depict the frontage improvements associated with the Canon project and their connection to the adjacent corridor improvements proposed by the Town of Huntington and the NYSDOT. Additionally, a table containing the various proposed mitigation measures and associated timeframes is provided in Appendix D to summarize the planned improvement programs.

8.4.1 Signalized Intersections Analyzed with HCS+ Software

NYS Route 110 and Old Walt Whitman Road/Duryea Road

Signal timing modifications are recommended during both peak hours. With the implementation of these timing modifications, the overall Level of Service of the "Build" condition would be consistent with the "No-Build" Level of Service during both peak hours. During the weekday morning peak hour, the northbound Route 110 left-turn movement would degrade to a Level of Service "E". Despite this degradation, the overall intersection will continue to operate at the "No-Build" Level of Service "E" and the southbound NYS Route 110 through movement would improve to a Level of Service "D". During the weekday evening peak hour, the eastbound Old Walt Whitman Road/Duryea Road approach would improve to a Level of Service "C". In addition, the westbound Old Walt Whitman Road/Duryea Road right-turn movement would improve to a Level of Service "C", the northbound NYS Route 110 through movement would improve to a Level of Service "D", the northbound right-turn movement would improve to a Level of Service "B", and the southbound right-turn movement would improve to a Level of Service "B" during the weekday evening peak hour. Note that NYSDOT's proposed roadway improvements do not include this intersection.

NYS Route 110 and Old Country Road

The NYSDOT's planned improvements to the NYS Route 110-Old Country Road intersection were incorporated into the "Build with Mitigation" analysis. The modifications include the addition of one (1) exclusive left-turn lane along the westbound Old Country Road approach and one (1) exclusive through lane along the northbound and southbound NYS Route 110 approaches. The NYSDOT project also proposes the extension of Old Walt Whitman Road, which is located immediately west of this intersection. This extension would connect Old Walt Whitman Road to southbound NYS Route 110, and was incorporated into this analysis. It should be noted that a percentage of the traffic currently making a right-turn movement from southbound NYS Route 110 to westbound Old Country Road would execute this turn at the Old Walt Whitman Road extension. Therefore, the traffic volumes have been modified accordingly in the "No-Build" with Town and NYSDOT improvements and the "Build with Mitigation" analyses. It is expected that the proposed roadway modifications, as well as signal timing changes would improve the "Build" condition such that the intersection would perform with less overall delay than in the "No-

Build” condition. The overall delay decreases by 36.8 seconds and 37.0 seconds during the weekday morning and weekday evening peak hours, respectively, when compared to the “No-Build” with Town and NYSDOT improvements condition. Further, the overall intersection improves to operate at a Level of Service “E” during the weekday evening peak hour.

The following table presents a comparison of the overall Levels of Service at the signalized intersections under the “No-Build” with Town and NYSDOT roadway improvements and “Build with Mitigation” scenarios utilizing HCS+ software.

Table 8-10. Signalized Intersections - No-Build with Improvements & Build with Mitigation (HCS+)

Intersection	No-Build With Town & NYSDOT / Build with Mitigation	
	AM	PM
NYS Route 110 and Old Walt Whitman/Duryea Road	E/E	F/F
NYS Route 110 and Old Country Road	F/F	F/E

8.4.2 Signalized Intersections Analyzed with Synchro Software

The following sub-section presents the “No-Build” with Town and NYSDOT improvements and the “Build with Mitigation” scenarios for the intersections analyzed using Synchro Software.

Old Walt Whitman Road and Sweet Hollow Road/Pinelawn Road (C.R. 3)

Signal timing modifications are proposed at the Old Walt Whitman Road-Sweet Hollow Road/Pinelawn Road intersection. As a result of the signal timing improvements, the southbound Old Walt Whitman Road through movement, during the weekday morning peak hour, would degrade to a Level of Service “C”, while the westbound left-turn movement would improve to a Level of Service “C”. During the evening peak hour, each movement is expected to operate at “No-Build” with Town and NYSDOT improvements Levels of Service.

Old Walt Whitman Road and LIE North Service Road

Similar to the LIE South Service Road, the NYSDOT’s improvement project proposes an additional through lane at the westbound approach to the NYS Route 110-LIE North Service Road intersection. This action would require widening along the LIE North Service Road, and it is reasonable to assume that the improvement could be extended west to the Old Walt Whitman Road intersection as well. The

“Build with Mitigation” analysis includes an additional westbound through lane on the LIE North Service Road to complement the NYSDOT’s improvement project and address capacity constraints at the intersection. It is recommended that the northbound Old Walt Whitman Road approach at LIE North Service Road be reconfigured to provide two (2) exclusive left-turn lanes and one (1) exclusive through lane. The recommended mitigation, along with signal timing modifications and the new westbound through lane proposed under the NYSDOT project, would allow the overall intersection to operate at the “No-Build” with Town and NYSDOT improvements Level of Service “B” during the weekday morning peak hour. It should be noted that there is a slight decrease in overall intersection delay of 0.6 seconds when analyzed under the “Build with Mitigation” scenario. During the evening peak hour, the overall intersection is expected to operate at a “No-Build” with Town and NYSDOT improvements Level of Service “D”. It should be noted that the northbound left-turn movement would degrade to a Level of Service “C” and the southbound through movement and southbound right-turn movement would improve to a Level of Service “C” and a Level of Service “E”, respectively.

Old Walt Whitman Road and LIE South Service Road

The NYSDOT’s improvement project proposes an additional through lane at the eastbound approach to the NYS Route 110-LIE South Service Road intersection. This action would require widening along the LIE South Service Road, and it is reasonable to assume that the improvement could be extended westerly to the Old Walt Whitman Road intersection. The “Build with Mitigation” analysis includes an additional eastbound through lane on the LIE South Service Road to complement the NYSDOT’s improvement project and address capacity constraints at the intersection. In addition, it is recommended that the southbound Old Walt Whitman Road approach be reconfigured to provide one (1) exclusive left-turn lane and two (2) exclusive through lanes. This recommended mitigation, along with signal timing modifications, would improve the overall intersection from Level of Service “D” in the “No-Build” with Town and NYSDOT improvements condition to Level of Service “B” in the “Build” with mitigation condition during the morning peak hour. During the evening peak hour, the overall intersection would also improve from a “No-Build” with Town and NYSDOT improvements Level of Service “D” to a Level of Service “C”.

Old Walt Whitman Road and Pineridge Street

During the morning peak hour, the eastbound approach would degrade slightly to a Level of Service "C" with the implementation of signal timing modifications. Although a degradation would be anticipated, the overall intersection would continue to operate at the "No-Build" with Town and NYSDOT improvements Level of Service "A" with a slight increase in delay of only 1.2 seconds. During the evening peak hour, the overall intersection is expected to degrade to a Level of Service "C". Please note that although a degradation would occur, a Level of Service "C" is still highly acceptable per traffic engineering design standards.

Old Walt Whitman Road and Northgate Circle/Baylis Road

Signal timing modifications are recommended at the Old Walt Whitman Road intersection with Northgate Circle/Baylis Road. The eastbound and westbound approaches to the intersection would degrade to a Level of Service "D" and a Level of Service "C", respectively, while the southbound approach would improve to a Level of Service "A" during the weekday morning peak hour. Although a degradation along certain approaches would be anticipated, the overall intersection would improve to operate at an overall Level of Service "A" with a slight decrease in delay of 2.4 seconds. During the evening peak hour, the eastbound and westbound approaches to the intersection would degrade to a Level of Service "C" and "B", respectively, while the southbound approach would improve to a Level of Service "A". However, it should be noted that the overall intersection would operate at a "No-Build" with Town and NYSDOT improvements Level of Service "A" with a slight decrease in overall intersection delay of 0.8 seconds.

NYS Route 110 and LIE North Service Road

The NYSDOT's project, which involves an additional LIE North Service Road through lane, was also incorporated in the "Build with Mitigation" analysis at this intersection. An additional through lane along the LIE North Service Road would alleviate capacity constraints on the westbound approach of this intersection. During the weekday morning peak hour, the proposed signal timing modifications cause a degradation in the overall intersection Level of Service to a "C" but improve the northbound left-turn movement to operate at a Level of Service "B". During the weekday evening peak hour, the overall intersection would degrade to a Level of Service "C" with a slight increase in delay of 3.2 seconds. The westbound right-turn

movement is expected to degrade to a Level of Service "C" and the northbound left-turn movement is expected to improve to a Level of Service "B".

NYS Route 110 and LIE South Service Road

The roadway improvements associated with the NYSDOT's project have been incorporated in the "Build with Mitigation" analysis at this intersection. The NYSDOT project involves the addition of one (1) through lane along the LIE South Service Road. The additional through lane, along with signal timing modifications, would decrease the overall intersection delay by 1.3 seconds during the weekday morning peak hour when compared to the "No-Build" condition incorporating the Town and NYSDOT roadway improvements. The recommended mitigation would allow the overall intersection to continue to operate at the "No-Build" with Town and NYSDOT improvements Level of Service "C" and also improve the southbound NYS Route 110 approach to operate at a Level of Service "B", during the weekday morning peak hour. During the weekday evening peak hour, the overall intersection would degrade to a Level of Service "F". The northbound approach to the intersection is expected to operate at the "No-Build" with Town and NYSDOT improvements Level of Service "E", the eastbound approach to the intersection is expected to degrade to a Level of Service "F", and the southbound approach to the intersection is expected to improve to a Level of Service "B".

Round Swamp Road and LIE South Service Road

Signal timing modifications are proposed at the Round Swamp Road and LIE South Service Road intersection. With the signal timing changes, the overall intersection is expected to degrade from a "No-Build" with Town and NYSDOT improvements Level of Service "C" to a Level of Service "D" during the weekday morning peak hour. Please note that although a degradation would occur, a Level of Service "D" is an acceptable Level of Service per traffic engineering design standards. During the weekday evening peak hour, each approach to the intersection is expected to operate at "No-Build" with Town and NYSDOT improvements Levels of Service and the overall intersection is expected to operate at a "No-Build" Level of Service "C".

Park Drive and Old Walt Whitman Road

Signal timing modifications are proposed at the intersection of Park Drive and Old Walt Whitman Road. With the signal timing changes, each approach to the intersection is expected to operate at "No-Build" with Town and NYSDOT

improvements Levels of Service during the weekday morning peak hour as well as the weekday evening peak hour.

Canon Main Driveway and Old Walt Whitman Road

A signalized access point would be constructed as part of the development proposal at the Old Walt Whitman Road intersection formed by the existing southerly FedEx driveway and Canon's proposed main driveway. The "Build with Mitigation" condition incorporates one (1) additional southbound through lane and one (1) additional southbound right-turn bay on Old Walt Whitman Road. The additional southbound through lane would extend along the site's Old Walt Whitman Road frontage. The additional pavement width would meet the presently widened section of road just south of the Canon site at Paumonauk Hills Court and be configured as a southbound right-turn lane for the adjacent residential complex. To the north, the additional pavement width would meet the expanded southbound approach at the Old Walt Whitman-LIE South Service Road intersection. Under "Build with Mitigation" conditions, this intersection will operate at an overall Level of Service "B" during the morning peak hour and an overall Level of Service "D" during the evening peak hour.

The following lists respectively provide the future "No-Build" with Town and NYSDOT improvements and the "Build with Mitigation" Levels of Service at each of the signalized intersections analyzed in Synchro. The signalized intersections are listed along with their overall Level of Service.

Table 8-11. Signalized Intersections - No-Build with Improvements & Build with Mitigation (Synchro)

Intersection	No-Build with Town & NYSDOT / Build with Mitigation	
	AM	PM
Old Walt Whitman Road and Sweet Hollow Road/Pinelawn Road (C.R. 3)	B/C	B/B
Old Walt Whitman Road and LIE North Service Road	B/B	D/D
Old Walt Whitman Road and LIE South Service Road	D/B	D/C
Old Walt Whitman Road and Pineridge Street	A/A	A/B
Old Walt Whitman Road and Northgate Circle/Baylis Road	B/A	A/A
NYS Route 110 and LIE North Service Road	B/C	B/C
NYS Route 110 and LIE South Service Road	C/C	D/F
Round Swamp Road and LIE South Service Road	C/D	C/C
Old Walt Whitman Road and Park Drive	A/A	A/A
Proposed Canon Main Site Driveway/Existing FedEx Driveway South & Old Walt Whitman Road	-/B	-/D

8.4.3 Old Walt Whitman Road – Coordinated Traffic Signal Network

The existing traffic signals on Old Walt Whitman Road at Pineridge Street and Northgate Circle/Baylis Road would be replaced as part of the planned corridor improvement project. Together with the proposed traffic signal to be installed at Park Drive under the same improvement project, the Town may consider implementing a coordinated traffic signal network to improve throughput and vehicle progression within the corridor. The addition of a new traffic signal at Canon's main access point would result in four (4) signalized intersections on Old Walt Whitman Road between the LIE South Service Road and NYS Route 110. In an effort to provide the Town with a recommendation for an optimized network to serve the traveling public as well as the future Canon office complex, Atlantic Traffic developed a preliminary Coordinated Traffic Signal Network Plan under the Build with Mitigation scenario utilizing the Synchro Signal Coordination Methodology. Coordination means that there is a predictable time relationship between the operation of each signal relative to the operations of each of the other signals located within the specific system or zone. The above-mentioned intersections were segregated from the remainder of the Synchro network and optimized during the weekday morning and evening peak hours. Please note that while the existing traffic signals at the LIE North and South Service Roads are in close proximity to the four under consideration here, they are part of NYSDOT's INFORM system and would not be fully integrated into a Town-maintained network. (However, it may be possible for the Town to implement a "force-off" from the LIE South Service Road intersection in an attempt to link the two separate networks.)

The table below summarizes the recommended cycle length and offset parameters for each traffic signal on Old Walt Whitman Road between the LIE South Service Road and NYS Route 110. Please note that the design of this network should be adjusted based on further consultations with the Town of Huntington and its traffic consultant as the Reference Phase/Offset Settings may require adjustment based on the Town's implementation plan and the types of controller units typically utilized by the Town of Huntington. The parameters below, as well as all other traffic signal timing parameters, are provided in the appended Synchro output sheets in Appendix D.

Table 8-12 Cycle Length and Offset Parameters

Intersection	Cycle Length (sec.)	
	AM/PM	Offset (sec.) AM/PM
Canon/FedEx	100/100	76/72
Pineridge Street	100/100	94/84
Northgate Circle/Baylis Road	100/100	0/0
Park Drive*	50/50	3/39

*Half and double cycle lengths can function in coordinated traffic signal networks

8.4.4 Unsignalized Intersections Analyzed with HCS+ Software

Old Walt Whitman Road and Old Country Road

The proposed NYSDOT modifications at this intersection involve the installation of a traffic signal. The traffic signal would be installed to operate in coordination with the NYS Route 110 and Old Country Road signal. The installation of a traffic signal at this intersection would improve the delays at the northbound and southbound approaches to the intersection. Note that this mitigation analysis incorporates the anticipated re-routing of traffic volumes based on the NYSDOT Planned extension of Old Walt Whitman Road to meet NYS Route 110 just south of the Northern State Parkway. The intersection would continue to operate at the “No-Build” Levels of Service with the build out of the Canon Development when compared to the “No-Build” condition incorporating the Town and NYSDOT improvements.

The following table presents the overall Levels of Service at the unsignalized intersection under the “No-Build” with Town and NYSDOT improvements and the “Build with Mitigation” scenarios utilizing HCS+ software.

Table 8-13. Unsignalized Intersections - No-Build with Improvements & Build with Mitigation (HCS+)

Intersection	No-Build with Town & DOT / Build with Mitigation	
	AM	AM
Old Walt Whitman Road and Old Country Road	C/C	B/C

8.4.5 Unsignalized Intersections Analyzed with Synchro Software

Old Walt Whitman Road and Cottontail Road

Under the “Build with Mitigation” scenario, the intersection of Old Walt Whitman Road and Cottontail Road will continue to operate at “No-Build” ICU Levels of Service with the build out of the Canon Development when compared to the “No-

Build” condition incorporating the Town and NYSDOT improvements during both peak periods.

Old Walt Whitman Road and Existing FedEx North Driveway

Under the current development proposal, the northerly FedEx driveway would be configured to operate as a right-turn egress-only driveway, which is expected to improve the ICU Level of Service at this intersection. As such, the overall intersection is calculated to improve to an ICU Level of Service “A” during both peak periods.

Proposed Canon South Driveway and Old Walt Whitman Road

One of the proposed “Build with Mitigation” improvements includes one (1) additional southbound through lane on Old Walt Whitman Road. The additional southbound through lane would extend along the site’s Old Walt Whitman Road frontage. The additional pavement width would meet the presently widened section of road just south of the Canon site at Paumonauk Hills Court and be configured as a southbound right-turn lane for the adjacent residential complex. With this improvement, the overall Level of Service at the proposed Canon South Driveway intersection is calculated to have an ICU Level of Service “A” during both peak periods under the “Build with Mitigation” scenario.

The following table presents the overall ICU Levels of Service at the unsignalized intersections under the “No-Build” with Town and NYSDOT improvements and the “Build with Mitigation” scenario utilizing Synchro software.

Table 8-14. Unsignalized Intersections - No-Build with Improvements & Build with Mitigation (Synchro)

Intersection	No-Build with Town & DOT / Build with Mitigation	
	AM	AM
Old Walt Whitman Road and Cottontail Road	B/B	A/A
Old Walt Whitman Road and Existing FedEx Driveway North	E/A	B/A
Proposed Canon South Driveway & Old Walt Whitman Road	-/A	-/A

8.5 Weaving Analysis

A Weaving Analysis was conducted at the LIE eastbound Exit 48 (Round Swamp Road) off-ramp and the LIE eastbound Exit 49S (Old Walt Whitman Road) off-ramp. A Synchro/SimTraffic analysis was conducted demonstrating the peak hour operating

conditions of the two weaving segments under four (4) scenarios: Existing, No Build, Build, and Build with Mitigation.

The analysis indicates that the introduction of Canon's site traffic to these locations will be adequately served within the weaving segments identified above. The juxtaposition of the morning and evening split of site traffic and the adjacent peak roadway volumes demonstrates that Canon's peak arrival and departure times do not coincide with the peak periods of adjacent roadway activity. In general, the LIE South Service Road traffic volumes at Exit 48 are higher in the evening when Canon's additional traffic is projected to be comparatively low. Similarly, the LIE South Service Road traffic volumes are much higher in the morning when Canon's additional traffic is also projected to be comparatively low. In this manner, the anticipated site-generated volumes can be introduced into the surrounding roadway network in a safe and efficient manner as proposed within the site access management program.

8.6 Corporate Trip Reduction Initiatives

In an effort to reduce the number of daily employee trips and to meet Leadership in Energy and Environmental Design (LEED) requirements, Canon U.S.A., Inc. has approved the following Employee Trip Reduction Initiatives for the new corporate headquarters:

- Commuter Choice Program
 - Coordinate with Long Island transportation management to arrange a Commuter Choice Fair where transit and other commuter information would be distributed to employees (took place on April 22, 2008).
 - Investigate the Commuter Choice Program so transit benefits can be paid with pre-tax dollars for employees.
 - Provide incentives to carpool.
 - Implement a "guaranteed ride program" to ensure a ride home for carpoolers in a time of emergency.
 - Encourage public transit and vanpools.
 - Evaluate a shuttle service between the train stations and Canon.
 - Provide reserved parking for both hybrid and electric vehicles and electric power sources/ outlets for recharging.

- Encourage use of bicycles by providing 40 bicycle spaces.
- Implementation of the following employee staggered arrival-departure program to minimize the concentration of site-generated traffic on the adjacent roadway network during peak hours:
 - 8:00 a.m. to 4:00 p.m.
 - 8:30 a.m. to 4:30 p.m.
 - 9:00 a.m. to 5:00 p.m.
 - 9:30 a.m. to 5:30 p.m.

The number of employees assigned to each pair of arrivals and departures would be determined as the corporate operation in Melville solidifies. These assignments will be based in part on where Canon's employees reside at the time the new office complex opens. The anticipated changes in the employee zip code distribution, as noted in the Trip Distribution section of this document, would be expected to affect the breakdown of the employee base in to the staggered arrival/departure program.

- Extend the time period that the departure gates are open as a result of the staggered arrivals/departures program so as to promote the progression of outbound traffic. Presently, the departure gate at the Lake Success facility is open from 5:00 p.m. to 5:30 p.m. only.
- Provide a bus stop for the MTA Long Island Bus line N95 along the Old Whitman Road site frontage.

Canon is also considering the following initiatives to further reduce employee traffic:

- Provide shuttle buses to and from the nearby Long Island Rail Road stations.
- Provide incentives for not using parking spaces.

An additional discussion on some of the above initiatives is provided in the following section, "Site Access and Circulation." Please note that in order to provide conservative analyses, credit for these employee trip reduction initiatives has not been applied to the traffic analyses provided herein. These initiatives would help reduce daily traffic to and

from the site, and in that regard the traffic analysis overestimates the peak hour projections of traffic impact on the surrounding roadways.

8.7 Site Access and Circulation

A review has been made of the Site Plan for the proposed Canon Americas Headquarters prepared by Bohler Engineering and HOK Architects. Based on the proposed site layout, the Traffic Study (Appendix D) provided a summary of the key on-site elements. The following items address site access and on-site circulation.

Access

- Primary access along LIE South Service Road is proposed via one (1) right-turn ingress/right-turn egress unsignalized access point that would be subject to entering and exiting restrictions based on the time of day. This access point is proposed to be located west of the Exit 49S off-ramp from the Long Island Expressway to address NYSDOT concerns. No form of access is provided along the Long Island Expressway South Service Road between the Exit 49S off-ramp and Old Walt Whitman Road. Access would also be provided via two (2) full-movement driveways and one right-turn ingress only driveway along southbound Old Walt Whitman Road. The central driveway along Old Walt Whitman Road is proposed to be signalized and would serve as the office complex's main access point. The southerly proposed driveway along Old Walt Whitman Road would be primarily utilized by truck deliveries and employees and the northerly access point would accommodate inbound traffic during peak arrival periods.
- Based on "A Toolbox for Alleviating Traffic Congestion and Enhancing Mobility" published by the ITE, a reversible lane system is one of the most efficient methods of increasing rush-period capacity on a roadway. Once a reversible system is deemed necessary and feasible, the method of designating lanes to be reversed and the direction of flow must be selected. Three general methods are used to accomplish a reversible system and as such, it is proposed that the following are utilized for the Canon internal roadway system:
 - special traffic signals suspended over each lane
 - permanent signs advising motorists of the changes in traffic regulations and the hours they are in effect
 - physical barriers, such as traffic cones

These recommendations are also contained within the National Cooperative Highway Research Program "Convertible Roadways and Lanes, Synthesis 340" document.

- As the travel section parallel to the LIE South Service Road would be utilized reversibly (AM inbound, PM outbound), it is recommended that Figure 3B-6 of the Federal Manual of Uniform Traffic Control Devices (MUTCD) be consulted in the design of the necessary pavement markings and signage provisions along this on-site roadway. The lane lines should consist of broken double yellow lines to delineate the edge of each lane, as shown in the above-mentioned figure. It is also recommended that lane-use control LED signals be provided on an overhead structure within the reversible lanes section. A steady downward green arrow signal indication shall mean that a road user is permitted to travel in the lane over which the green arrow signal indication is located. A steady red "X" signal indication shall mean that a road user is not permitted to use the lane. The bottom of the signal housing of any lane-use control signal face shall be at least 15 feet but no more than 19 feet above pavement grade (Section 4J, MUTCD).
- The internal layout of the site access facilities would assist in balancing the external distribution of traffic to the adjacent roadway network. The driveway location along the LIE South Service Road would be designed to provide adequate separation distance from the Exit 49S off-ramp to minimize weaving conflicts along the site frontage. Employees looking to access the site from the LIE South Service Road would need to use Exit 48 (Round Swamp Road) as the driveway is proposed to be located west of the Exit 49S off-ramp.
- Each access point would be equipped with a guard booth and electronic remote access (similar to the E-Z Pass system). These checkpoints would be located far enough into the site to minimize the potential for queuing issues on the public roadways.
- A public bus stop for the MTA Long Island Bus Route 95 is proposed along the site's Old Walt Whitman Road frontage. This would afford employees and staff the ability to choose an alternative means of transportation, which in turn works to reduce the number of trips made to and from the complex via personal auto. This bus stop must be evaluated and approved by the MTA Long Island Bus Company.
- A circular drop-off area would be provided in front of the main building entrance to facilitate visitors, deliveries and visiting corporate dignitaries.

Parking

- The office building would be served by two (2) parking garages, one each on the north and south sides of the property. The opportunity for employee access on both the LIE South Service Road and Old Walt Whitman Road would distribute traffic effectively to both parking garages.
- This circular area would also provide two bus stops to be utilized by Canon shuttle buses to/from the nearby Long Island Rail Road (LIRR) stations at Farmingdale and Huntington. This area would be flanked by a visitor parking area providing approximately 200 parking stalls.

Deliveries

- Primary delivery truck access would be provided at the south end of the site on Old Walt Whitman Road, and the delivery area would be situated away from the employee parking areas and visitor drop-off points. The on-site security team would be able to re-route any unauthorized trucks or other vehicles off the site through controlled access points.
- Based on delivery information obtained from Canon's Lake Success complex, the large majority of deliveries to the future Melville site are expected to take place during the middle of the day when traffic along the adjacent roadway network is below peak traffic volume levels. As such, delivery activity would generally not impede peak hour vehicular traffic flow on-site and along the adjacent roadway network.

8.8 Traffic Study Conclusions

The Traffic Study (Appendix D) was prepared to examine the potential traffic impact of the proposed Canon Americas Headquarters. The HCS+ and Synchro Software Highway Capacity Analyses for the future conditions demonstrate that the traffic impacts generated by the proposed development would be mitigated to acceptable operating conditions within the noted study area once the recommended signal timing mitigation measures and roadway improvements are implemented as noted herein, which implementation will coordinate with Canon's phased developments.

The mitigation package presented consists of a three-fold approach, incorporating improvements from the NYSDOT's NYS Route 110 corridor project, the Town of Huntington's Old Walt Whitman Road corridor project, and frontage upgrades proposed on the LIE South Service Road and Old Walt Whitman Road. The scope of the NYSDOT

and Town of Huntington's projects, which are already completely or partially funded, exceeds the off-site mitigation package developed herein to address Canon's anticipated impacts within the study roadway network. The additional off-site improvements identified in this report are conceptually consistent with aspects of these agencies' projects and, as a result, it is assumed that they could be constructed in connection with the public projects.

Canon has committed to a staggered arrival/departure program whereby each employee of the Melville facility would be assigned to one of four pairs of staggered arrival and departure times. The Corporate Trip Reduction Initiatives is anticipated to reduce peak hour site-generated traffic within the surrounding roadway network, although no quantitative credit for this has been factored in this conservative Traffic Impact Analysis.

Once these improvements have been completed, the surrounding roadway network is expected to operate under parameters that are more conducive to traffic flows on these public facilities. The mitigation package as noted above would create the necessary capacity to process the traffic volumes associated with the proposed Canon Americas Headquarters.

8.9 Parking

8.9.1 Existing Conditions

The existing site is undeveloped.

8.9.2 Potential Impacts of Proposed Project

Development of the Canon Headquarters will require 2,300 parking spaces in Phase I and an additional 700 in Phase II or a total of 3,000 spaces based on the code requirement for one (1) space per 300 square feet (Table 8-15). Indoor stalls would be 9 x 18 feet and outdoor stalls 9 x 20 feet.

Two (2) structured parking garages are planned. The South Parking Garage will accommodate 796 vehicles and the North Parking Garage will accommodate 760 vehicles. Two (2) parking areas are also proposed at grade, which will accommodate 206 vehicles. In total, 1,762 spaces are proposed for Phase I of the project and an additional 1,238 spaces for the Phase II expansion of the North Parking Garage. A total of 3,000 spaces are proposed, as required for the full build out. In the event that additional parking is required during Phase I, a portion of the Phase II parking garage is designated as landbanked parking in accordance with the Town Code that will accommodate the 528-space shortfall.

Table 8-15. Parking Requirements

ITEM	CODE	PERMITTED	PROPOSED
Min. Stall Size	198.48	9'x20' or 9'x18'+ 2' overhang	9' x 18' Indoor 9' x 20' Outdoor
Min. Aisle Width	N/A	N/A	24'
Loading Requirements	198.54	1st 99,999 sf requires 3 spaces plus (1) for each additional 100,000 sf	9 spaces (including 5 landbanked)
Min. Loading Size	198.53	1st and/or 25% shall be 10'x25' balance shall be 12' x 35'	2 at 10' x 70' (landbanked) Balance at 12' x 70'
Min. Number of Spaces	198.47	Phase I-1 Space/300 sf x 690,000sf = 2,300 Spaces Phase II-1 Space/300sf x 210,000sf = 700 Spaces TOTAL = 3,000 Spaces	Phase I = 1,762 spaces plus 528 landbanked Phase II = 1,238 spaces Total - 3,000 spaces
At Grade Parking Setback from Residential	198.34	50'	177'

8.9.3 Proposed Mitigation

Adequate parking would be provided for all uses and therefore no mitigation would be required.

9. Visual Quality

9.1 Existing Conditions

Two thirds of the site is relatively flat former agricultural fields. The western third is steeply sloped and wooded. The significant views of the property are from Long Island Expressway eastbound, the South Service Road, Old Walt Whitman Road, and from the adjacent residential area.

The majority of the property is visible from the eastbound lane of the Long Island Expressway looking down. The wooded hillside is clearly visible along with the former agricultural fields. A similar view is available from the South Service Road. The view east from Old Walt Whitman Road is the former agricultural fields with the wooded hillside in the background. The former agricultural fields are visible looking north from the adjacent residential area, as is the South Service Road. Properties north of the Long Island Expressway are not visible from the site due to the differences in elevation.

Properties to the east of Old Walt Whitman Road are one (1) and two (2) story office buildings with associated on-grade parking. There is a New York State Public Works storage yard diagonally northeast of the site at Old Walt Whitman Road and the South Service Road.

9.2 Potential Impacts of Proposed Project

The appearance of the site will change substantially from the present. After the proposed two phased development, the site will appear more like the surrounding office properties to the north, east, and west.

9.2.1 Visual Simulations

The primary visual impacts are anticipated to be the changes in views from the South Service Road looking south, Old Walt Whitman Road looking west onto the property, and the view north from the homes along Old Paumonauk Court. Visual simulations showing an approximation of the views before and after construction of Phase II of the Canon headquarters were prepared from several viewpoints. A Location Plan for the simulations is provided in Figure 9-1 and the before and after views are shown in Figure 9-2 through Figure 9-7. Discussion of each of these and other views follows.

View from Old Walt Whitman Road - The view approaching the site from the south is shown in Figure 9-2. Most of the western view is obscured by trees. Only a small

portion of the uppermost floors of the office is visible through a break in the trees from Old Walt Whitman Road. The entrance to the Canon Headquarters complex is visible to the west as one travels further north on Old Walt Whitman Road. The view of the site is one that will be flanked by two ponds and a large landscaped picnic area for employees just north of the northern pond to be constructed during Phase I. The entrance drive will feature a landscaped median surrounded by ornamental plants. The entrance drive will terminate in a roundabout that will connect to the main lobby under a canopy.

View from the Westbound Lane of the Long Island Expressway – Only the uppermost floors of the office building would be visible from the Long Island Expressway westbound lanes (Figure 9-3). Substantial tree cover obscures the view of the site.

View from the South Service Road - The view from the South Service Road into the proposed office park is shown in Figure 9-4. The North Parking Garage is visible in the foreground, though its lower floor would be partially obscured by proposed trees. The upper floors of the office building are also visible from the South Service Road. More of the buildings are visible as one travels from west to east as the South Service Road slopes from elevation 140 feet above mean sea level to 119 feet. The office building view is typical of both LIE service roads.

View from Paumonauk Hills Court - The simulated view from the residences along Paumonauk Hills Court are shown in Figure 9-5, Figure 9-6, and from the playground Figure 9-7. Figure 9-5 demonstrates the view from Paumonauk Hills Court down Shinnecock Court toward the site. Only a portion of the uppermost floor of the office building is visible looking northwest from this location. Figure 9-6 shows the view from Sagaponack Court and only a portion of the uppermost floors of the office building are visible looking north from this location. Figure 9-7 shows the anticipated view from the Paumonauk Hills Court playground. The playground view is similar to the anticipated view from the rear yards of the adjacent residences.

9.2.2 Lighting

Another aspect of the visual environment is site lighting. The lighting plan was designed to provide security, enhance the night-time appearance of the site and achieve the LEED light pollution reduction credit. The LEED credit requires designers to minimize light trespass from buildings and the site, reduce sky-glow, improve nighttime visibility, and reduce the impact on nocturnal wildlife.

The Canon USA lighting plan minimizes site lighting. Although the USGBC credit allows for 1 footcandle (FC) of light trespass ten (10) feet onto neighboring property, the Canon USA plan provides zero (0) FC of light at the site perimeter. Minimal lighting is provided along the southern site perimeter adjacent to the residential area. Lighting along the drive to the South Garage is 0.5 FC except at the guard booth and two (2) entrances, where it is 2.0 FC. Those three areas require slightly more lighting for securing and accident prevention. The entire surface parking area is illuminated at the minimum of 0.5 FC. Other than interior intersections and guard booths, where 2.0 FC is provided, the remainder of the site lighting is designed for 0.5 FC.

9.3 Proposed Mitigation

View from Paumonauk Hills Court - A berm planted with tightly spaced large trees is provided between the South Garage and the property line. Vines (such as *Hedera helix* or *Euonymus fortunei*) will be grown over the southern façade of the garage.

View from the South Service Road - Extensive use of landscaping treatments will provide visual buffering of the uses within the site and between the site and adjacent properties (see the landscape plan in Figure 2-5).

View from Old Walt Whitman Road - The entrance to the complex will be from Old Walt Whitman Road. The foreground of the view will be highlighted by the two retention ponds. The pond perimeters and banks will be landscaped with native grasses and shrubs. Ornamental trees will grace the entryway and will lead to the reflecting pools at the building lobby entrance.

Lighting - No mitigation is required as no-light-trespass is anticipated.

Figure 9-1. Locations for Simulated Views of Canon Headquarters

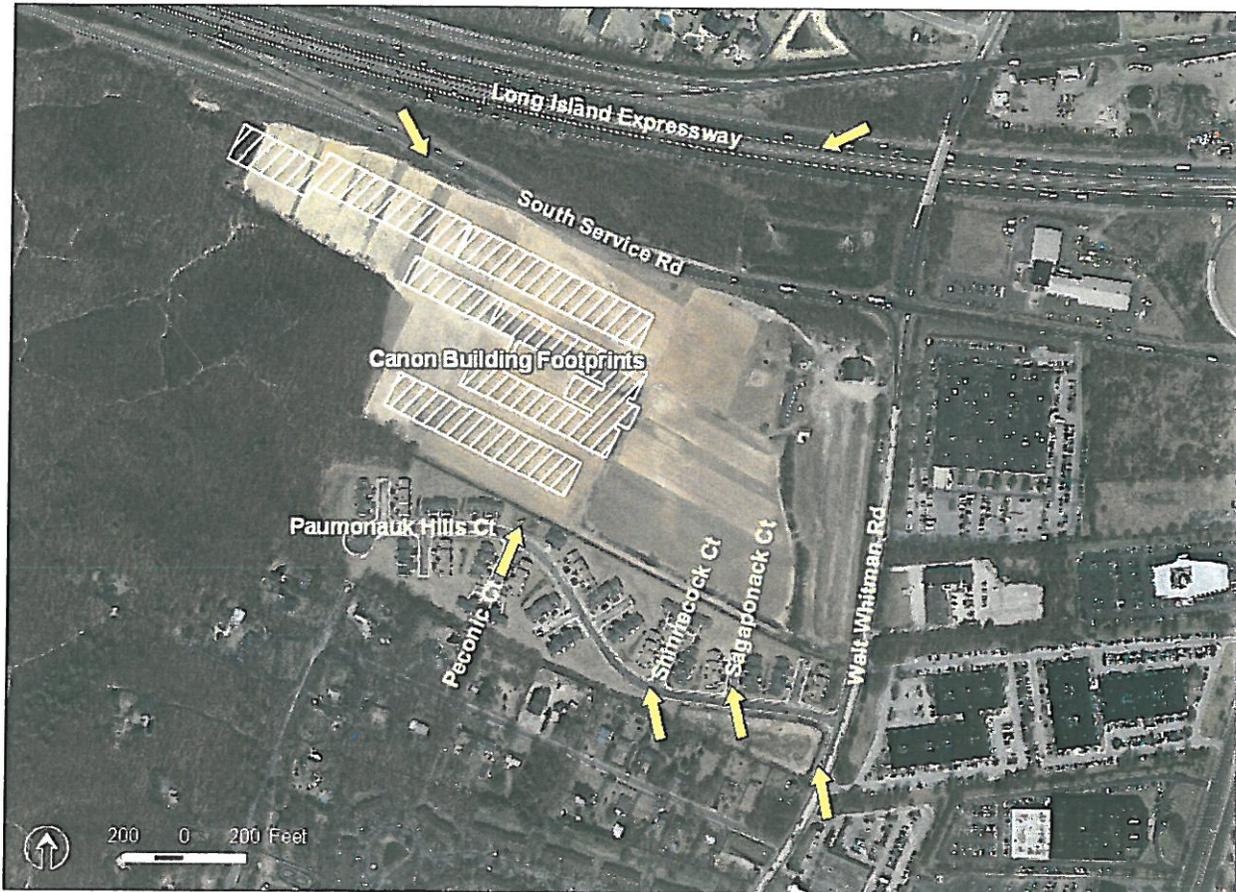


Figure 9-2. Simulated View of Canon Headquarters from Old Walt Whitman Road



Figure 9-3. Simulated View of Canon Headquarters from the Long Island Expressway Westbound



Figure 9-4. Simulated View of Canon Headquarters from the South Service Road



Figure 9-5. Simulated View of Canon Headquarters from Shinnecock Court at Paumonauk Hills Court



Figure 9-6. Simulated View of Canon Headquarters from Sagaponack Court at Paumonauk Hills Court



Figure 9-7. Simulated View of Canon Headquarters from Playground on Paumonauk Hills Court



10. Noise

10.1 Existing Conditions

A Noise Study was conducted by WSP Acoustics (Appendix E) and is summarized below. The purpose of this survey was to establish the current ambient noise levels that exist on site in the absence of any noise from the proposed office project and to assess any impacts from traffic or mechanical noise from Phase I and Phase II.

Measurements were taken over two (2) continuous periods. The locations are shown in Figure 10-1. At position one, at the west end of the southern boundary opposite the western most house in Millennium Hills, measurements were taken between 18:00 on June 23, 2008 and 12:00 on June 24, 2008. At position 2, towards the east end of the southern boundary, measurements were taken between 13:00 on June 24, 2008 and 13:00 on June 25, 2008. Measured noise levels are shown in Figure 10-2 and Figure 10-3.

The ambient noise levels on site are dominated by road traffic using Route 495 (the Long Island Expressway) to the north and Walt Whitman Road to the east. Equivalent continuous sound level (L_{eq}) is used to assess short term noise sources such as cars, while average noise level over 90% of a measured period (L_{90}) is used to measure continuous noises such as mechanical equipment. The average L_{eq} daytime noise level measured at Position 1 between 07:00am and 22:00 is 54dBA and the average L_{eq} daytime noise level measured at Position 2 between 07:00am and 22:00 is 55.5dBA. L_{90} noise levels remain above 50dB(A) until around 9.00pm. Between 9.00pm and 6.00am noise levels drop significantly as traffic volumes on local roads also drops. The L_{eq} and L_{90} noise levels are summarized in Table 10-1 below:

Table 10-1 - Background Noise Measurements

Position	Time Period	Average L_{eq} Noise Level	Minimum L_{eq} Noise Level	Maximum L_{eq} Noise Level	Minimum L_{90} Noise Level
1	07:00 – 22:00	54.2	52.9	57.0	48.4
1	22:00 – 07:00	51.1	47.8	61.0	43.0
2	07:00 – 22:00	55.5	52.9	59.2	48.0
2	22:00 – 07:00	51.8	48.5	61.3	43.7

Table 4: Summary of background noise measurements

10.2 Traffic Noise Assessment

The assessment of traffic noise impact was carried out to the neighboring property line to the south based on the proposed levels of traffic during typical weekday usage of the facility. Two scenarios were assessed, the morning peak hour when 1224 cars arrive and

171 leave the site and the evening peak hour, when 1116 leave the site and 225 arrive. The following minimum background noise levels were measured:

Table 10-2 - Measured Noise Levels On Site

Minimum $L_{eq, 1hour}$ sound pressure level	
08:00 to 09:00	17:00 to 18:00
57.0	54.1

Table 10-3 shows the resultant noise increase at the property line that can be expected from new traffic associated with the new office development.

Table 10-3 - Traffic Noise

	Noise level [dBA L_{eq}] during morning and evening periods	
	08:00 to 09:00	17:00 to 18:00
Noise level from 1395 vehicle movements during morning peak hour period	48.4	-
Minimum L_{eq} background noise level measured on site	57.0	-
Resultant noise level (noise from vehicles + background noise level)	57.0	-
Resultant increase in noise level	0.0	-
Noise level from 1341 vehicle movements during evening peak hour period	-	51.7
Minimum L_{eq} background noise level measured on site	-	54.1
Resultant noise level (noise from vehicles + background noise level)	-	56.1
Resultant increase in noise level	-	2

It can be seen that during the morning peak hour between 08:00 and 09:00, vehicle movements on site will not generate any increase in existing site noise levels.

During the evening peak hour there will be a small increase in hourly noise levels at the property line. During the evening period the increase is expected to be 2dB. A 2-3dB increase in noise levels is barely perceptible to the average person. As such, a maximum 2dB increase in noise is unlikely to cause a disturbance at the property line, particularly considering that the current noise climate is dominated by similar traffic noise from surrounding roads. The noise study therefore concludes that new site traffic will have no negative impact on the neighboring residences to the south.

In addition it should be noted that there will be an earth berm running along the southern boundary of the site which will not only reduce noise from site traffic, particularly that using the southern parking garage and access roads, but depending on height, may reduce noise from the Long Island Expressway providing additional benefit to the residents of Millennium Hills.

10.3 Mechanical Equipment Noise Assessment

An assessment of impact from rooftop mechanical equipment for Phase I and Phase II was completed. There will be a number of items of external mechanical equipment serving the new office buildings. The majority, such as chillers and air handling units, will be located within the basement mechanical spaces. There will however be four (4) cooling towers located on grade to the west of the office building at a distance of approximately 360 feet from the southern property line. There will also be three (3) emergency generators located to the west of the office building and approximately 250 feet from the southern property line. Approximately 30 exhaust fans will be located on the roof of the office building approximately 310 ft from the southern property line. For the assessment of noise impact from mechanical equipment the following assumptions have been made:

- All equipment will operate continuously 7 days a week, 365 days per year.
- In order to not increase background noise levels by more than 2dB, an increase deemed barely perceptible [see Table 2], the target noise criterion with all mechanical equipment operating is 41dB(A) at the property line, 2 dB below the minimum background noise level measured on site at position 1.
- For emergency generators, which will only operate in the event of an emergency, but will need monthly daytime testing, the target criterion is 53dB(A) at the property line, 5dB(A) above the minimum daytime background noise level.

The analysis showed that based on the location and number of items of mechanical equipment, the maximum allowable noise levels for each item of equipment serving the new office building are as follows:

- Each cooling tower shall not exceed 55dB(A) @50ft
- Each exhaust fans shall not exceed 56dB(A) at 5ft
- Each emergency generators shall not exceed 83dB(A) at 15ft

The above target noise levels for cooling towers and fans are based on not elevating existing minimum background levels on site by more than 2dB (a 2-3dB increase in noise levels is barely perceptible to the average person). As such, a maximum 2dB increase in minimum background noise is unlikely to cause a disturbance at the property line, particularly considering that the minimum background noise occurs between 03:00 and 04:00 when residential neighbors are unlikely to be using their yards. During the morning

and evening periods, when yards will most likely be in use, minimum background noise levels are around 48dB(A), seven (7) dB higher than the equipment noise level. During these periods, there will be no audible equipment noise at the southern property line.

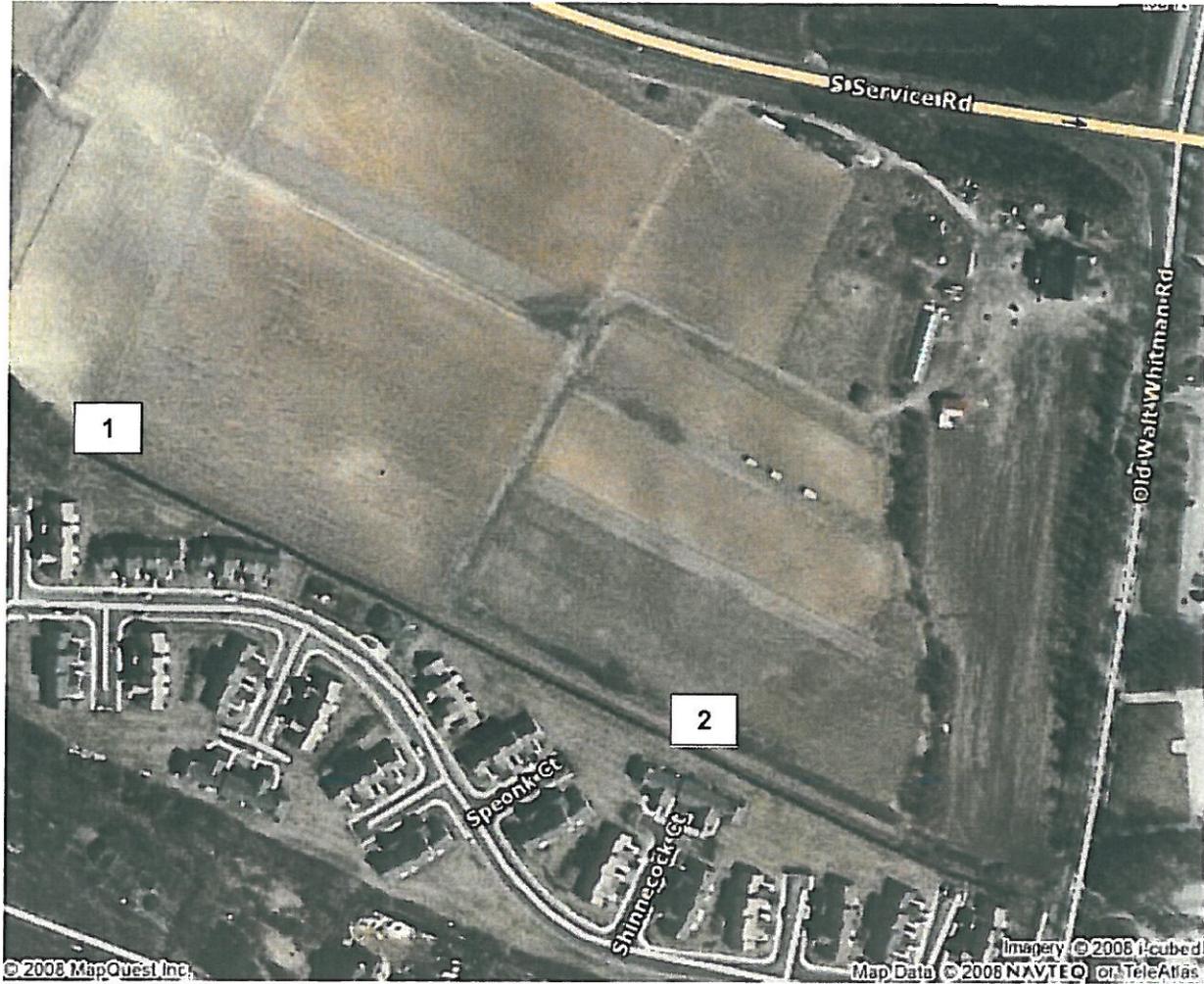
10.4 Proposed Mitigation

No mitigation is required for traffic noise.

For mechanical equipment, specifications will be issued at the appropriate stage of the design process and will contain the above maximum noise level criteria for each unit. As the design progresses and where necessary, noise control will be specified for the rooftop exhaust fans. The target noise levels for the cooling towers should be easily achievable with standard units and with no additional noise control. External generators are supplied with an enclosure which will be specified to meet the above maximum noise level at 15 feet.

The cooling towers and generators will actually be screened from the neighboring properties by both the earth berm, which runs along the southern boundary and by the two-story parking structure. These will provide additional reductions in noise, which will be assessed once the Detailed Design phase of the project is complete.

Figure 10-1: Site Plan Showing Survey Measurement Positions



Source: WSP Acoustics (USA)

Figure 10-2: Measured Noise Levels

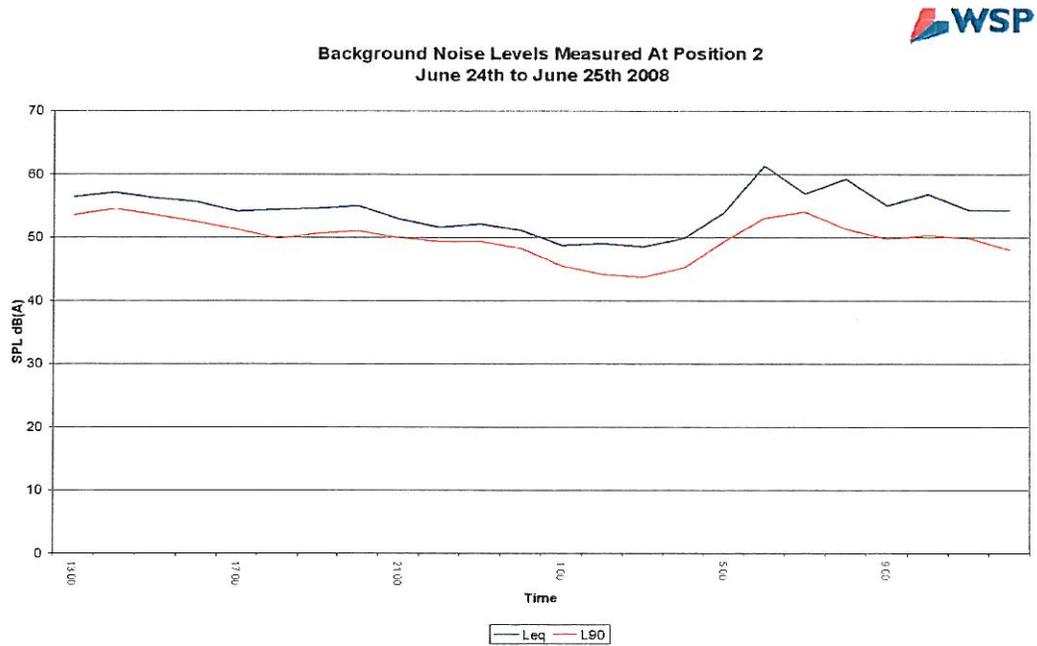
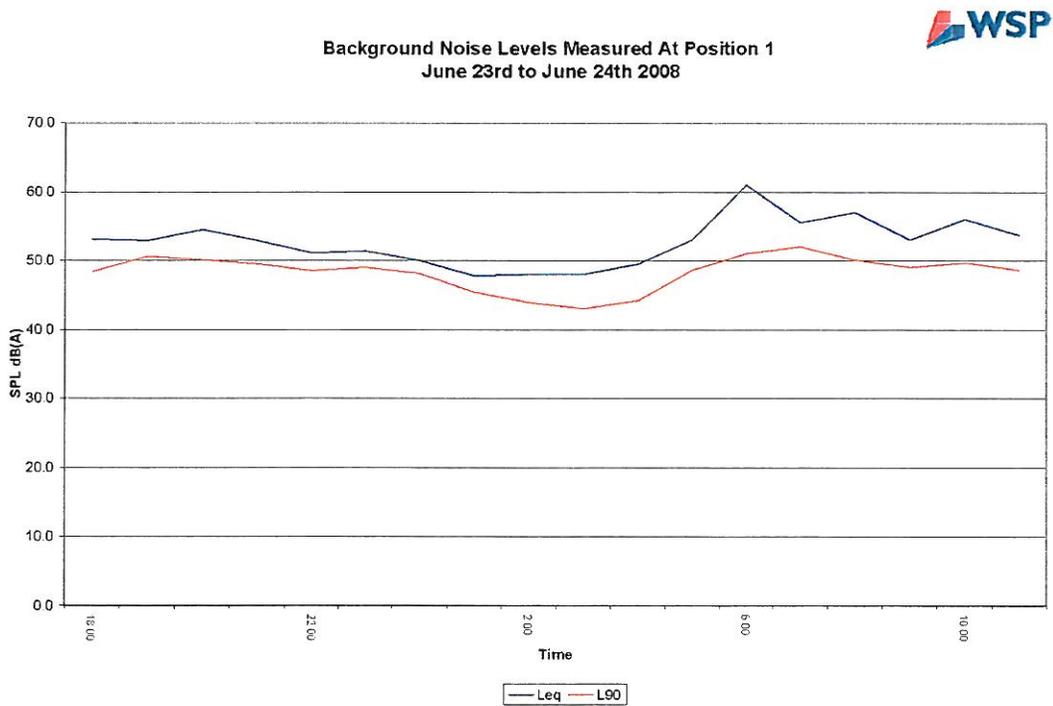


Figure 10-3: Measured Noise Levels



11. Cultural Resources

11.1 Historic and Archeological Resources

11.1.1 Existing Conditions

According to the 1993 Melville Route 110 GEIS, there are 23 sites of historic significance in the area. All of the sites are listed in the New York State Inventory of Historic Places. The sites date back to the early 1800's. The following three (3) sites are near the project site:

- The Methodist Church, circa 1845, is located on Walt Whitman Road and Route 110. It was the original church for the area.
- The Walt Whitman Road Cemetery, circa pre-1850, is located on Walt Whitman Road. It contains 70 graves and is historically associated with the Methodist Church.
- The Whitson House circa 1894 is located at 1840 Walt Whitman Road.

The area surrounding the project also contains two (2) prehistoric American Indian artifacts areas. The prehistoric Indian station known as the pumpkin site is located 2,500 feet east of the Nassau-Suffolk boundary. The site is characterized by a light scattering of artifacts over its ten acres. It is west of the project site.

A detailed Phase 1A and 1B Cultural Resource Investigation prepared by Greenhouse Consultants in 1990 determined that the project site is not significant for historic or prehistoric purposes. A Phase II Archaeological Report was prepared in January 2006 by Tracker Archaeology Services, Inc. for a prior Senior Housing proposal for this site. Tracker Archaeology Services, Inc. concluded, "In our opinion, the Wulforst Site is not eligible for the historic registers." The New York State Office of Parks, Recreation & Historic Preservation requested additional evaluation of a small area of the property. This evaluation was not performed as the senior housing proposal did not move forward. Canon is currently addressing this issue with the State.

11.1.2 Potential Impacts of Proposed Project

No potential impacts are anticipated as historic resources in the area have been well documented, and it appears that the project is not significant for historic or prehistoric resources.

11.1.3 Proposed Mitigation

No mitigation has been identified at this time.

12. Education

12.1 Existing Conditions

The Study Area is located within school district No.5, the Half Hallow Hills Central School District.

12.2 Potential Impacts of the Proposed Project

Very few, if any, new students will be generated by Phases I and II of the proposed office development. There may be some employees with children that relocate to areas served by the Half Hallow Hills Central School District. The tax revenues generated from the proposed project will have a significant positive impact on the local school district.

12.3 Proposed Mitigation

The substantial taxes that will be paid by Canon will more than offset the costs incurred by the school district to provide educational services to any new school children generated by the project.

13. Community Services

13.1 Existing Conditions

The site is served by the Second Precinct of the Suffolk County Police Department, which provides regular patrols near the property.

The Melville Fire Department provides fire protection and emergency medical services to the site. Their headquarters is on Walt Whitman Road approximately one (1) mile north of the site. The district also has two (2) substations, on Amityville Road and the South Service Road. The district provides emergency medical services in addition to fire protection.

13.2 Potential Impacts of Proposed Project

The police department has indicated that they have the capacity to provide services to the two phased proposed development (see Letter of Availability in Appendix A). Discussions are ongoing with the Melville Fire Department to ensure that adequate fire protection and emergency medical services can be provided.

13.3 Proposed Mitigation

Additional tax revenues generated by the proposed project will offset the additional services required of the providers. No mitigation is required.

14. Utilities

14.1 Water

14.1.1 Existing Conditions

The major water bearing units within the project area are the Magothy and Lloyd Aquifers. The water table occurs within the Upper Glacial Aquifer and ranges from 65 to 100 feet above mean sea level or 35 to 160 feet below the surface. The Nassau-Suffolk 208 Areawide Waste Treatment Management Study found the study area to be a 'deep flow recharge area.' Such an area is one that is important in terms of providing precipitation to recharge the Magothy and Lloyd Aquifers. The site is supplied with potable water from South Huntington Water District wells.

14.1.2 Potential Impacts of Proposed Project

The estimated water usage associated with the full build out of the project is 58,566 gpd. This value is based on the assumptions discussed in Section 4.1.2.

The Final Generic Environmental Impact Statement for the Melville Area indicated that there was potential for expansion of the South Huntington Water District to 3.8 million gallons per day (mgd). At the time the GEIS was prepared (1989) consumption was 0.40 mgd.

14.1.3 Proposed Mitigation

Canon will achieve LEED silver certification. They will utilize water efficient landscape plantings, primarily natives that will not require irrigation after initial establishment. This kind of landscaping will reduce water use associated with the grounds by 50 percent. Permanent irrigation will only be used for the entryway area. The facility will also reduce water use through the installation of efficient fixtures, automatic, no touch faucets, and other water-saving devices. They intend to reduce water use by 30 percent over the standard values described by the USGBC.

14.2 Wastewater

14.2.1 Existing Conditions

The Southwest Sewer District (SWSD) has a wastewater treatment facility that is closest to the site, though the site is not within the district. The Melville Sewer District is a "paper" district. It has no facilities.

14.2.2 Potential Impacts of Proposed Project

Calculations that predict the estimated wastewater generated by the project according to the uses and floor areas associated with them are found in Table 4-1. Total estimated flow for Phase I and Phase II is estimated to be 58,566 gallons per day.

A request for a letter of availability sent to the Suffolk County Department of Public Works was responded to on April 24, 2008. The letter stated that there was space set aside for the development and its estimated wastewater load of 60,000 gpd. The project would connect to the Suffolk County Sewer District No. 3.

14.2.3 Proposed Mitigation

Canon intends to develop the project to meet LEED silver certification. As described above in the section on water use, the project intends to reduce its water consumption by 30 percent as part of the LEED certification process. This effort will substantially reduce the quantity of wastewater generated.

14.3 Solid Waste Disposal

14.3.1 Existing Conditions

Solid waste in the area is collected by private carters licensed by the Town of Huntington. Solid waste in Huntington is transported to the Town's Resource Recovery Facility in East Northport for disposal through incineration or landfilling.

14.3.2 Potential Impacts of Proposed Project

Table 14-1 provides a calculation of the estimated solid waste generated by the Phase I and Phase II project according to the uses and floor areas associated with them. The total estimated solid waste generation associated with the project is just over 9,300 pounds per day.

14.3.3 Proposed Mitigation

Storage and collection of recyclables is a prerequisite for LEED certification. At least one half of the solid waste will be recycled as office and warehouse space accounts for more than half of the solid waste generated and is typically primarily paper and cardboard.

Table 14-1. Estimated Solid Waste Generation

Space	Use:	Floor Area (SF)	Users	Rate (LB/SF-D)	Total (LB/D)
Office	Non-Medical Office	712,491		0.006	4,275
Cafeteria	Cafeteria (lbs per user)		3000	1.000	3,000
Labs	Warehouse	44,365		0.010	444
Fitness Center	Fitness Center w/shower		270	1.000	270
First Aid	Medical Office	150		3.000	450
Loading/Receiving areas	Warehouse	3,375		0.010	34
Utility Space	Warehouse	68,812		0.010	688
Elevators and Stairwells	Non-Medical Office	19,169		0.006	115
Restrooms	Non-Medical Office	14,500		0.006	87
					9,363

Assumptions:

- 1- Cafeteria per capita number is based on the entire building population per SCDHS requirements.
- 2- Parking garages are an outdoor, unheated space and do not contribute any solid waste.
- 3- Restrooms, elevators and stairwells have been included at office flow rate.
- 4- Lab, utility, and receiving space has been computed as warehouse.
- 5- Fitness Center computed as school with cafeteria and 10% of occupants using per day

14.4 Energy Consumption

14.4.1 Existing Conditions

No energy is consumed on site, as it is vacant.

14.4.2 Potential Impacts of Proposed Project

The proposed two phased development would consume electrical and gas energy. A letter requesting electrical power availability for the full build out was sent to the Long Island Power Authority (Appendix A). Proposed electrical loads are found in Table 14-2, Table 14-3, Table 14-4, Table 14-5, Table 14-6, and Table 14-7.

Gas usage is estimated at 44,320 cubic feet per hour (CFH), including two (2) boilers requiring 20,410 CFH each, the cafeteria and executive kitchens requiring 2,000 CFH and 500 CFH respectively for cooking, and 1,000 CFH for the cafeteria water heater.

Table 14-2. Estimated Connected Electrical Loads

Floor	Description	Gross Square Feet	Power/Light Load Density (W/SF)	Connected Load (KW)	Demand Load 60% (KW)	
Basement	Fitness	5,400	1.5	8		
	MEP	32,400	2.0	65		
	Storage	29,400	1.5	44		
	Recycling	7,800	1.5	12		
	Printing	7,800	5.0	39		
	Executive Parking	13,200	1.0	13		
	Lab - I (Research)	21,000	15.0	315		
	Lab - II (Research)	6,300	15.0	95		
	<i>Sub Total =</i>	123,300		591	355	
Level I	Library	1,200	2.5	3		
	Conference Center I	6,600	2.5	17		
	Conference Center II	5,400	2.5	14		
	Showroom	15,600	13.0	203		
	Training Center	13,200	15.0	198		
	Multi-Purpose Hall	8,100	5.0	41		
	Lobby	8,100	2.5	20		
	Waiting	2,700	2.0	5		
	Mailroom	4,200	4.0	17		
	Loading Dock	3,600	2.0	7		
	Café/Kitchen	10,000	30.0	300		
	Reserve	7,800	2.0	16		
	Multi-level Circulation (unassigned)	89,000	4.0	356		
	<i>Sub Total =</i>	183,300		1313	778	
Level II	General Office (Level II thru IV)	344,900	4.5	1552		
		<i>Sub Total =</i>	344,900		1552	931
Level -1V	Executive Suite	22,500	6.0	135		
		<i>Sub Total =</i>	22,500		135	81
Total Gross Floor Area =		674,000				
Total KW =				3,591	2,155	

Table 14-3. Data Center

Description	Gross Square Feet	Load Density W/SF	Connected Load (KW)	Demand Load 100%
Data Center	6,000		2,000	2,000
Cooling Tower (1@30HP each)			22	22
Chiller (1@450HP each)			450	450
CRAC-units (4@40HP each)			120	120
Condenser Water Pumps (1@50HP each)			37	37
Chilled Water Pumps (1@50HP each)			37	37
	Sub Total=		2,666	2,666

Table 14-4. Estimated Miscellaneous Additional Electrical Loads

Description	Gross Square Feet	Power/Light Load Density (W/SF)	Connected Load (KW)	Demand Load 60% (KW)
Future Office Space	210,000	4.5	945	
Future Outdoor Parking Garage	360,000	1.0	360	
Outdoor Parking Garage (3 Level) (Includes Elevators)	488,225	1.0	488	
Sub Total =			1793	1076

Table 14-5. Estimated Mechanical Loads

Description	Connected Load (KW)	Demand Load 60% (KW)
Chillers (3 @ 485 HP ea.)	1455	
Cooling Tower (3 @ 60 HP ea.)	135	
Boiler (3 @ 25 HP ea.)	56	
AHU units (size varies = 1000 HP total)	746	
Condenser Water Pumps (4 @ 50 HP ea.)	150	
Chilled Water Pumps (4 @ 50 HP ea.)	150	
Miscellaneous Fans (size varies = 500 HP total)	373	
Sub Total=	3065	1839

Table 14-6. Estimated Plumbing Loads

Description	Connected Load (KW)	Demand Load 60% (KW)
Fire Pump (150 HP)	0	
Jockey Pump (5 HP)	0	
Triplex Booster Pumps (3 @ 15 HP)	34	
SubTotal=	34	20

Table 14-7. Estimated Elevator Loads

Description	Connected Load (KW)	Demand Load 60% (KW)
Passenger Elevators (13 @ 30 HP approx.)	291	
Freight Elevators (2 @ 40 HP approx.)	60	
Service Elevators (2 @ 30 HP approx.)	45	
SubTotal=	1396	238

14.4.3 Proposed Mitigation

The Canon facility is seeking LEED silver certification for the project. Canon plans to seek credits for optimizing energy performance by implementing some or all of the following: combined heat and power, chilled beam cooling, energy recovery system, high efficiency equipment, advanced controls and sensors, photo-dimming, and exterior sun shades. Lighting will be controlled according to the level of natural

lighting through the external curtain walls for energy savings. Total building control systems will be located in the basements of the office buildings.

Canon is investigating use of on-site renewable energy in the form of photovoltaic panels. Enhanced commissioning and enhanced refrigerant management will be implemented and Green Power purchased.

15. Economic Impacts

15.1 Existing Conditions

The site is currently vacant and generates no economic activity. Canon USA pays \$329,147 per year in property taxes for the vacant land, of which \$219,387 is school tax.

15.2 Potential Impacts of Proposed Project

According to Dr. Pearl Kamer, Chief Economist of the Long Island Association (LIA) (see report in Appendix F) the full build out of the Canon project will have a significant positive economic impact. Canon's estimated direct investment of \$636,000,000 for site development will have a multiplier effect on the local economy, increasing the local output of goods and services by more than \$1.3 billion, including the original expenditure. Dr. Kamer predicted that the project could increase local earnings by more than \$409 million. She also estimated that "more than 10,100 secondary jobs would be created" because of the Canon project.

The LIA's Dr. Kamer emphasized that "Canon USA will bring a significant number of high-wage administrative, sales and professional, scientific and technical jobs to its new Melville location. It expects to have 1,315 employees at its Suffolk regional headquarters in 2009 and to employ up to 3,000 persons there by 2019. Canon estimates that total payroll at the facility will rise from \$104,000,000 in 2010 to \$245,700,000 in 2019. These are high wage jobs with the average 2009 wage projected at \$84,134 and the average 2019 wage projected at \$119,271. This reflects the fact that the project will incorporate a large number of highly technically trained personnel. The divisions represented at the new facility will include medical systems, semiconductor equipment, information technology, imaging systems and corporate planning."

Suffolk County's Industrial Development Agency (IDA) has offered Canon USA a benchmarked tax abatement modeled on the "double 485b" property tax incentive to make possible the corporation's move to Huntington. The exemption is for 90 percent of the increased assessment (over the land-only assessment) in year one, 80 percent in year two, and decreasing until it reaches zero in year 10. Table 15-1 shows an estimate of the property taxes paid by Canon USA for the first ten (10) years of the project. The tax estimate assumes a full market value (FMV) of \$107 million for the land and \$213 million for the building, a total FMV of \$320 million, and an increase in the tax rate of six (6) percent per year, based on historic averages. The projection shows that estimated property taxes in year one (1) would be approximately \$2.2 million, which is a 568.39% increase

over current taxes. By year ten (10), when full value is reached, annual property taxes would exceed \$9 million. As school taxes represent 68 percent of total property taxes in the Town of Huntington, the local school district would receive approximately \$1.5 million in year one and as much as \$6.2 million in year ten.

Table 15-1. Estimate of Property Taxes to be Paid by Canon USA

Year	Year Beg	Year End	Full Market Value	Assessed Value	Tax Rate	Taxes
1	12/1/2011	11/30/1212	\$320,000,000	\$ 987,910	220.75	\$2,180,811
2	12/1/2012	11/30/1213	\$320,000,000	\$1,151,920	234.00	\$2,695,435
3	12/1/2013	11/30/1214	\$320,000,000	\$1,315,930	248.03	\$3,263,963
4	12/1/2014	11/30/1215	\$320,000,000	\$1,479,940	262.92	\$3,891,011
5	12/1/2015	11/30/1216	\$320,000,000	\$1,643,950	278.69	\$4,581,554
6	12/1/2016	11/30/1217	\$320,000,000	\$1,807,960	295.41	\$5,340,954
7	12/1/2017	11/30/1218	\$320,000,000	\$1,971,970	313.14	\$6,174,989
8	12/1/2018	11/30/1219	\$320,000,000	\$2,135,980	331.93	\$7,089,881
9	12/1/2019	11/30/1220	\$320,000,000	\$2,299,990	351.84	\$8,092,330
10	12/1/2020	11/30/1221	\$320,000,000	\$2,464,000	372.95	\$9,189,549

Sales tax incentives in the magnitude of \$16,676,438 have been offered to Canon USA to relocate their world headquarters to Melville. Dr. Kamer reports that "According to the Suffolk County IDA, Canon would be given a sales tax exemption for a portion of its construction and equipment costs. Approximately 40% to 50% of Canon's construction costs are subject to sales taxes. Approximately 80% to 100% of their equipment costs are also subject to sales taxes. In computing the size of these sales tax exemptions, the Suffolk IDA assumed that 50% of total projected construction costs and 100% of total projected equipment expenditures would be subject to sales taxes."

15.3 Proposed Mitigation

The loss of start up sales tax revenue to establish the site use by Canon, is mitigated by the predicted increase in the local output of goods and services by more than \$1.3 billion. No other mitigation is required.

16. Construction Impacts

16.1 Potential Impacts of Proposed Project

The construction of the Canon project, like any large construction project, will have short-term environmental impacts related to the construction process. Those may include soil erosion and dust, noise, and traffic disruption.

16.1.1 Construction Schedule

Construction will extend over 26 months for Phase I and an estimated 18 months for Phase II. Canon is cognizant of planned offsite improvements in the area and the construction schedule has taken these other construction projects into consideration and will utilize alternate roadways to access the Canon construction site as needed.

16.1.2 Construction Hours

To meet Town of Huntington ordinances, construction activities for Phase I and Phase II would be confined to the hours of 7 AM to 6 PM. Heavy equipment operation or other construction activity that might be accompanied by "loud or disturbing noise" would be restricted to the hours of 8 AM to 6 PM, and would need to comply with the Town Code.

16.1.3 Soil Erosion and Dust

The movement of vehicles and equipment during construction could lead to soil erosion and dust generation if not properly managed. Construction-related soil erosion and dust are discussed in section 3.2 in terms of potential contaminant exposure.

16.1.4 Noise

Noise and vibration would be generated from construction and worker traffic, heavy equipment operation, and delivery vehicles. Table 16-1 shows typical construction-related noise levels at a distance of 50 fifty feet. See section 10 for further information on noise generation and mitigation.

Table 16-1. Typical Noise Emission Levels from Construction Equipment

Equipment Item	Noise Level at 50 Feet (dBA)
Line Drill	98
Motor Crane	93
Asphalt Spreader (paver)	89
Concrete Spreader	89
Asphalt Truck	88
Delivery Truck	88
Dump Truck	88
Jackhammer (Paving Breaker)	88
Truck	88
Structural Steel Bolt Impact Wrench	88
Backhoe	85
Concrete Mixer	85
Front End Loader	84
Shovel	82
Air Compressor	81
Compactor	80
Roller	80
Concrete Vibrator	76
Crane (Derrick)	76
Gas-Driven Vibro-Compactor	76
Hoist	76
Pump	76

Source: *Regulation of Construction Activity Noise*⁹

16.1.5 Traffic Disruption

Construction vehicles for both phases of construction will be confined to the South Service Road and Walt Whitman Road. Vehicles will not enter or exit the site from Paumonauk Hills Court. They will not exit the site via the South Service Road, only enter. Most construction traffic will enter and exit via Old Walt Whitman Road. The construction entrance/exit will be placed a safe distance from the South Service Road and Old Walt Whitman Road intersection.

16.2 Proposed Mitigation

16.2.1 Soil Erosion and Dust

As discussed in Sections 3.2.4, 3.2.5, and 3.2.6, a soil management plan been prepared and Best Management Practices (BMP's) for control of soil erosion and sedimentation will be implemented during the construction phases. During site preparation, truck tires leaving the site would be rinsed down to limit the amount of

⁹ *Regulation of Construction Activity Noise*. Patterson, W.N., R. A. Ely, and S.M. Swanson, Bolt Beranek and Newman, Inc., Report 2887, for the Environmental Protection Agency, Washington, D.C., November 1974.

soiling of adjacent roadways. Exposed soils will be wetted and equipment speed will be controlled to minimize dust generation until erosion control measures are in place. Erosion control and stormwater management measures are described in those sections. They would include the construction of the ponds, temporary flow paths, and diversion methods, and the use of berms, hay bales, and silt fences. Final stormwater management measures would not be in place until after the buildings have been completed.

In addition to the standard BMP's, a soil management plan has been prepared to address the low level arsenic concentrations found in the agriculturally-impacted soils. The health and safety procedures and dust mitigation measures outlined in *Site-Specific Health and Safety Plan for Earthwork Operations* (HASP) will apply to all on-site earthwork activities involving the arsenic-impacted soils and sands of the site. The complete HASP is found in Appendix C. By employing proper safety and precautionary procedures during site earthwork activities, including dust suppression and ambient particulate monitoring, the arsenic impacted soils can be effectively managed on site in accordance SCDHS guidance documents.

16.2.2 Noise

The proposed berm along the southern perimeter of the site adjacent to the residential area will be constructed first to reduce the potential noise impacts of construction. Earth mounds have been shown to be effective in reducing noise¹⁰. Construction related noise would be mitigated in part by the ambient noise of the adjacent Long Island Expressway.

16.2.3 Traffic Disruption

Construction vehicles will be scheduled for arrival before the morning peak hours of 8 AM to 9 AM. Construction vehicles will have left the site before the evening peak hours of 5 PM to 6 PM. At other hours, traffic management will be provided by the construction contractor to reduce disruption to the normal flow of traffic.

¹⁰ *Environmental Noise Barriers*. B. Kotzen and C. English, E&FN Spon, London, 2000

17. Unavoidable Adverse Impacts

17.1 Short-term From Construction

Impacts due to each phase of the construction of the facility may include short-term erosion of exposed on-site soils and increased traffic, dust, and noise due to construction activities. These activities are short-term, intermittent in nature, and largely contained on site.

17.2 Long-term From Operation

Impacts due to the operation of the facility include increases in traffic, visual impacts, and increased energy and water consumption. Mitigation measures previously discussed would minimize these impacts to a point where they are minor and acceptable in nature. Agricultural open space and productive agricultural soils will be eliminated on this site.

18. Alternatives Considered

18.1 No Action

The No Action Alternative would leave the 52.17 acre site vacant. With no action, there would be none of the significant economic benefits to the Town, Long Island, and region.

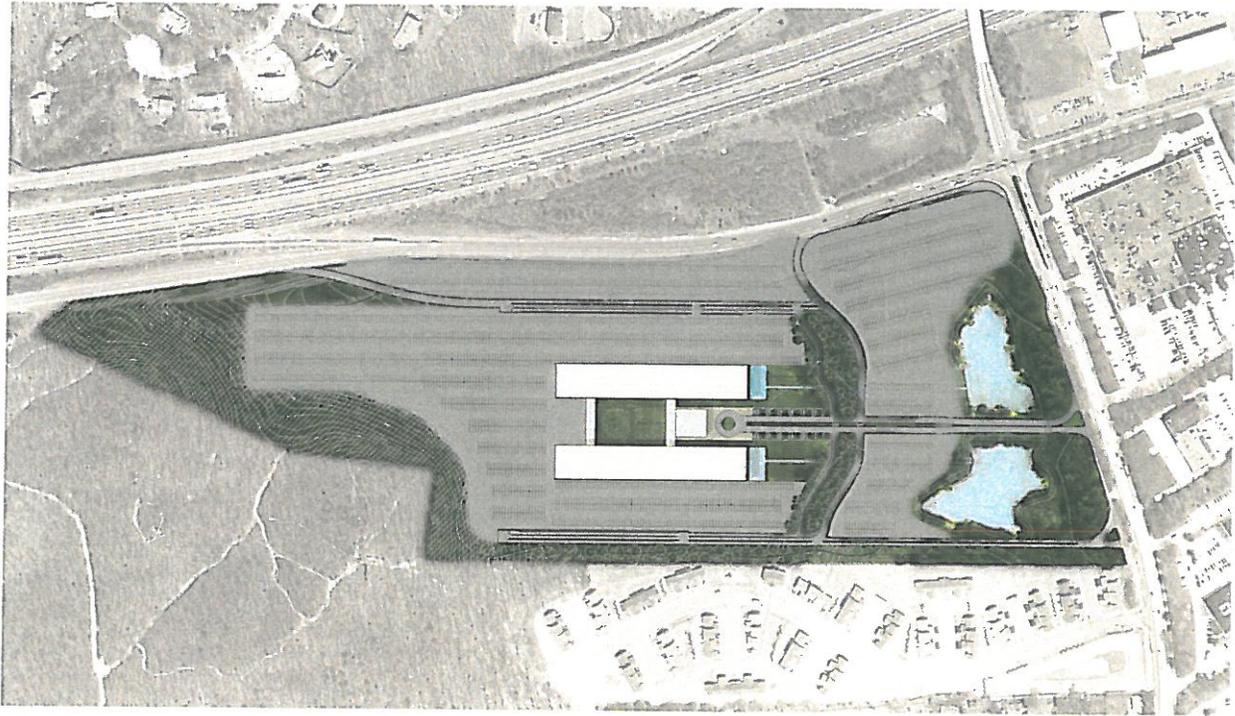
18.2 At Grade Parking Alternative

The At Grade Parking Alternative would consist of the same building construction with the elimination of the parking garage and all parking provided at grade (Figure 18-1). Most site landscaping and amenities would be replaced by asphalt parking fields. A significant portion of the western hillside would be utilized to provide sufficient parking under this alternative. Use of a portion of the hillside would have numerous and serious environmental impacts. Steep slopes would have to be regraded and retaining walls constructed and a significant portion of the forested community would be removed with consequent ecological implications. Stormwater treatment prior to recharge would be reduced, as a greater portion of the site would be impervious. Heat island and lighting impacts would be greater than the selected alternative. This alternative presents significantly greater environmental impacts than the selected alternative.

18.3 Non-LEED Alternative

The Non-LEED Alternative would consist of a similar project without the use of LEED strategies. Town code requires that a project of this type achieve LEED silver certification. Consequently, a variance would be required for the non-LEED alternative. The potential environmental impacts of the project without the proposed LEED strategies would be significantly greater. Water use would be 20-30 percent greater. Energy consumption would be greater. Greenhouse gas generation from construction and operation would be greater. Material consumption from construction and operation would be significantly higher. Indoor environmental quality would be lessened for the 3,000 employees as daylighting could be reduced, emissions from indoor materials may be higher, thermal comfort reduced and lighting systems less individually controllable. The non-LEED alternative would lead to greater environmental impacts and would reduce human health and well-being for the 3,000 employees of Canon USA.

Figure 18-1. At Grade Parking Alternative



Source: HOK

19. Irreversible and Irretrievable Commitment of Resources

Project construction would result in the irreversible and irretrievable commitment of materials and energy. The construction and operation of the proposed project would consume, convert, or make unavailable for future use natural and man-made resources. Because a portion of the land will be committed to long-term use by the Canon USA facilities, it will be unavailable for other purposes. However, the western end of the property will be preserved in its natural state. Fewer materials and less water and energy will be committed to the project in order to achieve the required LEED silver certification.

Materials - Construction of the Canon complex will lead to an irreversible and irretrievable commitment of material resources. Materials such as concrete, steel, and glass for structures will be consumed. These materials have a long life expectancy and can be recycled after their useful life has expired. Operation of the complex will consume materials such as paper and cafeteria products. The silver LEED certification sought by Canon USA will require storage and collection of recyclables. Canon will likely utilize construction materials with at least 10 percent recycled content and possibly 20 percent or more.

Water - Operation of the Canon USA facility will consume potable water. Consumption estimates are discussed in section 4.1. Approximately 20-30 percent less water will be consumed than under 'standard' design and construction as the project will strive for silver LEED NC certification. Site and building water consumption will be reduced through techniques described in section 4.1.

Energy - Fossil fuels will be consumed to power vehicles for site deliveries and for the operation of heavy equipment during construction. Additional fossil fuels will have been consumed to produce the materials used in construction. Electrical and fossil fuel energy will be consumed during normal operation of the Canon complex. Energy consumed during operation will be lower than 'standard' designed buildings, as the project will seek silver LEED certification. Energy performance must be at least 14 percent less than the ASHRAE standard to satisfy the LEED Energy and Atmosphere prerequisite. In addition, energy performance will be optimized through the use of high efficiency HVAC and lighting equipment and controls.

20. Growth-Inducing Aspects of the Proposed Project

20.1 Population

According to Dr. Pearl Kamer, Chief Economist of the Long Island Association (LIA) (see report in Appendix F) "Canon USA will bring a significant number of high-wage administrative, sales and professional, scientific and technical jobs to its new Melville location. It expects to have up to 3,000 employees at its Suffolk regional headquarters in 2019." Dr. Kamer also estimated that "more than 7,100 secondary jobs would be created" because of the Canon project.

20.2 Economic

Dr. Kamer indicated in her report (Appendix F) that the Canon project will have a significant positive economic impact on the region. Canon's estimated direct investment of \$636,000,000 for site development will have a multiplier effect on the local economy, increasing the local output of goods and services by "more than \$1.3 billion." Dr. Kamer predicted that the project could increase local earnings "by more than \$409 million."

Canon estimates that total payrolls at the facility will rise from \$104 million in 2010 (not including ex-patriots, bonuses, and commissions) to \$245,700,000 in 2019. These are extremely high wage jobs. The average 2010 wage is projected at \$84,134. The average 2019 wage is projected at \$119,271. This reflects the fact that the project will incorporate a large number of highly technically trained personnel. The divisions represented at the new facility will include medical systems, semiconductor equipment, information technology, imaging systems and corporate planning."

21. Effect on the Use and Conservation of Energy

21.1 Energy for Construction

The construction process would consume energy in two (2) manners. The majority of energy (typically about 75%) would be consumed in the fabrication of the materials used to construct the facility. The remaining construction-related energy would be consumed during the delivery and assembly of the construction materials.

Economic motivation tends to drive down the consumption of energy from initial fabrication to final assembly. Manufacturers can be more competitive and or profitable if they spend less on energy. Similarly, contractors improve their profits if they spend less on fuel oil and gas, electricity, and transportation. Less energy will be consumed during construction as part of the required LEED silver certification. For example, less construction waste will be generated and recycled and regional materials will be used.

21.2 Energy for Operation

21.2.1 Energy Demand

The major energy demands of the Office Buildings would be for heating, air conditioning, and lighting. Energy demand for the parking garages and parking lots would be for lighting. The major electrical demand for connected loads (27 percent) will be the data center (2,666 KW). Mechanical loads will account for an estimated 3,065 KW of the total connected load. The total estimated electric load is 9,879 KW. Estimated gas usage is 44,320 cubic feet per hour (CFH).

21.2.2 Energy Conservation and LEED Certification

Canon is seeking silver LEED (Leadership in Energy and Environmental Design) certification for new construction. The LEED for New Construction Rating System is designed to guide and distinguish high-performance commercial and institutional projects, including office buildings, high-rise residential buildings, government buildings, recreational facilities, manufacturing plants and laboratories. Silver certification requires 33-38 points from six (6) categories, including Energy & Atmosphere. That category includes the following components: Fundamental Commissioning of the Building, Energy Systems, Minimum Energy Performance, Fundamental Refrigerant Management, Optimize Energy Performance, On-Site Renewable Energy, Enhanced Commissioning, Enhanced Refrigerant Management, Measurement & Verification, and Green Power. Canon plans to achieve up to five

(5) points in the Energy and Atmosphere categories through the use of technologies such as combined heat and power, thermal storage, energy recovery, high efficiency equipment, advanced HVAC and lighting controls and sensors, photo-dimming, and exterior sun shades. Other energy-savings strategies will include use of low-wattage fluorescent bulbs, lighting reflectors, high R-value wall and ceiling insulation, variable speed fans and pumps, and vestibules. A photovoltaic installation is also under consideration.

APPENDIX A

CORRESPONDENCE



Engineers | Architects | Scientists | Planners | Surveyors

575 Broad Hollow Road | Melville, New York 11747
v 631.756.8000 f 631.694.4122
www.h2m.com

Holzmacher, Mclendon & Murrell, P.C. | H2M Associates, Inc.
H2M Labs, Inc. | H2M Architects & Engineers, Inc.

July 15, 2008

Mr. Anthony Giuliani
Bohler Engineering, P.C.
2002 Orville Drive North
Ronkonkoma, New York 11779

**Re: South Huntington Water District
Request for Water Service
Canon Americas Headquarters
H2M Project No.: SHWD 08-50**

Dear Mr. Giuliani:

Our firm is the consulting engineer for the South Huntington Water District and has been directed to respond to your request for water service. The Water District map indicates that an extension of the District's water mains and modification of the existing distribution system will be required in order to provide water service to the proposed *Canon Americas Headquarters* office complex. This letter can be considered a "letter of water availability."

The Water District will require approximately 4,000 linear feet of 12-inch diameter water main, including appropriate valving and fire hydrants to be installed outside of the *Canon Americas* property to service the proposed 900,000 square feet of office space. The new 12-inch water main will run along the South Service Road, connecting on the east end to an existing 12-inch water main at the intersection with Walt Whitman Road and near the westerly property line to an existing dead-end main, and along the frontage on Walt Whitman Road, replacing the existing 8-inch main. The two proposed service connections shall originate on separate mains, one connection on Walt Whitman, the other on the South Service Road. We understand that all on-site piping shall be private water main and therefore shall be the responsibility of the owner/developer.

The owner/developer shall be responsible for all expenses associated with the water main installation including the connections to the existing mains outside the *Canon Americas* property and all necessary permits. At this time we estimate that the water main extension will cost \$1,620,000. This preliminary cost estimate includes all construction costs as well as engineering, inspection, and administrative/legal fees associated with the water main installation as shown on the attached cost opinion summary. A certified check in the amount of \$324,000, which represents 20 percent of the water main extension cost, payable to the South Huntington Water District, must be deposited with the District in order for the design and public bidding of the water main installation to proceed.

It should be noted that the above cost estimate includes the cost of installing the service stubs to the property line, including the valves. However, it is the responsibility of the owner/developer to furnish and install the meters and RPZ devices in accordance with District specifications. Additionally, an approved backflow prevention plan is required prior to installation of the new services and water main. Note the South Huntington Water District is not responsible for sizing of the service lines.



CELEBRATING 75 YEARS

ACEC
MEMBER





Mr. Anthony Giuliani
July 15, 2008
Page 2 of 2

Since the size of the services to the property has not yet been determined or provided to us, for the purpose of the cost estimate we assumed their size to be 8-inch.

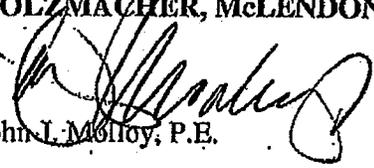
In addition to the above, the South Huntington Water District will supply water to the subject property after compliance with the following:

- A. Execution of a Water Supply Agreement.
- B. Payment of the system construction charges levied by the Water District for each new non-residential service: The current system construction charge for each 8" service is \$160,000. *Note: The system construction charges have been included in the attached cost opinion summary.*
- C. Payment of the filing, inspection and tapping fee that will also be required prior to the execution of the water supply agreement. This fee is currently \$510.00 per metered service connection. The developer is also required to purchase the related AMR equipment from the District when they are ready for the actual metered installation. *Note: The filing fee and AMR costs have been included in the attached cost opinion summary.*
- D. All other requirements of the South Huntington Water District.

If you should have any questions in this matter please contact this office.

Very truly yours,

HOLZMACHER, McLENDON & MURRELL, P.C.


John L. Molloy, P.E.

JJM:RJL

cc: Board of Commissioners
Supt. Kevin J. Carroll
Gen. Admin. Richard Wurtz
Michael L. McCarthy, Esq.
Town Planning Board

COUNTY OF SUFFOLK



STEVE LEVY
SUFFOLK COUNTY EXECUTIVE

DEPARTMENT OF PUBLIC WORKS

THOMAS LAGUARDIA, P.E.
CHIEF DEPUTY COMMISSIONER

GILBERT ANDERSON, P.E.
COMMISSIONER

LOUIS CALDERONE
DEPUTY COMMISSIONER

Letter of Sewer Availability (LOSA)

Dear Requestor:

In order to request a Letter of Sewer Availability (LOSA) the following information must be provided:

Name: Anthony Giuliani Company: Bohler Engineering P.C.
Address: 2002 Orville Drive North, Ste. 100 Telephone No.: 631-738-1200
Ronkonkoma NY 11779 Email Address: tgiviani@bohlereng.com
SCTM No. _____ SEE BELOW

(example: for parcel 1 = 0200-17500-0500-001000 or for parcel 1.1 = 0200-17500-0500-001001)

Address of parcel (or general location if address is not available)

Southwest corner of South Service Road
and Walt Whitman Rd, Melville

Once this information has been received, it will be process and emailed to you.

If you have any questions or require additional information concerning this matter, please contact me at 631-852-4187.

Sincerely,

Craig A Platt

Craig A Platt
Secretary, SC Sewer Agency

SCTM #'s:

0200 - 25400 - 0100 - 004000

0200 - 25400 - 0100 - 009000

0200 - 25400 - 0200 - 004000

0200 - 25400 - 0200 - 049000

CAP/pc

Cc: John Donovan, P.E.
LOSA Request Form 4-24-08

SUFFOLK COUNTY IS AN EQUAL OPPORTUNITY / AFFIRMATIVE ACTION EMPLOYER

COUNTY OF SUFFOLK



STEVE LEVY
SUFFOLK COUNTY EXECUTIVE

DEPARTMENT OF PUBLIC WORKS

THOMAS LAGUARDIA, P.E.
CHIEF DEPUTY COMMISSIONER

GILBERT ANDERSON, P.E.
COMMISSIONER

LOUIS CALDERONE
DEPUTY COMMISSIONER

April 24, 2008

Tony Giuliani
Senior Project Engineer
Bohler Engineering, PC
2002 Orville Drive North - Suite 100
Ronkonkoma, NY 11779

Re: Letter of Sewer Availability (LOSA) – SCTM Nos. 0400-25400-0100-004000 –
0400-25400-0100-009000 – 0400-25400-0200-004000 – 0400-25400-0200-049000

Dear Mr. Giuliani:

Please be advised that while the above referenced parcel is not within the boundaries of any Suffolk County Sewer District, it is within near proximity to some of the contractees to Suffolk County Sewer District No. 3 – Southwest. Capacity has been set aside for the development of parcels such as this, so there is sewer availability for the above referenced parcels. It is my understanding that your request is for 60,000 GPD. However, please bear in mind that the NYSDEC must approve the gallonage requested.

Please contact the Sanitation Permit Office for details of the sewers and locations where best to make connections. Mr. Joseph Farina heads up that office, which is located at the Bergen Point Treatment Plant at 600 Bergen Ave. in West Babylon. His phone number is 631-854-4185.

If you have any questions or require additional information concerning this matter, please contact me at 631-852-4187.

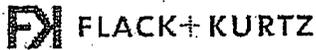
Sincerely,

Handwritten signature of Craig A. Platt in cursive.

Craig A. Platt
Secretary, SC Sewer Agency

Cc: John Donovan, P.E. } email
Joseph Farina }

SUFFOLK COUNTY IS AN EQUAL OPPORTUNITY / AFFIRMATIVE ACTION EMPLOYER



NEW YORK
SAN FRANCISCO
SEATTLE
WASHINGTON DC
LONDON
PARIS
HONG KONG
SYDNEY

475 Fifth Avenue
New York, NY 10017
212.532.6600 Main
212.689.7489 Fax
www.flackandkurtz.com

May 9, 2008
Revised July 08, 2008

Sue Feinsod
Senior Account Executive Major Accounts
LIPA/KeySpan
25 Hub Drive Melville, NY 11747
Office Phone: 631 755 5308
Cell Phone: 516 319 5026
Fax: 631 755 5380

Re: Canon Americas Headquarters
F+K Ref. No. N08.34110.00

Owner: CANON U.S.A. INC, One Canon Plaza
Lake Success, N.Y. 11042-2118

Owner Rep: Mr. Laurence M. Giglio
Director, General Affairs

Tele: 516-328-4717

Dear Ms Feinsod:

Flack + Kurtz has been retained to provide design engineering services for a new office headquarters building at corner of Old Walt Whitman Road and LIE South Service Road with outdoor parking garage. Enclosed please find copy of site plan, SKE-SITE for the above referenced project indicating our desired point of electric service entry.

General information pertaining to the building is as follows:

GROSS OFFICE SPACE AREA:	690,000 sq. ft
OUTDOOR PARKING GARAGE: (3 levels on the south and 3 levels on the north)	488,225 sq. ft
NUMBER OF FLOORS ABOVE GRADE:	5
NUMBER OF FLOORS BELOW GRADE:	1
ENERGY FOR HEATING:	GAS
ENERGY FOR COOLING:	ELECTRICITY

The following is a breakdown of our preliminary connected loads:

Floor	Description	Gross Square Feet	Pow. & Ltg. Load Density W/SF	Connected Load KW	Demand Load 60%	
Basement	Fitness	5,400	1.5 W/SF	8 KW		
	MEP	32,400	2.0 W/SF	65 KW		
	Storage	29,400	1.5 W/SF	44 KW		
	Recycling	7,800	1.5 W/SF	12 KW		
	Printing	7,800	5.0 W/SF	39 KW		
	Executive Parking	13,200	1.0 W/SF	13 KW		
	Lab - I (Research)	21,000	15.0 W/SF	315 KW		
	Lab - II (Research)	6,300	15.0 W/SF	95 KW		
		<i>Sub Total =</i>	123,300		591 KW	355 KW
Level - I	Library	1,200	2.5 W/SF	3 KW		
	Conference Center I	6,600	2.5 W/SF	17 KW		
	Conference Center II	5,400	2.5 W/SF	14 KW		
	Showroom	15,600	13.0 W/SF	203 KW		
	Training Center	13,200	15.0 W/SF	198 KW		
	Multi-Purpose Hall	8,100	5.0 W/SF	41 KW		
	Lobby	8,100	2.5 W/SF	20 KW		
	Waiting	2,700	2.0 W/SF	5 KW		
	Mailroom	4,200	4.0 W/SF	17 KW		
	Loading Dock	3,600	2.0 W/SF	7 KW		
	Café / Kitchen	10,000	30.0 W/SF	300 KW		
	Reserve	7,800	2.0 W/SF	16 KW		
	Multi-level Circulation (unassigned)	89,000	4.0 W/SF	356 KW		
	Lab - III (Research)	7,800	15.0 W/SF	117 KW		
	<i>Sub Total =</i>	183,300		1313 KW	788 KW	
Level - II	General Office (Level II thru IV)	344,900	4.5 W/SF	1552 KW		
		<i>Sub Total =</i>	344,900	1552 KW	931 KW	
Level - IV	Executive Suite	22,500	6.0 W/SF	135 KW		
		<i>Sub Total =</i>	22,500	135 KW	81 KW	
Total Gross Floor Area =		674,000				
Total KW =				3591 KW	2155 KW	

DATA CENTER

Floor	Description	Gross Square Feet	Pow. & Ltg. Load Density W/SF	Connected Load KW	Demand Load 100%
	Data Center	6,000		2000 KW	2000 KW
	Cooling Tower (1 @ 30 HP ea.)			22 KW	22 KW
	Chiller (1 @ 450 KW ea)			450 KW	450 KW
	CRAC-units (4 @ 40 HP ea.)			120 KW	120 KW
	Condenser Water Pumps (1 @ 50 HP ea.)			37 KW	37 KW
	Chilled Water Pumps (1 @ 50 HP ea.)			37 KW	37 KW
	<i>Sub Total =</i>			2666 KW	2666 KW

Additional Misc. Loads

Floor	Description	Gross Square Feet	Pow. & Ltg. Load Density W/SF	Connected Load KW	Demand Load 60%
	Future Office Space	210,000	4.5 W/SF	945 KW	
	Future Outdoor Parking Garage	360,000	1.0 W/SF	360 KW	
	Outdoor Parking Garage (3-level) (includes elevators)	488,225	1.0 W/SF	488 KW	
	<i>Sub Total =</i>			1793 KW	1076 KW

Mechanical Loads

	Chillers (3 @ 485 KW ea)			1455 KW	
	Cooling Tower (3 @ 60 HP ea.)			135 KW	
	Boiler (3 @ 25 HP ea.)			56 KW	
	AHU units (size varies = 1000 HP total)			746 KW	
	Condenser Water Pumps (4 @ 50 HP ea.)			150 KW	
	Chilled Water Pumps (4 @ 50 HP ea.)			150 KW	
	Misc Fans (size varies = 500 HP total)			373 KW	
	<i>Sub Total =</i>			3065 KW	1839 KW

Plumbing Loads

	Fire Pump (150 HP)			0 KW	
	Jockey Pump (5 HP)			0 KW	
	Triplex Booster Pumps (3 @ 15 HP)			34 KW	
	<i>Sub Total =</i>			34 KW	20 KW

DATA CENTER

Floor	Description	Gross Square Feet	Pow. & Ltg. Load Density W/SF	Connected Load KW	Demand Load 100%
	Data Center	6,000		2000 KW	2000 KW
	Cooling Tower (1 @ 30 HP ea.)			22 KW	22 KW
	Chiller (1 @ 450 KW ea.)			450 KW	450 KW
	CRAC-units (4 @ 40 HP ea.)			120 KW	120 KW
	Condenser Water Pumps (1 @ 50 HP ea.)			37 KW	37 KW
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Floor	Description	Gross Square Feet	Pow. & Ltg. Load Density W/SF	Connected Load KW	Demand Load 60%
	Future Office Space	210,000	4.5 W/SF	945 KW	
	Future Outdoor Parking Garage	360,000	1.0 W/SF	360 KW	
	Outdoor Parking Garage (3-level) (includes elevators)	488,225	1.0 W/SF	488 KW	
	<i>Sub Total =</i>			1793 KW	1076 KW

Mechanical Loads

	Chillers (3 @ 485 KW ea.)			1455 KW	
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	Fire Pump (150 HP)			0 KW	
	Jockey Pump (5 HP)			0 KW	
	Triplex Booster Pumps (3 @ 15 HP)			34 KW	
	<i>Sub Total =</i>			34 KW	20 KW

nationalgrid

175 East Old Country Rd, East Bldg
Hicksville, NY 11801

June 23, 2008

Tony Giuliani, Sr. Project Engineer
Bohler Engineering
2002 Orville Drive North
Suite 100
Ronkonkoma, NY 11779

Re: Gas Availability
Canon America Headquarters
Corner of Old Walt Whitman Rd & LIE South
Melville, NY 11747

Dear Mr. Giuliani,

We are please to advise that gas capacity of approximately 44.32 dth/hr will be reserved for the above referenced project, and will be provided in accordance with our filed tariffs and schedules in effect at the time service is required. A 4" 60 PSIG gas steel main is available on Old Walt Whitman Road for access to the point-of-entry to north-east corner of the proposed new building. It should also be noted that any significant load addition in the area will require a main re-inforcement.

We do not anticipate any charge, at this time, for service installation. A final determination will be made at a later date, after details of the project are received. If you have questions or require additional information, please contact me at (516) 545-3876.

Sincerely,



Chet Singh, Sr. Sales Engineer
Registered Gas Consultant

COUNTY OF SUFFOLK

STEVE LEVY
COUNTY EXECUTIVERICHARD DORMER
POLICE COMMISSIONER

POLICE DEPARTMENT

July 9, 2008

David Berg, AICP
Cameron Engineering & Associates, LLP
100 Sunnyside Blvd.
Woodbury, NY 11797

Dear Mr. Berg:

Re: Proposed Canon USA Headquarters

In response to your request for acknowledgement of the capacity of the Suffolk County Police Department to provide police services for the facility under consideration for Canon USA headquarters, the attached letter is submitted for your review.

Based on your description of the project, the Suffolk County Police Department will provide police services within the confines of existing personnel.

There is no single determining factor utilized in the decision to deploy a specific number of officers to a particular area. Factors such as population, both resident and transient, demographics, traffic patterns, police hazards, and emergency vehicle response times must all be considered.

The Suffolk County Police Department has a history of adapting to the needs of a growing population and will continue to support the expansion of the community.

Sincerely,

Aristides Mojica, Inspector
Office of the Chief of Department

ACCREDITED LAW ENFORCEMENT AGENCY

www.joinscpd.com

30 YAPHANK AVENUE, YAPHANK, NEW YORK 11980 - (631) 852-6000

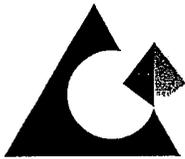


APPENDIX B

SOIL MANAGEMENT PLAN

TOWN RESOLUTION

DATED AUGUST 20, 2008



**WHITESTONE
ASSOCIATES, INC.**

ENVIRONMENTAL & GEOTECHNICAL ENGINEERS & CONSULTANTS

35 TECHNOLOGY DRIVE
WARREN, NJ 07059
908.668.7777
FAX 908.754.5936
www.whitestoneassoc.com

SOIL MANAGEMENT PLAN FOR ARSENIC CONTAMINATED SOILS

**PROPOSED OFFICE COMPLEX
SOUTH SERVICE ROAD AND WALT WHITMAN ROAD
MELVILLE, SUFFOLK COUNTY, NEW YORK**

Submitted to:

**TOWN OF HUNTINGTON
Department of Planning & Environment
Town Hall
100 Main Street
Huntington, New York 11743**

Prepared for:

**CANON U.S.A., INC.
One Canon Plaza
Lake Success, New York 11042**

Prepared by:

**WHITESTONE ASSOCIATES, INC.
35 Technology Drive
Warren, New Jersey 07059**

**Whitestone Project #EJ0810321.000
May 2008**

Other Office Locations:

■ CHALFONT, PA
215.712.2700

■ STERLING, VA
703.464.5858

■ EVERGREEN, CO
303.670.6905



35 TECHNOLOGY DRIVE
WARREN, NJ 07059
908.668.7777
FAX 908.754.5936
www.whitestoneassoc.com

May 7, 2008

via Federal Express

TOWN OF HUNTINGTON
Department of Planning & Environment
Town Hall
100 Main Street
Huntington, New York 11743

Attention: Mr. Anthony Aloisio
Director

**Regarding: SOIL MANAGEMENT PLAN FOR ARSENIC CONTAMINATED SOILS
PROPOSED OFFICE COMPLEX
SOUTH SERVICE ROAD AND WALT WHITMAN ROAD
MELVILLE, SUFFOLK COUNTY, NEW YORK
WHITESTONE PROJECT NO.: EJ0810321.000**

Dear Mr. Aloisio:

This *Soil Management Plan (SMP) for Arsenic Contaminated Soils* has been prepared to provide direction for the management of on-site soils containing elevated concentrations of arsenic. This SMP addresses proposed management alternatives for arsenic-impacted topsoil and underlying sand located throughout the former agricultural portions of the site. The SMP has been developed in conjunction with the Town of Huntington and in accordance with the proposed commercial office redevelopment of the site.

Please do not hesitate to contact us with any questions regarding these matters.

Sincerely,

WHITESTONE ASSOCIATES, INC.


Ronald Meloskie, CHMM
Senior Environmental Manager


Thomas K. Uzzo, P.E.A.
Principal

RM/kds L:\JobFolders\2008\0810321E\REPORTS\SMP-Melville-FINAL-5-08.wpd

Enclosure

Copy: Seymour Liebman, Esq., Canon U.S.A., Inc.
Edward A. Ambrosino, Esq., Canon, U.S.A., Inc
Thomas Gilhooley, E.W. Howell Company, Inc.
Thomas J. Filazzola, P.E., Bohler Engineering, P.C.

Other Office Locations:

■ CHALFONT, PA
215.712.2700

■ STERLING, VA
703.464.5858

■ EVERGREEN, CO
303.670.6905

**SOIL MANAGEMENT PLAN
FOR ARSENIC CONTAMINATED SOILS
Proposed Office Complex
South Service Road and Walt Whitman Road
Melville, Suffolk County, New York**

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FIGURES

FIGURE 1	Site Location Plan
FIGURE 2	Soil Sample Location Plan and Analytical Summary
FIGURE 3	Proposed Arsenic Soils Management Plan

TABLES

TABLE 1	Sampling Analyses Data Summary - August 2005
TABLE 2	Soil Analyses Data Summary - January 2007
TABLE 3	Groundwater Sampling and Analyses Data Summary - January 2007
TABLE 4	Soil Analyses Data Summary - February 2007
TABLE 5	Groundwater Sampling and Analyses Data Summary - February 2007

SECTION 1.0

Executive Summary

This *Soil Management Plan* (SMP) is being submitted by Whitestone Associates, Inc. (Whitestone) on behalf of Canon U.S.A., Inc. (Canon) to provide direction for the management of on-site soils containing elevated concentrations of arsenic. Arsenic documented in site soils likely resulted from former on-site agricultural operations and historic pesticide application. This SMP has been prepared in general accordance with the Suffolk County Department of Health Services (SCDHS) Division of Environmental Quality February 2006 *Procedures for Municipalities to Evaluate the Need for Soil Sampling and Soil Management at Subdivisions or Other Construction Projects with Potentially Contaminated Soils* (hereinafter referred to as the SCDHS Guidance). One of the principal goals of this effort is to present soil management alternatives that will allow for the arsenic-impacted materials to remain on site beneath the proposed buildings, driveways, parking lots, stormwater management basins, and/or landscaped areas.

The development activities will require stripping the topsoil as this material is not suitable for use as structural fill or backfill in its current state. The topsoil contains arsenic at concentrations that exceed SCDHS Guidance/Background levels of 4.0 parts per million (ppm) and likely is associated with historic application of lead arsenate or other arsenical pesticides. Surficial re-use of this material is not permitted by the Town of Huntington. Accordingly, the topsoil will be buried in areas of the site where structural fill or backfill are not required (e.g. beneath landscape areas and berms) or may be blended to reduce arsenic concentrations and/or organic content for surficial application or use as road/parking lot base. Similarly, the shallow arsenic-impacted sands beneath the topsoil will be buried within the roadway embankment in the northwestern portion of the site, encapsulated beneath asphaltic pavements or building slabs, and/or blended with the underlying clean sands to establish compliance with the SCHDS Guidance, Town of Huntington requirements, and project objectives for on-site or off-site beneficial re-use.

The following sections of this SMP detail the prior environmental and geotechnical investigations conducted to date, alternatives for management of arsenic-contaminated soils, health and safety considerations during soil handling, and future operations and maintenance requirements.

SECTION 2.0

Summary of Site Investigation Activities

The subject property is located southwestern corner of the intersection of South Service Road (Long Island Expressway, New York State Route 495) and Walt Whitman Road in Melville, Town of Huntington, Suffolk County, New York and consists of an approximately 51.44 acre parcel of land. Approximately 45.4 acres of the subject site formerly were used for agricultural purposes, and approximately six acres are wooded. A *Site Location Map* is provided as Figure 1. The planned site redevelopment includes construction of a five-story office building and two multi-level parking garages with surrounding parking lot, driveway, walkway, and landscaped areas. Findings and recommendations from previous investigative activities conducted at the subject property are summarized in the sub-sections that follow.

2.1 NELSON, POPE & VOORHIS, LLC 2005 INVESTIGATIONS

A June 30, 2005 *Phase I Environmental Site Assessment* (ESA) prepared by Nelson, Pope & Voorhis, LLC (NPV) for Holiday Organization (Holiday) identified the historic agricultural use as a recognized environmental condition (REC) and recommended sampling of the agricultural areas for pesticides and metals analyses.

Based on the findings of the 2005 ESA, a Phase II investigation of the agricultural areas was performed by NPV in September 2005, the findings of which are summarized in the September 28, 2005 *Limited Phase II Environmental Site Assessment*. During this investigation, 14 shallow soil locations (Pest-1 to Pest-14) were sampled with a hand auger in the agricultural portion of the site in the locations identified on Figure 2. Two samples were collected from each location at depths of 0 to 3.0 inches and 3.0 inches to 6.0 inches below surface grade. Retained samples were submitted to an analytical laboratory for pesticide, metals and/or arsenic analyses.

Laboratory data and sampling results were compared to the USEPA SSLs for a Residential Scenario and SCDHS background (arsenic) as the redevelopment of the site at that time was planned as residential. Twelve arsenic exceedances were reported in the samples collected from the 0 to 3.0 inch interval, and 12 arsenic exceedances were reported in samples collected from 3.0 inch to 6.0 inch intervals when compared with the USEPA Residential and Commercial/Industrial Scenario SSLs and SCDHS background. A slight exceedance of USEPA SSL Residential Scenario for the pesticide dieldrin (0.044 ppm) also was reported in NPV sample PEST-3 collected in the western portion of the site in the 0 to 3.0 inch deep sample (0.047 ppm) and in sample PEST-5 from the 3.0 to 6.0 inch deep sample (0.047 ppm). However, when compared to the USEPA SSL for Commercial/Industrial Scenarios, no pesticide exceedances were noted. Analytical results for NPV's 2005 Phase II efforts are summarized in Table 1.

2.2 WHITESTONE'S JANUARY 2007 PHASE I ESA AND PHASE II SI

Whitestone conducted a Phase I Environmental Site Assessment at the subject property in January 2007. Recognized environmental conditions identified by Whitestone included the observation of 55 gallon drums of hazardous or potentially hazardous materials that were buried, discarded or staged on unpaved surfaces at the subject property; stained soil in the vicinity of the on-site barn; former agricultural use of the property; and an on-site septic system associated with the barn.

Whitestone conducted a limited Phase II Site Investigation (SI) at the subject property in conjunction with the Phase I ESA in January 2007 to further evaluate the arsenic and pesticide detections identified by NPV in shallow site soils in the agricultural areas of the property. Whitestone's Phase II SI included limited soil and groundwater sampling and analyses for arsenic and pesticides in an attempt to determine if the elevated arsenic occurrences identified by NPV were naturally-occurring or the result of historic application of pesticides. A further goal of the Phase II SI was to characterize soils for the purpose of evaluating possible on- and/or off-site soil reuse options during site redevelopment activities based on the initial site redevelopment plans presented by Canon.

Seven borings (B-1 through B-7) were advanced throughout the site at the locations identified on Figure 2 to facilitate soil and groundwater sampling. Borings B-1 and B-3 were advanced within the central portion of the site; borings B-5 and B-6 were advanced within the northern portion of the site; and borings B-2, B-4 and B-7 were advanced within the southern portion of the site.

The soil samples retained for arsenic and pesticide analyses were collected from within initially proposed redevelopment "cut zones" that ranged in depth from seven feet to 24 feet below ground surface (fbgs) across the site. The soil samples collected from the seven borings (B-1 to B-7) were collected from the agricultural areas of the site from three varying two-foot vertical intervals within each boring as identified on Table 1. Additionally, two shallow (0 fbgs to 0.5 fbgs) soil samples (S-1 and S-2) were collected from non-agricultural, wooded areas located in the northeastern and southwestern portions of the site to establish background conditions in non-farmed areas.

Two groundwater samples also were collected for arsenic and pesticide analyses from temporary wellpoints (TWP) installed in the central portion of the site in soil borings B-3 (TW-1) and B-1 (TW-2). Groundwater was encountered in boring B-3 at 49.5 fbgs and in boring B-1 at 41.6 fbgs.

The samples were analyzed at Hampton-Clarke Laboratories of Fairfield, New Jersey, a New York State-certified laboratory (NY Certification #11408). Analytical results for the January 2007 Phase II SI sampling event are summarized in Tables 2 and 3.

As summarized in Table 2, arsenic was detected in the soil samples collected from borings B-2, B-3 and B-5 (advanced in the western portion of the site) and in the background sample S-1 (collected in a brush area in the northeastern portion of the site) at concentrations exceeding the SCDHS background. As indicated in Table 2, arsenic was detected in sample B-2A (2.0 fbgs to 4.0 fbgs) at 20 ppm; sample B-2B (10.0 fbgs to 12.0 fbgs) at 12 ppm; sample B-3A (2.0 fbgs to 4.0 fbgs) at 13 ppm; sample B-3B (4.0 fbgs to 6.0 fbgs) at 4.9 ppm; sample B-5A (2.0 fbgs to 4.0 fbgs) at 13 ppm; sample B-5B (8.0 fbgs to 10.0 fbgs); and sample S-1 (0.0 fbgs to 0.5 fbgs) at 23 ppm. Pesticides (4, 4' DDT and 4, 4' DDE) were detected in samples S-1, B-4A, B-6A, and B-7C at concentrations exceeding the laboratory method detection limit (MDL), however, less than USEPA Residential and Commercial/Industrial Scenario SSLs. The elevated arsenic concentration in a non-farmed area (sample S-1) may have resulted via wind or surface water run-off of arsenic to this low area of the site and not direct application of pesticides.

As summarized in Table 3, arsenic was detected in groundwater sample TW-1 (collected from soil boring B-3) at 36 parts per billion (ppb), slightly in excess of the NYSDEC Technical and Operations Series Guidance (TOGS) 1.1.1 Ambient Groundwater Quality Standard (AGQS) of 25 ppb. This arsenic detection likely is attributable to sample turbidity and the potential presence of arsenic containing sediments, which is common when sampling from temporary wellpoints. Arsenic was not detected at a concentration exceeding the laboratory MDL or NYSDEC AGQS in the groundwater sample collected from soil boring B-1 (TW-2). Pesticides were not detected in either groundwater sample at concentrations exceeding the laboratory MDL or NYSDEC AGQS.

2.3 WHITESTONE'S FEBRUARY 2007 SUPPLEMENTAL PHASE II SI

Whitestone conducted supplemental Phase II SI (SSI) activities at the subject property in February 2007 to further evaluate the arsenic and pesticides in soil and arsenic in groundwater within the agricultural portions of the property identified during the September 2005 and January 2007 investigation activities performed by NPV and Whitestone, respectively.

Whitestone collected eight additional subsurface soil samples (SS-1, SS-2, SS-3, SS-4, SS-5B, SS-6, SS-7, and SS-8C) throughout the agricultural portions of the site for arsenic analysis at depths of 1.0 fbgs to 1.5 fbgs in an effort to further delineate the vertical extent of the elevated arsenic. Additionally, two near surface soil samples (SS-9 and SS-10) also were collected in previously non-agricultural portions (native soils) in the southwestern portion of the site for arsenic analyses, and three soil samples (SS-5A, SS-8A and SS-8B) were collected from two locations in the western portion of the site for pesticide analyses where the pesticide compound dieldrin previously was identified by NPV at a concentration meeting USEPA SSL for a Residential Scenario. These samples were collected utilizing a hand auger. The sample locations are identified in Figure 2.

Based on the findings of Whitestone's January 2007 Phase II SI, two additional groundwater samples were collected for arsenic analysis from two additional temporary wellpoints (TWPs) installed in the central and eastern portions of the site (TW-3 and TW-4) utilizing hollow stem auger (HSA) drilling. Groundwater was encountered in TW-3 at 46.3 fbs and in TW-4 at 38.7 fbs. Both filtered (TW-3F and TW-4F) and unfiltered (TW-3U and TW-4U) groundwater samples were collected from each TWP for comparison purposes in an attempt to determine if the presence of the arsenic in the sample collected in January 2007 was the result of sediment entrained in the sample, which is common when sampling from TWPs.

The on-site well in the western portion of the site was accessed in an attempt to collect a groundwater sample utilizing low flow sampling techniques. The well was gauged at depth of approximately 74 feet, however, was dry. Accordingly, a groundwater sample could not be collected at this location.

The soil and groundwater samples were analyzed at Hampton-Clarke Laboratories of Fairfield, New Jersey, a New York State-certified laboratory (NY Certification #11408). Analytical results for the February 2007 sampling event are summarized in Tables 4 and 5.

As summarized in Table 4, arsenic was detected in soil samples SS-2, SS-3, SS-4, SS-5B, SS-6, SS-7 and SS-8C collected from the agricultural portions of the site and in the background sample SS-9 at concentrations exceeding SCDHS background of 4.0 ppm. The arsenic in background soil sample SS-9 (6.7 ppm) slightly exceeds the SCDHS background 4.0 ppm, however, is consistent with the typical Eastern United States (EUS) background (7.0 ppm to 12.0 ppm) utilized by NYSDEC. Arsenic was not detected in the background sample SS-10 collected from the non-agricultural/wooded area (native soils) in the southwestern portion of the site at a concentration exceeding SCDHS background.

As summarized in Table 4, the pesticides dieldrin, 4,4' DDE, 4, 4' DDT and/or 4, 4' DDE were detected in soil samples SS-5A, SS-8A and SS-8B at concentrations exceeding the laboratory MDL, however, less than USEPA SSLs.

As summarized in Table 5, arsenic was detected in the unfiltered groundwater sample (TW-3U) collected from TWP-3 at 31 parts per billion (ppb), which slightly exceeds the NYSDEC AGQS of 25 ppb. However, the filtered sample (TW-3F) from this location did not exhibit arsenic at a concentration exceeding the laboratory MDL or NYSDEC AGQS, confirming that the presence of arsenic was related to sediment entrained in the sample and not a groundwater contamination condition. Arsenic was not detected in the unfiltered (TW-4U) or filtered (TW-4F) sample collected from TWP-4 at a concentration exceeding the laboratory MDL or NYSDEC AGQS.

2.4 SUMMARY OF ARSENIC CONTAMINATION IN SOILS

Based on the sampling and analyses performed by Whitestone and NPV, the arsenic detections appear to be confined primarily to the organic layer of topsoil (ranging in thickness from zero to 10 inches and averaging approximately five inches to six inches across the site) with only several detections at or below the plough horizon (2.0 fbg to 4.0 fbg interval). Accordingly, the topsoil layer and the sands comprising the upper two feet of the soil horizon will be treated as arsenic impacted for the purposes of this SMP and the proposed redevelopment effort.

SECTION 3.0

Soil Management Plan

Based on the investigation activities performed by NPV in 2005 and Whitestone in January 2007 and February of 2007, elevated arsenic was identified across the agricultural portions of the site at concentrations exceeding the USEPA SSL of 4.0 ppm. Based on the soil investigation findings, the arsenic detections likely resulted from anthropogenic sources such as historic application of lead arsenate or other arsenical pesticides. The most elevated arsenic concentrations in soil are primarily confined to the organic layer of topsoil across the site (averaging 5.0 inches to 6.0 inches thick) and the underlying sands occurring to a total depth of 2.0 feet below ground surface.

The January 2007 groundwater sampling identified arsenic in an unfiltered groundwater sample at a concentration that slightly exceeded NYSDEC AGQS. Pesticides were not detected at concentrations exceeding NYSDEC AGQS. As the sampling of groundwater was from a temporary wellpoint, which often results in a turbid sample, Whitestone suspected that the elevated arsenic was related to sample turbidity and the potential presence of arsenic containing sediments. Filtered groundwater samples collected in February 2007 did not exhibit arsenic exceedences, confirming that the presence of arsenic was related to sediment entrained in the sample and not a true groundwater contamination condition. Based on these findings, an impact to groundwater from historic pesticide use and the on-site presence of arsenic impacted soils was not identified, and no further investigation of or corrective action for groundwater was recommended.

Based on the identified presence of arsenic-impacted soils across the site at concentrations generally exceeding the USEPA SSL of 4.0 ppm, a *Soil Management Plan* (SMP) was required by the Town of Huntington. Based on the May 17, 2007 correspondence from the Town of Huntington and review of the project on April 7, 2008 with the Town, the Town maintains sole jurisdiction over this project with regard to the management of the arsenic-impacted soils. According to discussions with the Town, the arsenic-impacted soils should be managed in accordance with the SCDHS Guidance.

The development activities will require stripping the topsoil as this material is not suitable for use as structural fill or backfill in its current state. The topsoil contains arsenic at concentrations that exceed SCDHS Guidance/Background levels of 4.0 ppm and likely is associated with historic application of lead arsenate or other arsenical pesticides. Surficial re-use of this material is not permitted by the Town of Huntington. Accordingly, the topsoil will be buried in areas of the site where structural fill or backfill are not required (e.g. beneath landscape areas and berms) or may be blended to reduce arsenic concentrations and/or organic content for surficial application or use as road/parking lot base. Similarly, the shallow arsenic-impacted sands beneath the topsoil will be buried within the roadway embankment in the northwestern portion of the site, encapsulated beneath asphaltic pavements or building slabs, and/or blended with the underlying clean sands to establish compliance with the SCHDS Guidance, Town of Huntington requirements, and project objectives for on-site or off-site beneficial re-use.

3.1 TOPSOIL MANAGEMENT

The topsoil across the agricultural area of the site ranges in thickness from zero to 10 inches with an average of 5.0 inches to 6.0 inches. The volume of arsenic contaminated topsoil to be managed during redevelopment is estimated at 36,700 cubic yards, assuming an average thickness of six inches. Due to the elevated arsenic levels and organic content within the topsoil (average of 4% to 5% organic matter) the majority of the topsoil will be stripped and utilized primarily in non-structural areas of the site including placement within and beneath the northern berm, picnic area, and southern berm which have an estimated cumulative capacity of approximately 29,400 cubic yards. Secondary locations for the use of excess arsenic-impacted topsoil as fill will be within the roadway embankment fill area (capacity of 42,675 cubic yards) in the northwestern portion of the site, beneath other landscaped areas of the site, beneath the proposed lined ponds in the western portion of the site (to be over-excavated as necessary to accommodate the arsenic impacted soils). These areas would then be covered with a six-inch to 12-inch thick cap of clean soil/topsoil and vegetated, as required by the Town of Huntington. Excess material placed beneath the ponds effectively would be capped by the pond liners in these areas. The arsenic contaminated topsoil may also be blended with clean imported topsoil, soil and/or on-site clean sands to achieve compliance with the Town of Huntington and project objectives for arsenic (4 ppm or less) as well as the recommended organic content (4% organic matter) and pH (5.0 to 7.0) established by the Town of Huntington.

The remaining arsenic-impacted sands will be utilized within the roadway embankment fill area in the northwestern portion of the site, capped beneath the proposed site buildings, or blended with clean sands to achieve compliance with the Town of Huntington and project objectives. The cap areas would include the concrete building slabs and foundations, asphalt roadways, concrete walkways, and/or hardscape landscape features, or six inches to 12 inches of vegetated (landscaped) clean fill/soil/topsoil. These various caps effectively will isolate and contain underlying arsenic-impacted soils, thereby eliminating potential future exposure to underlying arsenic. Any fill, soil or topsoil that is imported to the site will be "certified clean" soil that does not exhibit contaminants exceeding SCDHS Guidance or Town of Huntington requirements.

3.2 BLENDING OPERATIONS

Based upon review of data obtained during the February 2007 supplemental Phase II SI, the average arsenic concentration in sand encountered beneath the topsoil (the roughly 18 inch interval occurring from six inches to 24 inches below ground surface) is 21.85 ppm, and the average arsenic concentration within sand in the 2.0 foot to 4.0 foot interval is approximately 7.0 ppm. To achieve the 4.0 ppm standard, the blending ratio for the arsenic-impacted sand from 6.0 inches to 24.0 inches is anticipated at six parts clean sand to one part arsenic-impacted soil. The blending ratio for the 2.0 foot to 4.0 foot interval would be one part clean sand to one part arsenic-impacted sand. If necessary, additional soil sampling and analyses may be conducted to refine the final blending ratios. Proposed grading plans indicate an anticipated 14,500 cubic yards of arsenic-impacted sand will require handling/management to accommodate site redevelopment.

The blending will be performed by mixing arsenic-impacted sands and clean excavated sands in a staging area(s) at the ratios listed above, or through in-place vertical mixing. Silt fences and hay bales will be utilized for soil erosion and sediment control as necessary during the blending operations. Blended soil will be compacted in accordance with site geotechnical criteria following completion of the blending operations.

Upon completion of soil blending, samples will be collected from the blended material for arsenic analysis, as necessary, (i.e., for blended soil that will be placed at a depth of less than 12 inches below the surface in areas covered with a soil cap, or for blended soil exported off site for beneficial re-use, if applicable). One five-point composite soil sample will be collected for every 10,000 cubic yards of blended soil for arsenic analysis to document compliance with Town of Huntington and project objectives.

Reasonable and practical efforts will be made to achieve the 4.0 ppm compliance concentration for arsenic outlined by the SCDHS Guidance and requested by the Town of Huntington. However, due the large-scale operation and nature of the arsenic soil management efforts, as well as the intended non-residential use of the site, the site-wide compliance criteria for arsenic for this project may default to the NYSDEC Technical and Administrative Guidance Memorandum (TAGM) RSCO of 7.5 ppm and/or Eastern USA Background of 3.0 to 12 ppm, upon approval from the Town of Huntington.

No action will be taken in the wooded areas in the southwestern and northeastern (approximately six acres) portions of the site as these areas will be undisturbed by the site development activities.

Anticipated utilization areas for the topsoil, "cap" locations/descriptions and blending areas and areas of no action are illustrated in the *Proposed Arsenic Soils Management Plan* attached as Figure 3.

The off-site re-use (if required) of excess clean sand or blended sand (total arsenic concentration of less than 4.0 ppm) will be at the discretion of Canon.

Although not anticipated, should the project require the off-site management of arsenic-impacted soils, such material will be managed in accordance with Federal, State and local waste management regulations and soil reuse guidelines.

3.3 HEALTH & SAFETY CONSIDERATIONS

The health and safety procedures and dust mitigation measures outlined in Whitestone's *Site-Specific Health and Safety Plan for Earthwork Operations* (HASP) will apply to all on-site earthwork activities involving arsenic impacted soils/sands. By employing proper safety and precautionary procedures during site earthwork activities, including dust suppression and ambient particulate monitoring, the arsenic impacted soils can effectively be managed on site in accordance with the recommendations established pursuant to the

SCDHS Guidance. The combination of preventing/mitigating dust emissions during construction and redeveloping the site as proposed will provide for a protective environment with respect to residual arsenic concentrations post-development.

3.4 MONITORING AND INSPECTION DURING SOILS MANAGEMENT

Concurrently with the on-site management of the elevated arsenic containing soils, ambient particulate air monitoring services will be performed in accordance with the HASP. Ambient particulate (dust) concentrations will be monitored at the perimeter of the site during earthwork activities involving management of arsenic-containing soils. Water trucks and other measures will be provided to conduct dust suppression activities during earthwork operations involving disturbance of soils with elevated arsenic levels. Dust mitigation through water application will be repeated in areas where visible evidence of particulate liberation is observed and where elevated particulate levels are recorded. Specifically, a continuous readout, fixed based air monitoring station will be established between the site and adjoining residential properties to the south to provide a record of ambient particulate (dust) levels during arsenic soil management activities. Details of the air monitoring program will be included in the HASP.

3.5 FUTURE OPERATION AND MAINTENANCE CONSIDERATIONS

As soils at the property contain arsenic at a concentration that exceeds SCDHS Guideline of 4.0 ppm, appropriate future operations and maintenance considerations must be adhered to ensure future protection of site occupants and other personnel.

No person shall make any alteration, improvement, or disturbance in, to the site which disturbs any engineering control or area of arsenic contaminated soil without first obtaining approval from the property owner/operator and the Town of Huntington, as necessary. Upon completion of any disturbance of engineering control or arsenic contaminated soils these disturbed areas must be restored pre-disturbance conditions. Further, the owner or operator shall ensure that all applicable worker health and safety laws and regulations are followed during the alteration, improvement, or disturbance, and during the restoration and that exposure to arsenic contamination in excess of the applicable standards does not occur. The owner or operator shall maintain records of the nature of the alteration, improvement, or disturbance, the dates and duration of the alteration, improvement, or disturbance, the name of key individuals and their affiliations conducting the alteration, improvement, or disturbance, the amounts of soil generated for disposal, if any, the final disposition and any precautions taken to prevent exposure.

The persons responsible for conducting the remediation of the arsenic, the Owner, and the subsequent owners, lessees, and operators, shall monitor and maintain the engineering controls to ensure that the controls instituted continue to be protective of the public health and safety and of the environment. If at any time the proposed controls are determined to no longer be protective, additional remediation or protective measures may be warranted or required.

TABLE 1
Sampling Analyses Data
Summary - August 2005

TABLE 1
 SAMPLING ANALYSES DATA SUMMARY
 AUGUST 2005
 Canon, U.S.A., Inc. - Proposed Office Complex
 South Service Road and Wait Whitman Road
 Melville, Suffolk County, New York

SAMPLE ID	USEPA SSL/SC Background		EUS Background	NYSDEC RSCO	EUS Background	PEST-1		PEST-2		PEST-3		PEST-4		PEST-5		PEST-6		PEST-7		PEST-8		PEST-9		PEST-10		PEST-11		PEST-12		PEST-13		PEST-14		
	Ingestion	Inhalation				0-3	3-6	0-3	3-6	0-3	3-6	0-3	3-6	0-3	3-6	0-3	3-6	0-3	3-6	0-3	3-6	0-3	3-6	0-3	3-6	0-3	3-6	0-3	3-6	0-3	3-6	0-3	3-6	0-3
Arsenic	4	NE	3-12	7.5	3-12	20.9	21.5	3.75	3.75	2.3	22.5	10.8	11.5	26.8	26.4	16.6	15.9	14.4	20.3	31.9	3.3	3.6	3.69	3.6	6.17	6.17	15.1	17.4	13.5	18.6	17.3	17.2	13.8	13.7
Chlordane	7	120	NE	0.54	NE	0.044	0.044	-	-	0.074	-	-	-	0.057	-	-	-	0.02	-	-	-	0.022	0.042	-	-	-	-	-	-	-	-	-	0.085	
Dieldrin	0.2	2	NE	0.044	NE	0.012	0.012	-	-	0.044	0.03	-	-	0.047	0.046	-	-	0.011	-	-	-	0.025	0.026	-	-	-	-	-	-	-	-	-	0.018	
Endosulfan II	6,800	NE	NE	0.9	NE	ND	ND	-	-	0.008	-	-	-	0.01	-	-	-	ND	-	-	-	0.009	0.013	-	-	-	-	-	-	-	-	-	ND	
Endrin	23	NE	NE	0.1	NE	ND	ND	-	-	0.006	-	-	-	ND	-	-	-	ND	-	-	-	ND	ND	-	-	-	-	-	-	-	-	-	ND	
4,4'-DDD	13	NE	NE	2.9	NE	0.042	0.042	-	-	0.025	-	-	-	0.051	-	-	-	0.023	-	-	-	0.007	0.025	-	-	-	-	-	-	-	-	-	0.025	
4,4'-DDE	9	NE	NE	2.1	NE	0.234	0.234	-	-	0.25	-	-	-	0.327	-	-	-	0.092	-	-	-	0.5	0.133	-	-	-	-	-	-	-	-	-	0.151	
4,4'-DDT	8	NE	NE	2.1	NE	0.157	0.157	-	-	0.568	-	-	-	0.718	-	-	-	0.163	-	-	-	0.126	0.289	-	-	-	-	-	-	-	-	-	0.288	

Notes:
 1. USEPA SSL/SC Background - United States Department of Environmental Protection Agency Soil Screening Levels for Commercial/Industrial Scenario/Suffolk County Background
 2. TAGM RSCO - New York State Department of Environmental Conservation Recommended Soil Cleanup Objective
 3. EUS - Eastern United States Background
 4. All results reported in parts per million (ppm)
 5. Bold and shaded result indicates an exceedence of USEPA SSL/Suffolk County Background
 6. - Sample was not analyzed for this compound
 7. NE - No Established USEPA SSL

TABLE 2
Soil Analyses Data Summary -
January 2007

TABLE 2
SOIL ANALYSES DATA SUMMARY
JANUARY 2007

Canon U.S.A., Inc. - Proposed Office Complex
 South Service Road and Walt Whitman Road
 Melville, Town of Huntington, Suffolk County, New York

SAMPLE ID	USEPA SSL		EUS	S-1	S-2	B-1A	B-1C	B-2A	B-2B
	Ingestion	Inhalation							
Sample Depth (fbgs)	4	NE	Background	0.0-2.0	0.0-2.0	2.0-4.0	6.0-8.0	2.0-4.0	4.0-6.0
Arsenic			3-12	23	2.1	2	2	20	12
Pesticides									
p,p'-DDE	9	NE	NE	0.37	0.0027	0.0026	0.0026	0.0028	0.0026
p,p'-DDT	8	NE	NE	0.41	0.0027	0.0026	0.0026	0.0028	0.0026

Notes:

- USEPA SSL - United States Department of Environmental Protection Agency Soil Screening Levels for Commercial/Industrial Scenario
- TAGM RSCO - New York State Department of Environmental Conservation Recommended Soil Cleanup Objective
- EUS - Eastern United States Background
- All results reported in parts per million (ppm)
- Bold and shaded result indicates an exceedence of USEPA Ingestion or Inhalation SSL
- U - Not Detected. Concentration did not exceed laboratory Method Detection Limit (MDL)
- J - Data indicates the presence of a compound that meets the identification criteria but is less than the quantitation limit
- ~ Sample was not analyzed for this compound
- NE - No Established USEPA SSL
- fbgs - feet below ground surface

TABLE 2
SOIL ANALYSES DATA SUMMARY
JANUARY 2007

Canon U.S.A., Inc. - Proposed Office Complex
 South Service Road and Walt Whitman Road
 Melville, Town of Huntington, Suffolk County, New York

SAMPLE ID	USEPA SSL		EUS Background	NYSDEC RSCO	B-2C	B-3A	B-3B	B-4A	B-4B	B-5A	B-5B
	Ingestion	Inhalation									
Arsenic	4	NE	3-12	7.5	6.0-8.0	2.0-4.0	4.0-6.0	2.0-4.0	4.0-6.0	0.0-2.0	2.0-4.0
Pesticides					5.8	13	4.9	2.9	2	13	8.7
p,p'-DDE	9	NE	NE	2.1	0.0026 U	0.003 U	0.0026 U	0.0042	0.0026 U	0.003 U	0.0027 U
p,p'-DDT	8	NE	NE	2.1	0.0026 U	0.003 U	0.0026 U	0.0074	0.0046	0.003 U	0.0027 U

Notes:

- USEPA SSL - United States Department of Environmental Protection Agency Soil
- TAGM RSCO - New York State Department of Environmental Conservation Record
- EUS - Eastern United States Background
- All results reported in parts per million (ppm)
- Bold and shaded result indicates an exceedence of USEPA Ingestion or Inhalation
- U - Not Detected. Concentration did not not exceed laboratory Method Detection Limit
- J - Data indicates the presence of a compound that meets the identification criteria:
- ~ Sample was not analyzed for this compound
- NE - No Established USEPA SSL
- fbgs - feet below ground surface

TABLE 2
SOIL ANALYSES DATA SUMMARY
JANUARY 2007

Canon U.S.A., Inc. - Proposed Office Complex
 South Service Road and Walt Whitman Road
 Melville, Town of Huntington, Suffolk County, New York

SAMPLE ID	USEPA SSL		EUS Background	NYSDEC RSCO	B-5C 4.0-6.0	B-5D 6.0-8.0	B-6A 2.0-4.0	B-6B 10.0-12.0	B-7A 2.0-4.0	B-7B 4.0-6.0	B-7C 6.0-8.0
	Ingestion	Inhalation									
Arsenic	4	NE	3-12	7.5	3.1	3.7	2.1	2.1	2.4	2.1	2.1
Pesticides											
p,p'-DDE	9	NE	NE	2.1	0.0026	0.0031	0.0071	0.0026	0.0026	0.0027	0.013
p,p'-DDT	8	NE	NE	2.1	0.0026	0.0031	0.0085	0.0026	0.0026	0.0027	0.025

Notes:

1. USEPA SSL - United States Department of Environmental Protection Agency Soil
2. TAGM RSCO - New York State Department of Environmental Conservation Rec
3. EUS - Eastern United States Background
4. All results reported in parts per million (ppm)
5. Bold and shaded result indicates an exceedence of USEPA Ingestion or Inhalation
6. U - Not Detected. Concentration did not not exceed laboratory Method Detecti
7. J - Data indicates the presence of a compound that meets the identification criteri:
8. ~ Sample was not analyzed for this compound
9. NE - No Established USEPA SSL
10. fbgs - feet below ground surface

TABLE 3
Groundwater Sampling and
Analyses Data Summary -
January 2007

TABLE 3
GROUNDWATER SAMPLING AND ANALYSES DATA SUMMARY
JANUARY 2007
Canon U.S.A., Inc. - Proposed Office Complex
South Service Road and Walt Whitman Road
Melville, Town of Huntington, Suffolk County, New York

SAMPLE ID	TW-1	TW-2	TOGS 1.1.1
DTW (fbs)	49.5	41.6	
Parameter			
Arsenic	36	4 U	25
Pesticides	<i>No pesticides detected exceeding established criteria</i>		

Notes:

1. NYSDEC TOGS - New York State Department of Environmental Conservation Technical and Operations Series (1.1.1) Ambient Water Quality Standards
2. All results reported in micrograms per Liter (ug/L)
3. Bold result indicates an exceedence of NYSDEC TOGS Criteria
4. DTW fbs - Depth to groundwater (feet below ground surface)
5. U - Not Detected. Concentration did not exceed laboratory Method Detection Limit (MDL)

TABLE 4
Soil Analyses Data Summary -
February 2007

TABLE 4
SOIL ANALYSES DATA SUMMARY
FEBRUARY 2007
Canon U.S.A., Inc. - Proposed Office Complex
South Service Road and Walt Whitman Road
Melville, Town of Huntington, Suffolk County, New York

SAMPLE ID	USEPA SSL		NYSDEC RSCO	EUS Background	SS														
	Ingestion	Inhalation			SS-1 1.0-1.5	SS-2 1.0-1.5	SS-3 1.0-1.5	SS-4 1.0-1.5	SS-5A 0-0.25	SS-5B 1.0-1.5	SS-6 1.0-1.5	SS-7 1.0-1.5	SS-8A 0-0.25	SS-8B 0.25-0.5	SS-8C 1.0-1.5	SS-9 0.0-0.5	SS-10 0.0-0.5		
Arsenic	4	NE	7.5	3-12	3.4	39	24	51	-	30	27	20	-	-	-	-	15	6.7	2.4
Pesticides																			
Dieldrin	0.2	2	0.044	NE	-	-	-	-	-	-	-	-	-	0.043	-	-	-	-	-
p,p'-DDD	13	NE	2.9	NE	-	-	-	-	-	-	-	-	-	0.055 U	-	-	-	-	-
p,p'-DDE	9	NE	2.1	NE	-	-	-	-	-	-	-	-	-	0.15 U	-	-	-	-	-
p,p'-DDT	8	NE	2.1	NE	-	-	-	-	-	-	-	-	-	0.38 U	-	-	-	-	-

Notes:

1. USEPA SSL - United States Department of Environmental Protection Agency Soil Screening Levels for Commercial/Industrial Scenario
2. TAGM RSCO - New York State Department of Environmental Conservation Recommended Soil Cleanup Objective
3. EUS - Eastern United States Background
4. All results reported in parts per million (ppm)
5. Bold and shaded result indicates an exceedence of USEPA Ingestion or Inhalation SSL
6. U - Not Detected. Concentration did not not exceed laboratory Method Detection Limit (MDL)
7. J - Data indicates the presence of a compound that meets the identification criteria but is less than the quantitation limit
8. ~ Sample was not analyzed for this compound
9. NE - No Established USEPA SSL
10. fgs - feet below ground surface

TABLE 5
Groundwater Sampling and
Analyses Data Summary -
February 2007

TABLE 5
GROUNDWATER SAMPLING AND ANALYSES DATA SUMMARY
FEBRUARY 2007
Canon U.S.A., Inc. - Proposed Office Complex
South Service Road and Walt Whitman Road
Melville, Town of Huntington, Suffolk County, New York

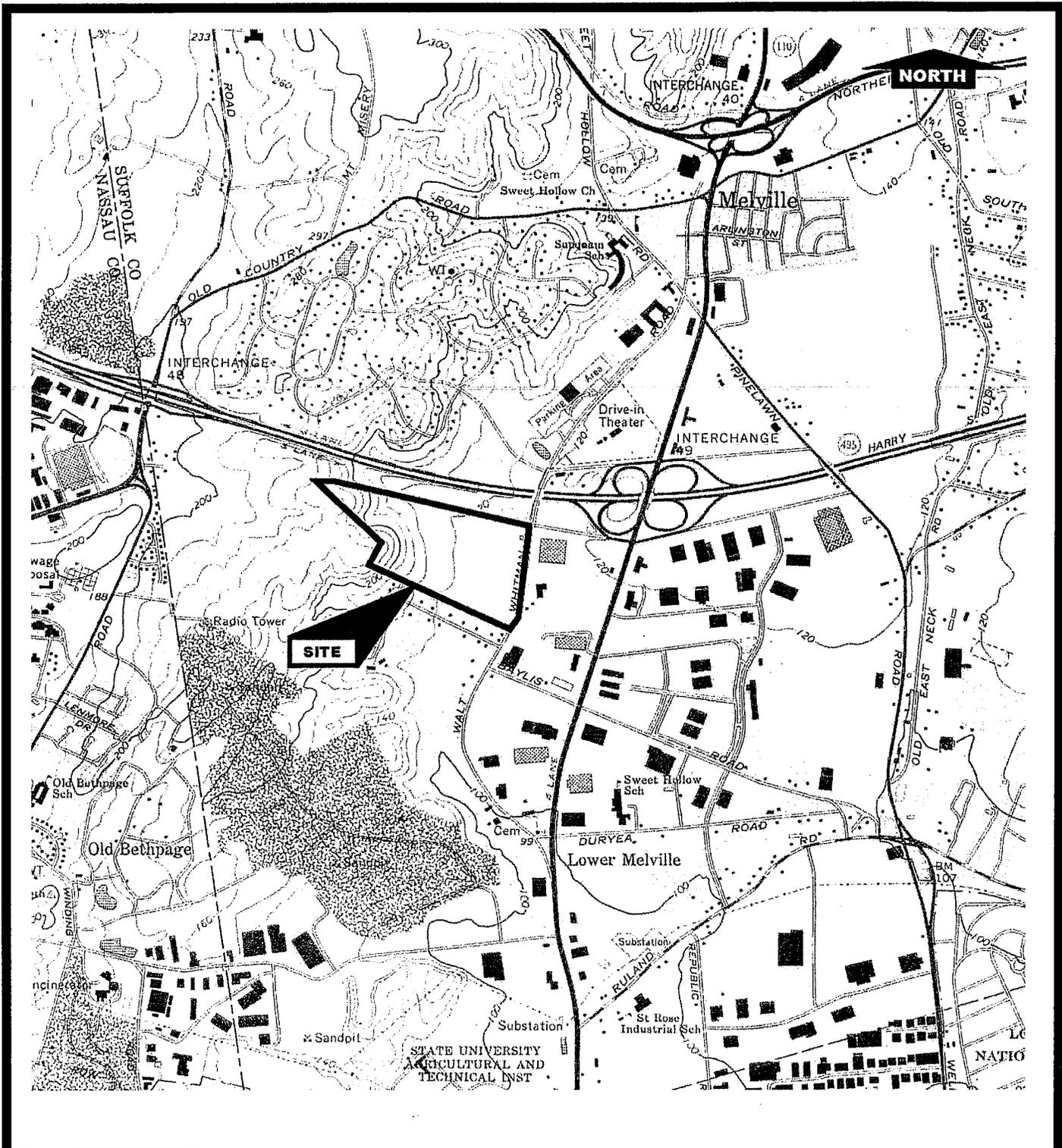
SAMPLE ID	TW-3U	TW-3F	TW-4U	TW-4F	NYSDEC TOGS
	<i>Unfiltered</i>	<i>Filtered</i>	<i>Unfiltered</i>	<i>Filtered</i>	
DTW (fbgs)	46.3		38.7		
Arsenic	31	0.5 U	0.5 U	0.5 U	25

Notes:

1. NYSDEC TOGS - New York State Department of Environmental Conservation Technical and Operational Series (1.1.1) Ambient Water Quality Standards
2. Bold results indicate an exceedance of NYSDEC TOGS and USEPA MCL.
3. All results reported in parts per billion (ppb) or micrograms per Liter (ug/L)
4. U - Not Detected. Concentration did not exceed laboratory Method Detection Limit (MDL)
5. DTW fbgs - Depth to groundwater (feet below ground surface)



FIGURE 1
Site Location Plan



TITLE: Site Location Plan

WHITESTONE ASSOCIATES, INC.

CLIENT: CANON U.S.A., INC.

35 TECHNOLOGY DRIVE
 WARREN, NEW JERSEY 07059
 908.668.7777 ♦ 908.754.5936 FAX

PROJECT: Proposed Office Complex
 South Service Road & Walt Whitman Road
 Melville, Suffolk County, New York

PROJECT #:
 EJ0810321.000

BY:
 USGS

PRO. MGR.
 RFM

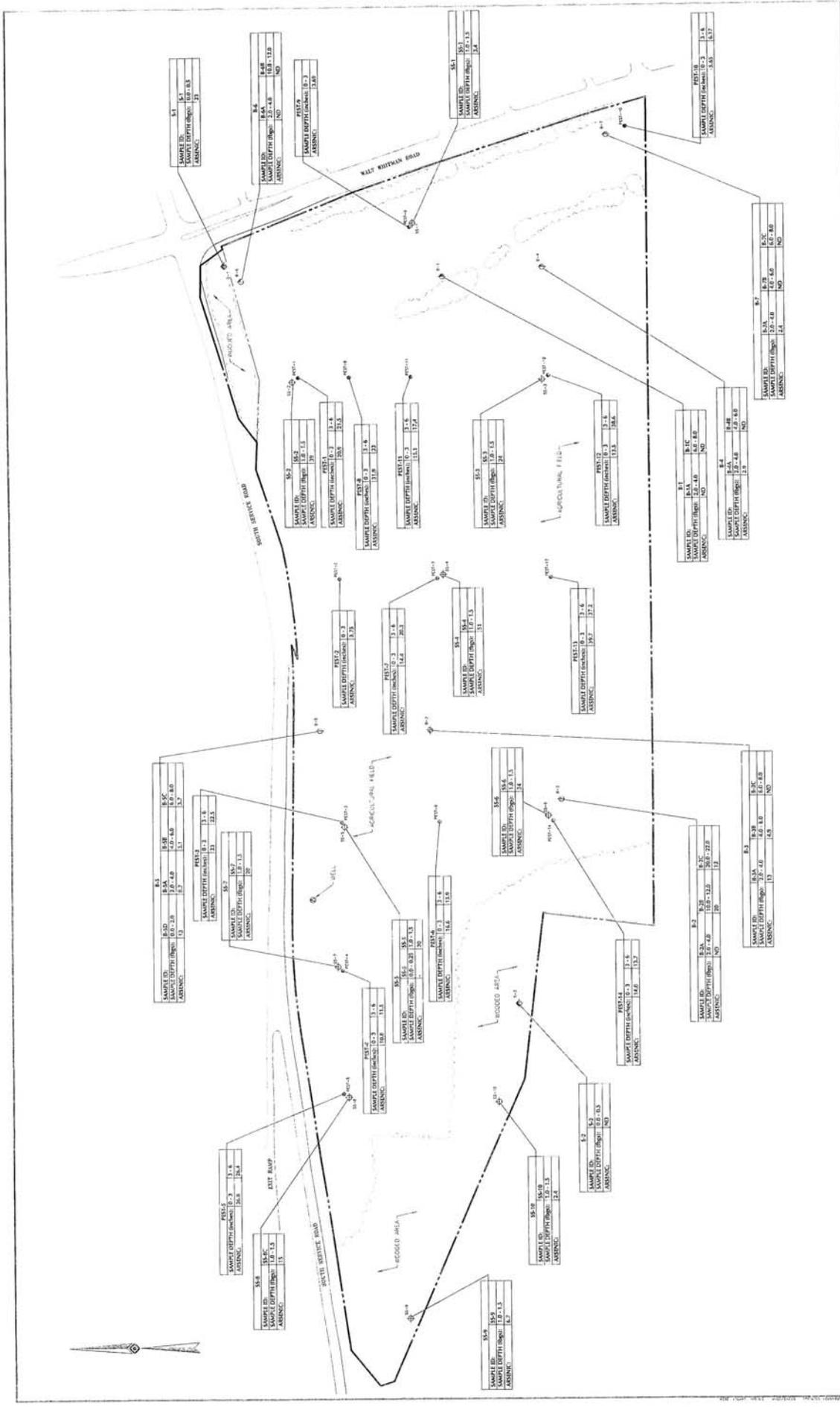
DATE:
 5/2008

SCALE:
 1:24,000

FIGURE:
 1



FIGURE 2
Soil Sampling Plan and
Analytical Data Summary



LEGEND

- BOREHOLE LOCATION (JANUARY 2007)
- BACKGROUND CORRECT SAMPLE LOCATION (JANUARY 2007)
- SOIL SAMPLE LOCATION (FEBRUARY 2007)
- SOIL SAMPLE LOCATION (AUGUST 2008)
- SOIL SAMPLE LOCATION (AUGUST 2008) REFERENCE

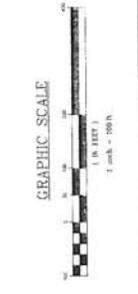
THIS PLAN IS BASED UPON AN UNDATED SURVEY PLAN PROVIDED BY BOWLE ENGINEERING, P.C.

NOTES:

- SOIL ANALYTICAL RESULTS ARE REPORTED IN PARTS PER MILLION (PPM)
- NON-DETECTABLE RESULTS ARE REPORTED IN PARTS PER MILLION (PPM)

ABBREVIATIONS:

- ND NOT DETECTED ABOVE LABORATORY METHOD DETECTION LIMIT
- PPM PARTS PER MILLION

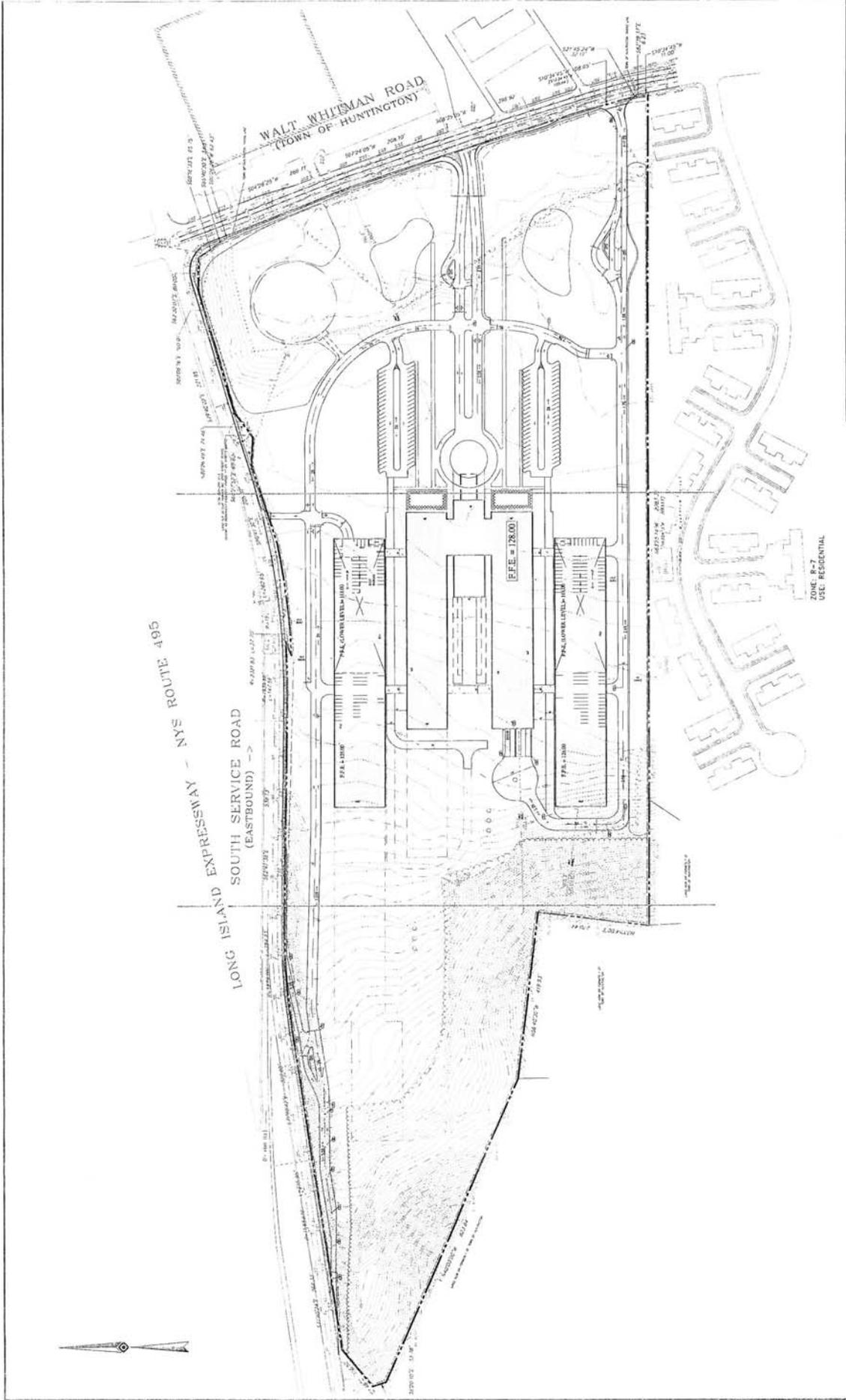


WHITESTONE ASSOCIATES, INC.
 35 TRANSCENDY DRIVE
 WARREN, NEW YORK 14559
 908.668.7777 • 908.754.9886 FAX

PROJECT #: 08100000000000000000
PROJECT NAME: PROPOSED OFFICE COMPLEX SOUTH SERVICE ROAD WEST BRITTA ROAD
CLIENT: CANON U.S.A., INC.
DATE: 08/08/08
SCALE: 1" = 100'
PROJECT #: 08100000000000000000
DATE: 08/08/08
SCALE: 1" = 100'



FIGURE 3
Proposed Arsenic Soils Management
Plan



WHITESTONE ASSOCIATES, INC. 15 TECHNOLOGY DRIVE WALKER HILLS 908.688.7777 • 908.754.9336 FAX	
SOIL MANAGEMENT PLAN	
CLIENT: CANON U.S.A., INC. PROJECT: PROPOSED OFFICE COMPLEX SOUTH SERVICE ROAD & WALT WHITMAN ROAD HUNTINGTON TOWN OF HUNTINGTON	PROJECT #: 19013312-000
DATE: 4/13/08	SCALE: 1" = 100'
BY: [Signature]	CHECKED BY: [Signature]

LEGEND

--- SUBJECT PROPERTY BOUNDARY

--- REFERENCE

THE PLAN IS BASED UPON AN APRIL 8, 2007 GRADING & DRAINAGE PLAN PREPARED BY BOULDER ENGINEERING, P.C.



ZONE: R-7
 USE: RESIDENTIAL

HUNTINGTON TOWN PLANNING BOARD

MEETING OF AUGUST 20, 2008

The following resolution was offered by M. Healy

and seconded by A. Rosen

WHEREAS, Canon USA, Inc., One Canon Plaza, Lake Success, New York 11042, submitted a site plan application for the **Canon Americas Headquarters**, property located on the southwest corner of the Long Island Expressway South Service Road (New York State Route 495) and Walt Whitman Road in Melville, and

WHEREAS, said action is to construct a 690,000 gross square foot office building with two parking garages (approximately 239,735 sf & 248,490 sf footprints), three guard booths and the commensurate Town of Huntington parking, loading, grading, drainage and landscaping requirements on a 52.17 acre (2,272,525 square foot) parcel located within an I-1 Light Industrial Zoning District & R-40 Residential Zoning District, and

WHEREAS, the Huntington Town Planning Board determined that significant environmental impacts may result from the implementation of the proposed project, and issued a Positive Declaration on August 6, 2008, and

WHEREAS, Phase II Environmental Site Assessment investigations have detected elevated levels of arsenic in site soils associated with the former agricultural use of the property, and

WHEREAS, Whitestone Associates, Inc., consultants for the applicant have completed a Soil Management Plan (SMP) and Site Specific Health and Safety Plan (HASp), dated May 2008, for the management of on-site soils containing elevated concentrations of arsenic, and

WHEREAS, the SMP has been prepared in general accordance with the Suffolk County Department of Health Services Division of Environmental Quality February 2006 *Procedures for Municipalities to Evaluate the Need for Soil Sampling and Soil Management at Subdivisions or Other Construction Projects with Potentially Contaminated Soils* (SCDHS Guidance), and

WHEREAS, the Town of Huntington has received and considered comments from the SCDHS, Division of Environmental Control, Office of Pollution Control, dated July 24, 2008 on the SMP and HASp; now therefore be it

**Resolution Approving Soil Management Plan for Canon USA
Planning Board Meeting of August 20, 2008
Page 2 of 3**

RESOLVED, the submitted SMP and HASP is determined to be acceptable subject to the following conditions:

- The procedures outlined in the SCDHS Guidance shall be adhered to in its entirety. Arsenic impacted soils will be placed beneath the proposed lined ponds or covered with a 6-inch to 12-inch thick cap of cleansoil/topsoil and vegetated as required. The blending of soils as proposed in the SMP will not occur.
- The 139 ppm value for arsenic referenced in the HASP was a typographical error, and there are no sampled arsenic concentrations at the site that exceeded 39 ppm.
- Based upon the current plan, no remedial action is required in the wooded areas of the site. Any future changes in the usage of the wooded areas shall be subject to re-review and evaluation.
- Post remediation samples shall be collected in areas that will remain bare ground and open to employees such as berms, the picnic area, the courtyard, the lawn areas and landscaped areas at a quantity to provide a reasonable assurance that the results are representative of surface concentrations.
- There shall be sufficient dust monitoring meters to adequately monitor all significant dust generation activities.
- The three (3) point sources identified in the SMP including the septic system and stains on the ground near the barn and 55 gallon drums buried or discarded on unpaved surfaces shall be sampled (for VOCs, pesticides and metals), evaluated and remediated, if needed, under the oversight of the SCDHS Office of Pollution Control.

And be it further,

RESOLVED to demonstrate adequate reductions in soil contamination, remedial work and confirmatory end point sampling and analysis should be completed prior to beginning normal construction operations, and be it further

RESOLVED, the Department of Engineering Services has no objection to remediation prior to issuing permits provided a pre-construction meeting is held, and be it further

RESOLVED, said remediation may commence subject to a pre-construction meeting and forty-eight (48) hour advance notice to the Departments of Planning and Environment and Engineering Services, and be it further

RESOLVED, that at no time during soil management operations shall activities exceed beyond that specified in the SMP, such as grading in anticipation of any future on-site construction, and be it further

RESOLVED, that pursuant to 6 NYCRR, SEQRA §617.3(a) & §617.5(c)(21 & 28), conducting the SMP to remediate an existing environmental condition in no way

**Resolution Approving Soil Management Plan for Canon USA
Planning Board Meeting of August 20, 2008
Page 3 of 3**

commits the Town to commence, engage in or approve the site plan application, and be it further

RESOLVED, that any future site activities, including new construction, the development of outdoor recreational facilities, repairs, laying pipes and maintenance that would result in exposure of arsenic-impacted capped soils, shall be subject to a supplemental SMP, and be it further

RESOLVED, that this Restrictive Covenant shall be submitted to the Town of Huntington, Department of Planning & Environment, approved by the Town Attorney, and filed in the Suffolk County Clerk's office.

VOTE: 5 AYES: 6 NOES: 0 ABSENT: 1

P. Mandelik, Chair	NOT VOTING
J. Devine, Vice Chair	AYE
M. Sommer	AYE
L. Santoianni	ABSENT
A. Rosen	AYE
S. Schnittman	AYE
M. Healy	AYE

The resolution was thereupon declared to be duly adopted.

APPENDIX C

**HEALTH AND SAFETY PLAN
FOR EARTHWORK OPERATIONS**



**WHITESTONE
ASSOCIATES, INC.**

ENVIRONMENTAL & GEOTECHNICAL ENGINEERS & CONSULTANTS

35 TECHNOLOGY DRIVE

WARREN, NJ 07059

908.668.7777

FAX 908.754.5936

www.whitestoneassoc.com

SITE-SPECIFIC HEALTH AND SAFETY PLAN FOR EARTHWORK OPERATIONS

**PROPOSED OFFICE COMPLEX
SOUTH SERVICE ROAD AND WALT WHITMAN ROAD
MELVILLE, SUFFOLK COUNTY, NEW YORK**

Prepared for:

**CANON U.S.A., INC.
One Canon Plaza
Lake Success, New York 11042**

Prepared by:

**WHITESTONE ASSOCIATES, INC.
35 Technology Drive
Warren, New Jersey 07059**

**Whitestone Project No. EJ0810321.000
May 2008**

Other Office Locations:

■ CHALFONT, PA
215.712.2700

■ STERLING, VA
703.464.5858

■ EVERGREEN, CO
303.670.6905

SITE-SPECIFIC HEALTH AND SAFETY PLAN
Proposed Office Complex
South Service Road and Walt Whitman Road
Melville, Town of Huntington, Suffolk County, New Jersey

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SITE-SPECIFIC HEALTH AND SAFETY PLAN
Proposed Office Complex
South Service Road and Walt Whitman Road
Melville, Town of Huntington, Suffolk County, New Jersey

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SITE-SPECIFIC HEALTH AND SAFETY PLAN
Proposed Office Complex
South Service Road and Walt Whitman Road
Melville, Town of Huntington, Suffolk County, New Jersey

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ATTACHMENTS

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ATTACHMENT B	Emergency Notification Table and Map to Hospital
ATTACHMENT C	Spill Prevention and Contingency Plan

SITE-SPECIFIC HEALTH AND SAFETY PLAN
Proposed Office Complex
South Service Road and Walt Whitman Road
Melville, Town of Huntington, Suffolk County, New Jersey

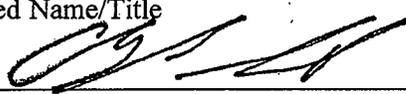
SIGNATURE SHEET

This Health and Safety Plan has been reviewed and hereby approved. By their signatures, the following undersigned certify that this Health and Safety Plan meets the requirements of 29 CFR 1910.120 and other applicable regulations for the protection of worker health and safety at this site.

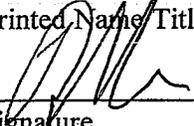
Thomas K. Uzzo/Principal
Printed Name/Title

Signature

Whitestone Associates, Inc.
Company
5/7/08
Date

Christopher Seib/Director, Environmental Division
Printed Name/Title

Signature

Whitestone Associates, Inc.
Company
5/7/08
Date

Ronald F. Meloskie/Senior Environmental Manager
Printed Name/Title

Signature

Whitestone Associates, Inc.
Company
5/7/08
Date

Printed Name/Title

Signature

Company

Date

SITE-SPECIFIC HEALTH AND SAFETY PLAN
Proposed Office Complex
South Service Road and Walt Whitman Road
Melville, Town of Huntington, Suffolk County, New Jersey

INTRODUCTION

The health and safety protocol established in this plan are based on the site conditions and chemical hazards known and/or anticipated to be present from available site data. The following *Site-Specific Health and Safety Plan* (HASP) was developed by Whitestone Associates, Inc. (Whitestone) on behalf of Canon U.S.A., Inc. (Canon) and is intended solely for use during earthwork operations associated with development of the proposed office complex at the southwestern corner of the intersection of South Service Road and Walt Whitman Road in Melville, Town of Huntington, Suffolk County, New York (hereinafter referred to as the "site" or the "subject property").

Operations associated with this project will be conducted in compliance with:

- ▶ February 2006 Suffolk County Department of Health Services (SCDHS) Division of Environmental Quality *Procedures for Municipalities to Evaluate the Need for Soil Sampling and Management at Subdivisions or Other Construction Projects with Potentially Contaminated Soils*;
- ▶ Occupational Safety and Health (OSHA) Regulations 29 CFR 1910.120, *Hazardous Waste Operations and Emergency Response*;
- ▶ Applicable parts of OSHA 29 CFR 1910, *General Industry*, Occupational Safety and Health (OSHA) Safety and Health Standards;
- ▶ Applicable parts of OSHA 29 CFR 1926, *Construction Industry*, OSHA Safety and Health Standards;
- ▶ Other applicable Federal, State, and local regulations; and
- ▶ Site contractor general safety plan and requirements.

All persons wishing to gain entry to active work areas of the site will:

1. Read or review the contents of this HASP with the Site Health and Safety Officer (SHSO); and
2. Acknowledge, in writing on the attached HASP Acknowledgment/Visitor Sign-In Sheet, their understanding of this HASP and all revisions¹ made to it.

¹ This HASP is subject to review and revision based on actual conditions encountered in the field.

SECTION 1.0

Project Overview

1.1 SITE DESCRIPTION

The subject property is located at the intersection of South Service Road and Walt Whitman Road in Melville, Town of Huntington, Suffolk County, New York, Latitude 40.7790 North, Longitude 73.4274 West. The property is identified further as District 400, Section 254, Block 1, Lots 4 and 9 and Block 2, Lots 4 and 49. The property reportedly comprises approximately 52 acres. The site location is shown in Figure 1.

The site currently consists of an agricultural property, and the majority of the site is occupied by agricultural fields. The subject property is bound by the Long Island Expressway beyond South Service Road to the north, WLNY TV-55 beyond Walt Whitman Road to the east, residential properties to the south, and wooded land to the west.

1.1.1 Existing Structures/Improvements

The subject property consists of agricultural fields with the exception of an approximately 7.2 acre wooded area in the western portion of the site.

1.1.2 Utilities

The subject property is serviced by electricity and public water. Electricity is provided to the site via overhead electric lines located along Walt Whitman Road. According to conversations with Bill Schmitt, who previously leased and operated the property since the 1960's, the site formerly utilized a private potable water well. The well reportedly was sealed during the construction of the Long Island Expressway and is located beneath the South Service Road to the north of the subject property.

1.1.3 Geological/Hydrogeological Characteristics

1.1.3.1 Topography/Geology

Topography at the subject site slopes from an approximate elevation of 200 feet above msl in the western portion of the site to an approximate elevation of 120 feet above msl in the eastern portion of the site.

The subject site is located within the Cretaceous Magothy formation and Upper Pleistocene glacial deposits. The upper glacial deposits are approximately 55 feet to 75 feet thick and are delineated at their base by light brown to orange brown silty clay with muscovite mica which is interbedded at the top of the Magothy formation. The Magothy formation underlies the upper glacial deposits. Materials encountered during

previous site investigations by others included yellowish-tan medium to coarse sand, gravel and cobbles to approximately 40 fbg.

Whitestone's previous subsurface investigations at the subject property encountered the following conditions:

Surface Cover: Soil borings typically either encountered topsoil or a ploughed horizon. Where encountered the topsoil ranged between zero inches to 12 inches in thickness. Where encountered, the ploughed horizon generally consisted of coarse to fine sand with variable amounts of silt and clay.

Possible Fill Materials: Beneath the surface cover, the borings occasionally encountered possible fill materials generally composed of coarse to fine sand with variable amounts of silt, clay and gravel.

Glacial Deposits: Beneath surface material, ploughed horizon, or possible fill, the soil borings encountered glacial deposits generally composed of coarse to fine sand with various amounts of gravel and trace silt. Within this stratum, borings encountered frequent gravel layers with various amounts of sand, silt and clay and occasional clay and silt layers with various amounts of sand and fine gravel.

1.1.3.2 Surface Water/Wetlands

No surface water or suspected wetlands areas were observed on the subject property, and no mapped wetlands areas were identified on site on the *2002 U.S. Fish and Wildlife Service National Wetlands Inventory Map*. The nearest NWI mapped wetland area was identified off site, north of South Service Road and west of Walt Whitman Road.

1.1.3.3 Groundwater

Groundwater was encountered during previous subsurface investigations at the subject property by Whitestone at depths ranging from 41.6 fbg to 49.5 fbg, corresponding to elevations between approximately 72.4 feet above mean sea level (ft msl) and 75.5 ft msl. Groundwater levels likely will fluctuate seasonally and following periods of precipitation.

1.1.4 Current, Historic and Proposed Site Usage

1.1.4.1 Current Uses of the Property

Until recently, the property was utilized for agricultural purposes. A wooded area is located in the western portion of the site.

1.1.4.2 Past Uses of the Property

According to historical sources reviewed by Whitestone, the subject site has been utilized for agricultural purposes since at least the 1930's. Corn, pumpkins, string beans, tomatoes and other seasonal vegetables reportedly were grown on site.

1.1.4.3 Proposed Uses of the Property

The planned site redevelopment includes construction of a five-story office building and two multi-level parking garages with surrounding parking lot, driveway, walkway, and landscaped areas.

1.2 PREVIOUS SITE INVESTIGATIONS/CURRENT ENVIRONMENTAL CONCERNS

1.2.1 Nelson, Pope & Voorhis, LLC 2005 Investigations

A June 30, 2005 *Phase I Environmental Site Assessment* (ESA) prepared by Nelson, Pope & Voorhis, LLC (NPV) for Holiday Organization (Holiday) identified the historic agricultural use as a recognized environmental condition (REC) and recommended sampling of the agricultural areas for pesticides and metals analyses.

Based on the findings of the 2005 ESA, a Phase II investigation of the agricultural areas was performed by NPV in September 2005, the findings of which are summarized in the September 28, 2005 *Limited Phase II Environmental Site Assessment*. During this investigation, 14 shallow soil locations (Pest-1 to Pest-14) were sampled with a hand auger in the agricultural portion of the site in the locations identified on Figure 2. Two samples were collected from each location at depths of 0 to 3.0 inches and 3.0 inches to 6.0 inches below surface grade. Retained samples were submitted to an analytical laboratory for pesticide, metals and/or arsenic analyses.

Laboratory data and sampling results were compared to the USEPA SSLs for a Residential Scenario and SCDHS background (arsenic) as the redevelopment of the site at that time was planned as residential. Twelve arsenic exceedances were reported in the samples collected from the 0 to 3.0 inch interval, and 12 arsenic exceedances were reported in samples collected from 3.0 inch to 6.0 inch intervals when compared with the USEPA Residential and Commercial/Industrial Scenario SSLs and SCDHS background. A slight exceedance of USEPA SSL Residential Scenario for the pesticide dieldrin (0.044 ppm) also was reported in NPV sample PEST-3 collected in the western portion of the site in the 0 to 3.0 inch deep sample (0.047 ppm) and in sample PEST-5 from the 3.0 to 6.0 inch deep sample (0.047 ppm). However, when compared to the USEPA SSL for Commercial/Industrial Scenarios, no pesticide exceedances were noted. Analytical results for NPV's 2005 Phase II efforts are summarized in Table 1.

1.2.2 Whitestone's January 2007 Phase I ESA and Phase II SI

Whitestone conducted a Phase I Environmental Site Assessment at the subject property in January 2007. Recognized environmental conditions identified by Whitestone included the observation of 55 gallon drums of hazardous or potentially hazardous materials that were buried, discarded or staged on unpaved surfaces at the subject property; stained soil in the vicinity of the on-site barn; former agricultural use of the property; and an on-site septic system associated with the barn.

Whitestone conducted a limited Phase II Site Investigation (SI) at the subject property in conjunction with the Phase I ESA in January 2007 to further evaluate the arsenic and pesticide detections identified by NPV in shallow site soils in the agricultural areas of the property. Whitestone's Phase II SI included limited soil and groundwater sampling and analyses for arsenic and pesticides in an attempt to determine if the elevated arsenic occurrences identified by NPV were naturally-occurring or the result of historic application of pesticides. A further goal of the Phase II SI was to characterize soils for the purpose of evaluating possible on- and/or off-site soil reuse options during site redevelopment activities based on the initial site redevelopment plans presented by Canon.

Arsenic was detected in the soil samples collected from borings B-2, B-3 and B-5 (advanced in the western portion of the site) and in the background sample S-1 (collected in a brush area in the northeastern portion of the site) at concentrations exceeding the SCDHS background. As indicated in Table 2, arsenic was detected in sample B-2A (2.0 fbg to 4.0 fbg) at 20 ppm; sample B-2B (10.0 fbg to 12.0 fbg) at 12 ppm; sample B-3A (2.0 fbg to 4.0 fbg) at 13 ppm; sample B-3B (4.0 fbg to 6.0 fbg) at 4.9 ppm; sample B-5A (2.0 fbg to 4.0 fbg) at 13 ppm; sample B-5B (8.0 fbg to 10.0 fbg); and sample S-1 (0.0 fbg to 0.5 fbg) at 23 ppm. Pesticides (4, 4' DDT and 4, 4' DDE) were detected in samples S-1, B-4A, B-6A, and B-7C at concentrations exceeding the laboratory method detection limit (MDL), however, less than USEPA Residential and Commercial/Industrial Scenario SSLs. The elevated arsenic concentration in a non-farmed area (sample S-1) may have resulted via wind or surface water run-off of arsenic to this low area of the site and not direct application of pesticides.

Arsenic was detected in groundwater sample TW-1 (collected from soil boring B-3) at 36 parts per billion (ppb), slightly in excess of the NYSDEC Technical and Operations Series Guidance (TOGS) 1.1.1 Ambient Groundwater Quality Standard (AGQS) of 25 ppb. This arsenic detection likely is attributable to sample turbidity and the potential presence of arsenic containing sediments, which is common when sampling from temporary wellpoints. Arsenic was not detected at a concentration exceeding the laboratory MDL or NYSDEC AGQS in the groundwater sample collected from soil boring B-1 (TW-2). Pesticides were not detected in either groundwater sample at concentrations exceeding the laboratory MDL or NYSDEC AGQS.

1.2.3 Whitestone's February 2007 Supplemental Phase II SI

Whitestone conducted supplemental Phase II SI (SSI) activities at the subject property in February 2007 to further evaluate the arsenic and pesticides in soil and arsenic in groundwater within the agricultural portions

of the property identified during the September 2005 and January 2007 investigation activities performed by NPV and Whitestone, respectively.

Arsenic was detected in soil samples SS-2, SS-3, SS-4, SS-5B, SS-6, SS-7 and SS-8C collected from the agricultural portions of the site and in the background sample SS-9 at concentrations exceeding SCDHS background of 4.0 ppm. The arsenic in background soil sample SS-9 (6.7 ppm) slightly exceeds the SCDHS background 4.0 ppm, however, is consistent with the typical Eastern United States (EUS) background (7.0 ppm to 12.0 ppm) utilized by NYSDEC. Arsenic was not detected in the background sample SS-10 collected from the non-agricultural/wooded area (native soils) in the southwestern portion of the site at a concentration exceeding SCDHS background.

The pesticides dieldrin, 4,4' DDE, 4, 4' DDT and/or 4, 4' DDE were detected in soil samples SS-5A, SS-8A and SS-8B at concentrations exceeding the laboratory MDL, however, less than USEPA SSLs.

Arsenic was detected in the unfiltered groundwater sample (TW-3U) collected from TWP-3 at 31 parts per billion (ppb), which slightly exceeds the NYSDEC AGQS of 25 ppb. However, the filtered sample (TW-3F) from this location did not exhibit arsenic at a concentration exceeding the laboratory MDL or NYSDEC AGQS, confirming that the presence of arsenic was related to sediment entrained in the sample and not a groundwater contamination condition. Arsenic was not detected in the unfiltered (TW-4U) or filtered (TW-4F) sample collected from TWP-4 at a concentration exceeding the laboratory MDL or NYSDEC AGQS.

1.2.4 Summary of Arsenic Contamination in Soils

Based on the sampling and analyses performed by Whitestone and NPV, the arsenic detections appear to be confined primarily to the organic layer of topsoil (ranging in thickness from zero to 10 inches and averaging approximately five inches to six inches across the site) with only several detections at or below the plough horizon (2.0 fbg to 4.0 fbg interval). Accordingly, the topsoil layer and the sands comprising the upper two feet of the soil horizon will be treated as arsenic impacted for the purposes of this SMP and the proposed redevelopment effort.

1.3 ARSENIC SOILS MANAGEMENT PLAN

Based on the investigation activities performed by NPV in 2005 and Whitestone in January 2007 and February of 2007, elevated arsenic was identified across the agricultural portions of the site at concentrations exceeding the USEPA SSL of 4.0 ppm. Based on the soil investigation findings, the arsenic detections likely resulted from anthropogenic sources such as historic application of lead arsenate or other arsenical pesticides. The most elevated arsenic concentrations in soil are primarily confined to the organic layer of topsoil across the site (averaging 5.0 inches to 6.0 inches thick) and the underlying sands occurring to a total depth of 2.0 feet below ground surface.

The January 2007 groundwater sampling identified arsenic in an unfiltered groundwater sample at a concentration that slightly exceeded NYSDEC AGQS. Pesticides were not detected at concentrations exceeding NYSDEC AGQS. As the sampling of groundwater was from a temporary wellpoint, which often results in a turbid sample, Whitestone suspected that the elevated arsenic was related to sample turbidity and the potential presence of arsenic containing sediments. Filtered groundwater samples collected in February 2007 did not exhibit arsenic exceedences, confirming that the presence of arsenic was related to sediment entrained in the sample and not a true groundwater contamination condition. Based on these findings, an impact to groundwater from historic pesticide use and the on-site presence of arsenic impacted soils was not identified, and no further investigation of or corrective action for groundwater was recommended.

Based on the identified presence of arsenic-impacted soils across the site at concentrations generally exceeding the USEPA SSL of 4.0 ppm, a *Soil Management Plan* (SMP) was required by the Town of Huntington. Based on the May 17, 2007 correspondence from the Town of Huntington and review of the project on April 7, 2008 with the Town, the Town maintains sole jurisdiction over this project with regard to the management of the arsenic-impacted soils. According to discussions with the Town, the arsenic-impacted soils should be managed in accordance with the SCDHS Guidance.

The development activities will require stripping the topsoil as this material is not suitable for use as structural fill or backfill in its current state. The topsoil contains arsenic at concentrations that exceed SCDHS Guidance/Background levels of 4.0 ppm and likely is associated with historic application of lead arsenate or other arsenical pesticides. Surficial re-use of this material is not permitted by the Town of Huntington. Accordingly, the topsoil will be buried in areas of the site where structural fill or backfill are not required (e.g. beneath landscape areas and berms) or may be blended to reduce arsenic concentrations and/or organic content for surficial application or use as road/parking lot base. Similarly, the shallow arsenic-impacted sands beneath the topsoil will be buried within the roadway embankment in the northwestern portion of the site, encapsulated beneath asphaltic pavements or building slabs, and/or blended with the underlying clean sands to establish compliance with the SCHDS Guidance, Town of Huntington requirements, and project objectives for on-site or off-site beneficial re-use.

1.4 SCOPE OF WORK ITEMS COVERED BY HASP

This HASP is intended to cover potential exposures during earthwork (i.e., clearing, excavation for site utilities, soil blending, and site grading) only. All site contractors will be required to follow their own general safety plans/requirements for all typical construction related activities and will be responsible for assuming the health and safety of their employees and subcontractors.

SECTION 2.0

Hazard Assessment & Risk Analysis

An assessment and analysis of chemical, physical, and biological hazards associated with this project is presented in the subsections that follow.

2.1 CHEMICAL HAZARDS

Based upon data obtained from previous site investigations (see Section 1.2), arsenic is present in site soils as a result of a residual effect of past agricultural operations and pesticide use. A potential exists for exposure to the arsenic during earthwork operations, and this potential exposure will be monitored and mitigated as outlined below and in the following sections of this HASP. The earthwork contractor shall review specifically review hazards of arsenic exposure with site personnel, and provide any necessary training to personnel that may come into contact with arsenic contaminated soils during the earthwork operations. The records of this review and training shall be documented in the Employee Meeting Recorded included as Attachment A - Sample Health and Safety Forms.

Potential routes of exposure are dermal contact or inhalation of airborne contaminants (or dust) generated or released during site activities. To a lesser degree, incidental ingestion of site contaminants is another potential route of exposure. The levels of personal protective equipment (PPE) identified in Section 6.0 of this HASP have been assigned by task, known/anticipated chemical toxicity, and potential exposure risks. Action levels for PPE upgrade (see Section 7.0) and methods for mitigating the potential for airborne dust have been established to minimize the risk of exposure to field personnel and the surrounding community.

Potential Hazard: In order to evaluate the potential worst case scenario for ambient airborne arsenic exposure, a mass balance evaluation was completed utilizing the highest concentration of arsenic documented in the 159 soil samples collected between June 2005 and February 2007. The highest concentration, 139 parts per million (ppm) recorded at sample location SS-2 in the northeastern portion of the site, was utilized as the "worst case scenario" of the highest arsenic level encountered at the subject property. In order to develop an understanding of what this "worst case" concentration would represent in terms of an airborne particulate exposure concentration relative to applicable standards for airborne arsenic, Whitestone set out to evaluate what the concentration of airborne arsenic would be in a scenario where this "worst case" soil became liberated as dust and was present at the OSHA standard for total nuisance dust/particulates not otherwise classified (PNOC) of 15 milligrams per cubic meter (mg/m^3).

Procedure(s) to Mitigate Hazard: In the event that an OSHA limit for total particulates of $15 \text{ mg}/\text{m}^3$ was recorded, and the worst case scenario of 39 ppm arsenic was present in this ambient dust, the resulting concentration of arsenic in that liberated dust would be less than the Permissible Exposure Limit (PEL) eight-hour time weighted average for arsenic of $0.01 \text{ mg}/\text{m}^3$. Whitestone has recommended a dust suppression requirement that mandates that any observance of visible particulate/dust matter will be addressed

immediately with water application as a means of dust suppression until the particulate condition has been eliminated. This procedure will be repeated as required to minimize and eliminate airborne dust during earthwork activities. In addition, continual monitoring for airborne particulates will be conducted, and any exceedences of the OSHA standards for total airborne particulates will warrant a work stoppage in the affected area until appropriate dust suppression techniques have been completed, and dust emission no longer persists.

Table 1 at the end of this section provides information on the toxicological, chemical, and physical properties of the potential contaminants of concern at the subject property.

2.2 PHYSICAL HAZARDS

The following general and physical hazards may be associated with earthwork operations at the subject property.

- ▶ **Potential Hazard:** Operation of heavy equipment.

Procedure(s) to Mitigate Hazard: (1) Before any machinery or mechanized equipment is placed in use, it will be inspected and tested by a competent person and certified to be in safe operating condition. The Contractor will designate a competent person to be responsible for the inspection of all machinery and equipment daily and during use to make sure it is in safe operating condition. Tests will be made at the beginning of each shift during which the equipment is to be used to determine that the brakes and operating systems are in proper working condition. All inspections will be documented. Any machinery or equipment found to be unsafe will be deadlined and its use prohibited until unsafe conditions have been corrected. (2) Only designated personnel holding required licenses will operate machinery and mechanized equipment. (3) Equipment deficiencies observed at any item that affect their safe operation will be corrected before continuing operation. (4) Utilize appropriate warning signs and backup alarms.

- ▶ **Potential Hazard:** Possible exposure to continuous sound pressure levels in excess of 85 dBA during heavy equipment operation.

Procedure(s) to Mitigate Hazard: Wear disposable ear plugs or ear muffs with a NRR rating of 20 or greater any time that noise is determined to be a hazard by the SHSO (or his designated site representative). An appropriate rule of thumb is that when normal conversation is difficult at a distance of two feet to three feet, hearing protection is required.

- ▶ **Potential Hazard:** Excavation Collapse.

Procedure(s) to Mitigate Hazard: The excavation Contractor will: (1) Provide adequate sloping of the sides of the excavations as per OSHA requirements. (2) Regularly inspect the excavations for changing conditions. (3) Ensure that material from the excavations is placed away from the edge to prevent cave-ins and pit instability. (4) Backfill as soon as possible to minimize the number of open excavations.

Any excavation exceeding the four foot depth will be supervised by a competent person who will determine when subsidence control measures are required, what those controls will be, and how they will be implemented. The competent person designated by the excavation contractor and SHSO will inspect excavations and controls to ensure reinforced structures are barricaded or marked (barricade tape and/or traffic cones or equivalent) during active excavation activities. In the event excavations must remain open prior to backfill, those excavations will be fenced or barricaded. Compliance with OSHA 29 CFR 1926 Subpart P will be maintained. The excavation Contractor and SHSO shall maintain records of all excavation inspections and provide copies of all such records to Canon as requested.

▶ **Potential Hazard:** Above and/or Underground Utilities within Work Area(s)

Procedure(s) to Mitigate Hazard: The excavation Contractor will notify New York One-Call (1-800-272-4480) a minimum of three days prior to performing any intrusive subsurface activities to request utility markout. Ensure that overhead electrical lines (if any) are not energized.

▶ **Potential Hazard:** Slips, Trips, and Falls.

Procedure(s) to Mitigate Hazard: (1) Exercise extreme caution in all work areas. (2) Be sure of footing during equipment access/egress and when moving through the work area. (3) Avoid stepping or standing on uneven or unsteady surfaces. (4) Clearly delineate excavations, open pits, and other fall hazards with caution tape. Securely cover as appropriate.

Any time that employees are exposed to a fall hazards or leading edge hazards, the SHSO or his designated representative will install protection or provide fall protection to prevent any personnel from falling during the course of project. The SHSO will attempt to limit these exposures with proper project planning. If at any time employees can not be kept from fall hazards or leading edges, employees will be issued and use proper fall protection. Fall Protection Training will be required before any employee is issued fall protection equipment.

Proper project house keeping is the key to preventing any slip, trips, or falls. Project personnel will do everything possible to keep the project site neat and tidy. A clean project site is a safe project site.

▶ **Potential Hazard:** Housekeeping

Procedure(s) to Mitigate Hazard: (1) Store equipment properly. (2) Remove rubbish/scrap material from the work area.

▶ **Potential Hazard:** Hazardous Material Storage

Procedure(s) to Mitigate Hazard: (1) Segregate flammable/combustible liquid from ignition sources. (2) Store in approved containers. (3) Keep solvent wastes, oily rags, and liquids in fire resistant containers. (4) Provide spill control for equipment fueling operations.

The Standard Operating Procedures (SOPs), engineering controls, and work practices set forth in Section 10.0 are to be strictly adhered to by all site personnel to minimize the potential for physical injury.

2.3 BIOLOGICAL HAZARDS

2.3.1 Ticks And Chiggers

Ticks and chiggers may be present in vegetated areas during the spring, summer, and fall seasons. Preventative measures include protective clothing; head/hair protection; and the use of insect repellent containing DEET on all exposed areas and coveralls. Workers should check their bodies thoroughly for ticks and should bathe soon after returning home. Remove any ticks carefully, using a gentle, firm, tugging motion with fine tweezers. Do not kill the tick before it has been removed. Workers should save the ticks and monitor their bites, checking for a rash and other symptoms (up to about eight weeks after the bite).

2.3.2 Poison Ivy

Poison ivy also may be present during the spring, summer, and fall seasons. Contact with it should be avoided, however, if one has come in contact with it, the affected skin area should be washed thoroughly with soap and cool water. Care should be taken when handling clothing or any other items that have come in contact with poison ivy. If an allergic reaction occurs, a physician's advice should be sought.

2.3.3 Yellow Jackets and Bees

Yellow jackets may be encountered nesting on or below the ground surface around areas of thick vegetation. Other bees may also be encountered in trees. Care should be taken when entering these areas for the first time. If an allergic reaction occurs, a physician's advice should be sought. Personnel with known allergic reactions to bee stings should carry appropriate medication.

2.3.4 Bloodborne Pathogens

The following program has been developed in compliance with OSHA regulation 29 CFR 1910.1030 to protect first aid responders who may come into contact with potentially infectious materials. Potentially, all employees trained in first aid may have exposure to infectious materials. In general, employees will:

- ▶ Avoid contact with blood;
- ▶ Clean-up blood with disinfectant,
- ▶ Wear Personal Protective Equipment (PPE) while cleaning up blood; and
- ▶ Contact the SHSO regarding medical evaluation if exposed (i.e., blood contacts eyes, mouth, or nose).

In addition, the following general guidelines will apply:

1. All employees will wash their hands immediately after potential exposure to infectious materials.
2. No eating, drinking, smoking, or applying cosmetics or lip balm will be permitted in designated work, decontamination and first aid areas.

3. PPE (i.e, gloves, CPR shields, and respirators) will be available with all first aid kits.
4. PPE will be used by employees who are trained in first aid to prevent exposure to blood or other potentially infectious materials .
5. If a garment (including gloves) is penetrated by blood or other potentially infectious materials, the garment or garments will be removed immediately or as soon as feasible.
6. All equipment and environmental and working surfaces will be cleaned and decontaminated with an appropriate disinfectant immediately or as soon as feasible when surfaces are overtly contaminated or after any spill of blood or other potentially infectious materials.
7. After an exposure incident, a confidential medical evaluation and follow-up will be immediately available to the exposed individual. Arrangements for the medical evaluation should be coordinated with the SHSO.

Hand washing facilities with clean paper towels will be provided at the job site. First Aid Kits will be equipped with antiseptic hand cleanser or antiseptic towelettes.

Employees will receive training on blood borne pathogens from the SHSO as part of the pre-entry safety briefing and thereafter when new tasks or procedures will affect the employee's occupational exposure.

TABLE 1
Chemical Hazard/Exposure Data Summary
Proposed Office Complex - Earthwork • South Service Road and Walt Whitman Road • Melville, Suffolk County, NY

Chemical of Concern/Potentially Cont. Media	OSHA PEL ¹ / ACGIH TLV	Routes of Exposure	Respirator Warning Property/Rating	Physical Properties/ Health Hazard Information
Arsenic Residue from Historic Pesticide Application	PEL: 0.01 mg/m ³ TLV: 0.5 mg/m ³	Inhalation Ingestion	<p>If the exposure limit is exceeded, a half-face high efficiency dust/mist respirator may be worn for up to 10 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece high efficiency dust/mist respirator may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator.</p> <p>Skin Protection: Wear impervious protective clothing, including boots, gloves, apron or coveralls, as appropriate, to prevent skin contact.</p> <p>Eye Protection: Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.</p>	<p>Arsenic is a silver-gray brittle, crystalline solid. It also exists in black and yellow amorphous forms. Odorless.</p> <p>Inhalation Risk: Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly.</p> <p>Effects of Short-term Exposure: The substance irritates the eyes, the skin and the respiratory tract. The substance may cause effects on the circulatory system, nervous system, kidneys and gastrointestinal tract, resulting in convulsions, kidney impairment, severe hemorrhage, losses of fluids, and electrolytes, shock and death. Exposure may result in death. The effects may be delayed. Medical observation is indicated.</p> <p>Effects of Long-term or Repeated Exposure: Repeated or prolonged contact with skin may cause dermatitis. Repeated or prolonged contact may cause skin sensitization. The substance may have effects on the mucous membranes, skin, kidneys, liver, resulting in neuropathy, pigmentation disorders, perforation of nasal septum and tissue lesions. This substance is carcinogenic to humans.</p>

TABLE 1
Chemical Hazard/Exposure Data Summary
Proposed Office Complex - Earthwork - South Service Road and Walt Whitman Road - Melville, Suffolk County, NY

Chemical of Concern/Potentially Cont. Media	OSHA PEL ¹ / ACGIH TLV	Routes of Exposure	Respirator Warning Property/Rating	Physical Properties/ Health Hazard Information
Dust, Total Nuisance/Particulates Not Otherwise Classified (PNOC) Work Area During Site Grading Operations	TWA: 15 mg/m ³	Inhalation Ingestion	---	Chronic effects include irritation of skin, eyes, nose, throat, and lungs. May be media for exposure to other contaminants.

NOTES:

OSHA PEL = Occupational Safety & Health Administration's Final Rule Limits Permissible Exposure Limit for an 8-hour, time-weighted average (TWA) from CFR 1910.1000, Tables Z-1A, Z-2, and Z-3.

ACGIH TLV = American Conference of Governmental Industrial Hygienists' Threshold Limit Value for an 8-hour, TWA.

NE = Not Established

LEL/UEL = Lower Explosive Limit/Upper Explosive Limit

mg/m³ = Milligrams of substance per cubic meter of air. When entry is in mg/m³ only, the value is exact; when listed with a ppm entry, it is approximate.

ppm = parts per million

SECTION 3.0

Project Organization & Personnel Responsibilities

3.1 PROJECT ORGANIZATION

The Construction Manager for this project will be:

Turner Construction Company

The Earthwork Subcontractor for this project will be:

To Be Determined

The oversight Environmental Engineer for this project will be:

Whitestone Associates, Inc.
35 Technology Drive
Warren, New Jersey 07059

Personnel assignments for this project are as follows:

- ▶ **Project Manager** - TBD;
- ▶ **GC Project Supervisor** - TBD;
- ▶ **Earthworks Project Supervisor** - TBD;
- ▶ **Site Health & Safety Officer (SHSO)** - TBD; and
- ▶ **Air Monitoring Technician** - TBD.

3.2 SHSO RESPONSIBILITIES

The SHSO will be responsible for the following:

- ▶ Development, implementation, enforcement, and monitoring of the HASP;
- ▶ Performing preconstruction indoctrination and periodic training of all on-site personnel with regard to this safety plan and other safety requirements to be observed during site operations including:
 - ✓ Potential hazards,
 - ✓ Personal hygiene principles,
 - ✓ Personal protective equipment (PPE),
 - ✓ Respiratory protection equipment usage and fit testing (when appropriate),

- ✓ Emergency procedures dealing with fire and medical situations, and
- ✓ Daily updates in regard to health and safety.

- ▶ Preparing reports and maintaining field safety records.

The SHSO may designate a qualified representative (Health and Safety Technician/HST) to monitor site activities in his absence. Any HSTs assigned to the project site will be under the direct supervision of the SHSO during on-site work.

3.3 SURVEILLANCE & INTERNAL AUDITING RESPONSIBILITIES

The SHSO (or his designated site representative) will be on site and will monitor job site safety via inspection during all earthwork activities. Any safety violations will be corrected and reported to the Project Manager. All observed safety violations will be immediately corrected, explained to the perpetrator, and reviewed at the next safety meeting. Excessive violations of the site safety rules will be grounds for disciplinary action which could lead to termination of project personnel and expulsion of vendor or subcontractor personnel from the site.

3.4 CONTRACTOR/SUBCONTRACTOR REQUIREMENTS

The Contractor and any subcontractors used by the Contractor in support of this project will be required to follow the guidelines set forth in this HASP. All site contractors are responsible for providing their employees with the PPE required by this HASP and for ensuring that this equipment is properly monitored and tested.

All site contractors are responsible for ensuring that their employees conform to all applicable health and safety regulations. All site contractors will be required to follow their own general safety plans/requirements for all typical construction related activities.

SECTION 4.0

Site Personnel Training Requirements

OSHA 40 hour hazardous materials incident response training as stipulated in 29 CFR 1926.65e(3) is not mandatory for site workers during general earthwork activities. However, all site workers will be required to utilize disposable PPE as set forth in Section 6.0 and must follow the personal decontamination procedures specified in Section 9.1 to eliminate dermal contact and to prevent tracking of contaminated soil on clothing/shoes.

In addition, all site workers will receive site-specific training in:

- ▶ Hazards of the work place (chemical/physical/biological/ergonomic);
- ▶ Safe work procedures (see Section 10.0 of this HASP);
- ▶ Decontamination procedures (personal/equipment);
- ▶ Work zones;
- ▶ Emergency procedures and contingency plans;
- ▶ Emergency first aid procedures;
- ▶ On-site communication procedures;
- ▶ Air monitoring techniques and sample taking;
- ▶ Hazardous material recognition;
- ▶ Importance of "Buddy System";
- ▶ Toxicology and basic chemistry; and
- ▶ Site entry/exit.

4.1 VISITORS

Visitors who must enter potentially contaminated work areas will receive health and safety instruction from the SHSO (or the SHSO's designated site representative). Visitor instruction will include:

- ▶ Hazard identification;
- ▶ PPE requirements;
- ▶ Decontamination procedures;
- ▶ Emergency procedures; and
- ▶ Other site-specific information as determined by the SHSO.

The SHSO (or designated site representative) will establish, on a case-by-case basis, a safe location from which visitors can observe the site activity of interest.

4.2 SAFETY MEETINGS

All site workers will be required to attend a Pre-Entry Site Briefing which includes a review of the requirements of this HASP.

Daily on-site safety meetings will held by the SHSO (or his designated representative). *All on-site personnel will be required to attend.* Required health and safety training shall be provided to personnel working on site by their employer as required pursuant to this HASP or Federal, State, or local requirements. Documentation of this training shall be provided to the SHSO and documented at each daily safety meeting by the SHSO. Attending personnel must sign a daily attendance sheet. All records of training and safety meetings shall be maintained by the SHSO and Contractor and provided to Canon. Items to be considered at the daily, "tool-box" safety meetings may include, but are not limited to:

- ▶ Discussion of on-going and planned work activities;
- ▶ Review of health and safety training;
- ▶ Review of potential chemical and/or physical hazards associated with on-going and/or planned work activities;
- ▶ Delegation of responsibility (i.e., emergency backup personnel, competent persons, etc.);
- ▶ Type and frequency of environmental and personal monitoring to be performed;
- ▶ Initial levels of protection required and the anticipated potential for upgrading;
- ▶ Decontamination requirements;
- ▶ Emergency response procedures;
- ▶ Personal hygiene; and
- ▶ Fire and spill prevention.

Any personnel who miss the on-site safety meetings will be required to attend a review by the SHSO (or his designated site representative) before he/she will be allowed to work at the discretion of the SHSO (or his designated site representative).

4.3 EMERGENCY RESPONSE TRAINING

Training in site-specific emergency procedures will be provided to all site workers by the SHSO before work begins on-site. This training will include, but is not limited to, the following;

- ▶ Emergency chain-of-command;
- ▶ Communication methods and signals;
- ▶ Location of phones and emergency numbers;
- ▶ Use of emergency equipment;
- ▶ Evacuation and emergency procedures;
- ▶ Off-site support;
- ▶ Site-specific hazards;
- ▶ Decontamination procedures;
- ▶ Standard operating procedures; and
- ▶ Location and use of first aid equipment.

4.4 RECORD KEEPING

All records including, but not limited to site personnel training, safety meetings, daily inspections, emergency response actions, shall be maintained by the SHSO and provided to Canon if requested and upon completion of the earth work activities.

SECTION 5.0 Medical Surveillance

5.1 GENERAL

Medical monitoring is required by OSHA as a means of monitoring worker exposure to certain toxic substances under 29 CFR 1910.120(f), OSHA's Hazardous Waste Operations and Emergency Response Standard.

Personnel exposed to concentrations of inorganic arsenic above the action level of 5.0 ug/m³ for at least 30 days per year must receive medical examinations pursuant to 29 CFR 1910.1018, Appendix C. The arsenic encountered on site is the result of past pesticide application and likely is present primarily as natural degradation byproducts of arsenical pesticides used widely during the early 20th century. This arsenic is not considered elemental or inorganic arsenic and is not present as pure metallic arsenic (as may be encountered in industrial or laboratory uses).

5.2 PROJECT-SPECIFIC MEDICAL MONITORING

As noted above.

SECTION 6.0

Personal Protective Equipment

6.1 EQUIPMENT REQUIREMENTS

Based on an evaluation of potential hazards (see Section 2.0), the following minimum levels of protection² have been assigned for this project:

<u>Work Operation</u>	<u>Initial Level of Protection</u>
Exclusion Zone Operations	Level D
Support Zone/Decontamination Activities	Level D

The **Level D PPE** ensemble will include work clothing as dictated by weather; a hard hat; safety glasses; work gloves; and steel toe/steel shank work boots. Hearing protection (ear plugs) and disposable dust masks will be worn as directed by the SHSO (or his designated site representative).

The initial level of protection identified is to be considered preliminary and may change based on air monitoring information collected by the Air Monitoring Technician (AMT) during project work (see Section 7.0). In the event that prescribed dust suppression techniques do not adequately mitigate ambient particulate concentrations, alternative mitigative measures, PPE, and/or personnel training requirements may be instituted by the SHSO. **No Changes to the specified level of protection will be made without the approval of the SHSO.**

6.2 HEARING PROTECTION PROGRAM

Any and all possible controls will be used to protect employees from sound levels in excess of the levels shown in the table below. If these controls are not sufficient, ear protective devices will be provided. Exposure to impulse or impact noise should not exceed 140 dBA peak sound pressure level.

<u>Duration per days in hours</u>	<u>Sound level dBA Slow Response</u>
8	90
6	92
4	95
3	97
2	100
1.5	102

² The levels of PPE identified have been assigned by task, known/anticipated chemical toxicity (Table 1), potential exposure risks, and effectiveness of precautionary and mitigative measures. Action levels for PPE upgrade (Section 7.0, Table 2) have been set conservatively to minimize the risk of physical injury and/or exposure to field personnel.

Duration per days in hours

1
0.5
0.25 or less

Sound level dBA Slow Response

105
110
115

SECTION 7.0 Air Monitoring Program

The air monitoring program will consist of continual real-time air monitoring for total particulates with actual ambient dust levels recorded every 15 minutes. All air monitoring will focus on data collected in the breathing zone as it applies to the activity being performed, and sampling locations will be based toward areas of earthwork activity and/or visible dust migration. Earthwork within the designated Elevated Arsenic Soils Area will be monitored continuously by a dedicated AMT with readings every 15 minutes. A separate, fixed-based particulate monitoring station will also be established between the subject property and the residential properties to the south during activities including disturbance of the arsenic impacted soils.

7.1 SAMPLING EQUIPMENT

Air monitoring equipment to be used in support of the monitoring program includes:

- ▶ MIE Airborne Particulate Monitor Model # pDR-BP (or equivalent).

The sampling device used is approved for use in combustible and/or flammable atmospheres.

7.2 CALIBRATION

All real-time air monitoring equipment will be calibrated three times per day: prior to start of work, mid-day, and post work. Calibration methodologies to be employed will follow manufacturer's recommendations. All calibration data will be recorded on the Air Monitoring Report Form (see Attachment A). Any monitoring equipment failing to take the proper calibration or failing to hold a calibration will be replaced and repaired. Back up air monitoring equipment is required on site for contingency purposes should the main equipment fail. The back up equipment shall be run and calibrated as necessary to ensure that it is in working order. Work will not be permitted unless air monitoring equipment is properly calibrated and in working order.

7.3 SAMPLING PARAMETERS

The following sampling parameters will be utilized:

Parameter	Instrument Type	Action Levels & Area Response
Nuisance Dust	Particulate Monitor	Particulate levels measure $>15 \text{ mg/m}^3$ or significant dust emissions are visible

7.4 MONITORING FREQUENCY

The Air Monitoring Technician (AMT) will be responsible for conducting the following monitoring.

1. Prior to the start of the daily earthwork activities, real-time air monitoring will occur in the areas designated for the day's activity. The data collected will serve as a baseline for that particular day. Similar monitoring will be required if a new work area is started later during the day.
2. The AMT will visually observe active earthwork operations for visible dust. In addition, air monitoring for nuisance dust will be conducted continuously during intrusive earthwork operations. However, results of monitoring will be recorded every 15 minutes. During any time where possible release or emission of airborne contaminants is suspected, especially if dust is being generated, air monitoring will be required.
3. Earthwork involving disturbance of arsenic impacted soils will be monitored continuously by a dedicated AMT with readings every 15 minutes. Additionally, a separate fixed particulate monitoring station will be established between the subject property and the residential properties to the south.

Clean (i.e., free from salt, oil, and other deleterious materials) water will be used to control dust as deemed necessary by the AMT and/or SSHO based on air monitoring results and visual observation of the earthwork operation (i.e., visible dust is being generated). Water will be applied utilizing a tank spray bar and pump with discharge pressure gauge. The spray bar will be positioned at a height above grade with the nozzle spacing and spray pattern arranged in a manner which will provide complete coverage of ground with water. The application rate will be controlled so as to prevent surface run-off.

7.5 DAILY SAMPLING RECORD

The AMT will maintain a daily sampling record as part of the personnel air monitoring program (see Attachment A for sample Air Monitoring Report Form).

7.6 RECORD RETENTION

The AMT will retain all air monitoring results in accordance with the requirements set forth in OSHA, Subpart C of 29 CFR 1910.20 and provide all copies to Canon as requested.

SECTION 8.0

Site Security/Control

8.1 SITE SECURITY

The SHSO will be responsible for coordinating access to the site with the Owner's Representative. The SHSO (or his designated site representative) will be responsible for controlling access to established work areas (see Section 8.2).

The Contractor will be responsible for site security. The on-site command will be located in the on-site office trailer at the site entrance.

8.2 ESTABLISHMENT/CONTROL OF WORK AREA

The SHSO (or his designated site representative) will be responsible for establishing work zones within the Work Area. Each active earthwork area will constitute a work zone which will be monitored by the AMT in accordance with Section 7.0 of this Plan.

SECTION 9.0

Decontamination Procedures

9.1 PERSONNEL DECONTAMINATION

All personnel will be made aware of any personal habit that may allow contaminants into or onto the body. All personnel will check that regularly worn PPE (e.g., hard hats and liners, eye protection, etc.) is clean and in good condition. Any products for personal consumption or application are prohibited in any work area. Break area(s) will be limited to specific areas where eating, drinking, smoking, etc. and the storage of these materials will be allowed.

No PPE will be removed from a controlled work area without proper decontamination or disposal. All personnel leaving a controlled work area will pass through a contamination reduction zone where they will:

- ▶ Remove and discard any disposable, single use items (gloves, tyvek suits, overboots, etc.); and
- ▶ Thoroughly wash/rinse exposed skin with water and biodegradable soap.

Site workers are encouraged to shower and launder personal clothing as soon as possible upon completing daily activities. A portable wash station will be available to workers/visitors entering the areas where elevated arsenic is present.

Any waste materials generated during decontamination will be drummed for disposal or managed in accordance with applicable local, state, and federal regulations. The earthwork Contractor(s) shall be responsible for the proper management of the PPE generated in conjunction with management of the arsenic contaminated soils. Personnel responsible for the disposal of the PPE shall maintain all required training, certification, licenses, etc. required for disposal pursuant to local, state and federal requirements. Records of the training, certification, licenses, etc. of these personnel shall be provided to the SHSO and Canon for review and approval. Additionally, fully executed records of the proper management, including bills of lading, disposal manifests, etc. shall be provided to the SHSO and Canon within 30 days of the waste leaving the site.

NOTE: An emergency eye wash will be located in the on-site office trailer.

9.2 EQUIPMENT DECONTAMINATION

Soil will be removed from equipment prior to demobilization. Equipment and vehicles leaving the site will traffic over a tracking pad to remove residual soil from wheels/tracks.

SECTION 10.0

Site Standard Operating Procedures

Site workers will observe the following Standard Operating Safety Procedures and Engineering Controls when working at the project site.

10.1 STANDARD OPERATING SAFETY PROCEDURES

1. Ensure that all safety equipment and protective clothing is kept clean and well maintained.
2. Ensure that all prescription eyeglasses in use on this project are safety rated. Contact lenses are not permitted on site.
3. Ensure that all project personnel have vision or corrected vision to at least 20/40 in one eye.
4. Site workers found to be disregarding any provision of this HASP will, at the request of the SHSO, be barred from the project.
5. Prohibit eating, drinking, chewing gum or tobacco, and smoking in active work areas.
6. All personnel will thoroughly cleanse their hands, face, and forearms and other exposed areas prior to eating, smoking, or drinking.
7. Workers will shower at the completion of the work day.
8. All personnel will wash their hands, face, and forearms before using toilet facilities.
9. Do not allow alcohol, firearms, or drugs (without prescriptions) on site at any time.
10. All personnel who are on medication should report it to the SHSO who will make a determination whether or not the individual will be allowed to work and in what capacity. The SHSO may require a letter from the individual's personal physician stating what limitations (if any) the medication may impose on the individual.

10.2 ENGINEERING CONTROLS

The Contractor will provide all equipment and personnel necessary to monitor and control air emissions in accordance with the Specifications and Section 7.0 of this HASP. Water will be utilized for dust suppression as deemed necessary by the SHSO and/or AMT.

SECTION 11.0

Emergency Response & Contingency Plan

The following Emergency Response and Contingency Plan considers and recommends:

- ▶ Preventative measures;
- ▶ Personnel training and regular safety meetings conducted to reduce the likelihood of accidents;
- ▶ Mitigative measures to limit the scope of any accident; and
- ▶ Contingency actions to respond to and remedy the effects of accidents.

11.1 PRE-PLANNING

All work will be coordinated with the Owner's Site Representative. In addition, local police and fire departments, local hospital(s), and local ambulance services will be contacted by the SHSO prior to initiation of site operations to inform them of scheduled activities at the site. Arrangements for emergency communication will be made with these organizations prior to initiating on-site operations.

As discussed in Section 5.0 of this HASP, emergency response procedures will be covered as part of each site personnel's training. Training in site-specific emergency procedures will be provided by the site health and safety officer before work begins on-site. This training will include, but is not limited to, the following;

- ▶ Emergency chain-of-command;
- ▶ Communication methods and signals;
- ▶ Location of phones and emergency numbers;
- ▶ Use of emergency equipment;
- ▶ Evacuation and emergency procedures;
- ▶ Off-site support;
- ▶ Site-specific hazards;
- ▶ Decontamination procedures;
- ▶ Standard operating procedures; and
- ▶ Location and use of first aid equipment.

11.2 EMERGENCY CHAIN-OF-COMMAND

Personnel will immediately notify the SHSO (or his designated site representative) in the event of an emergency using available communications (see Section 11.3). The SHSO (or his designated site representative) will make a rapid assessment of the situation and take appropriate action which (depending upon emergency circumstances) can include notifying the Project Manager of the situation; initiating engineering controls (i.e., implementing dust or spill response control measures); ordering the suspension of work; ordering evacuation of the work zone; implementing emergency altering and response procedures; requesting emergency medical treatment; and/or administering first aid.

11.3 COMMUNICATION METHODS AND SIGNALS

For emergency situations when two-way radio communication is not available or practical, oral, hand, and semaphore safety signals have been established to protect project personnel. These signals will be made available to personnel for all phases of operation before going on-site. This will ensure quick communication during adverse or emergency situations.

Examples of established signals and their meanings are provided below.

<u>Signal</u>	<u>Indicates</u>
Hand gripping throat	Out of air, can't breath
Wave hands over head from side-to-side	Attention: stand-by for next signal
Swing hand from direction of person receiving signal to directly overhead and through in a circle	Come here
Pointed finger on extended arm	Look in that direction
Grip partner's wrist or both hands around wrist	Leave the area immediately
Hands on top of head	Need assistance
Thumbs up	OK, I'm alright, I understand
Thumbs down	No, negative

Examples of audio signals include:

<u>Signal</u>	<u>Indicates</u>
Short blast of airhorn	Caution or look here
Four (4) blasts of airhorn	Leave the area

Each field team member will be assigned a buddy. Field personnel will watch for hazards or problems his/her buddy might encounter. Buddies will pre-arrange hand signals or other means of emergency signals for communication when respiratory protection or distance makes communication difficult. Communication between buddies must be maintained at all times. Visual contact must be maintained between buddies. Further, buddies must remain in close proximity to each other in order to assist in case of emergencies.

11.4 EVACUATION

Emergency escape routes will be designated by the SHSO for use in situations where rapid egress from the Exclusion Zone is required. The locations of these routes will be reviewed with site personnel during daily tool-box meetings.

An emergency evacuation alarm (i.e., air horn) will be kept on site. A series of regularly spaced, repeated blasts (four blasts) will be used to signify that all personnel should evacuate the work area. After exiting the work area, personnel will meet at an upwind location designated by the SHSO (or his designated site representative). The emergency alarm will be sounded in the event of any serious problem or emergency on-site which requires the assistance of site personnel or the evacuation of the construction team.

In all situations when an on-site emergency results in evacuation of the Exclusion Zone and/or store, personnel and customers will not be permitted to reenter until:

- ▶ The conditions resulting in the emergency have been corrected;
- ▶ The hazards have been reassessed;
- ▶ This HASP has been reviewed; and
- ▶ Site personnel have been briefed on any changes in the HASP.

11.5 EMERGENCY SERVICES/EMERGENCY VEHICLE ACCESS

Emergency telephone numbers (see Attachment B) will be posted at each project site telephone. Directions to the local hospital (see Attachment B) also will be posted at the site.

In the event that emergency services personnel (police, fire, rescue) need access to a location which is blocked by the working crew operations, those operations (equipment, materials, etc.) will be moved immediately to allow access. Emergency crews will be briefed as to site conditions and hazards by the SHSO (or his designated site representative).

11.6 WEATHER-RELATED HAZARD RESPONSE

Threats to site personnel can arise from natural causes (i.e., lightning, high winds, etc.). In the event that severe weather is imminent, the SHSO will notify field team members. As the storm approaches, all work will cease, loose objects will be secured, and site personnel will take shelter at pre-arranged locations. After the severe weather event has passed, the SHSO will inspect the work area for safety hazards prior to resuming work.

11.7 SPILL CONTROL & CONTINGENCY PLAN

A site-specific Spill Prevention and Contingency Plan for equipment refueling is provided in Attachment C.

11.8 PERSONAL INJURIES

In the event of personal injuries the following procedures will be enacted.

1. **Initial alarm and first aid.** Upon observation of an injury, employees will quickly get the attention of other nearby workers; immediately act to protect the injured person from a life-threatening situation; render appropriate first aid; and warn unsuspecting persons of the potential hazard.
2. **Notify the SHSO.** Utilizing available personal radio communications or other rapid communication methods, the SHSO (or his designated site representative) will be notified of the situation, the identity of the injured person, the type of injury, and the project site location.
3. **Ambulance and hospital services.** The SHSO (or his designated site representative) will immediately assess the situation and, if necessary, notify the designated off-site hospital of the emergency situation.
4. **Follow-up.** The SHSO will determine why the injury occurred, and will take appropriate steps to prevent a similar recurrence. Events associated with the injury will be recorded in the safety officer's logbook.

An Incident Report Form (sample provided in Attachment A) must be completed by the SHSO and submitted to Project Manager within 24 hours of the injury.

11.8.1 Personnel Injury in the Exclusion Zone

Upon notification of any injury in the Exclusion Zone, the designated emergency signal will be sounded. All site personnel will assemble at a pre-arranged location. A rescue team made up of the SHSO (or his designated site representative) and other personnel as needed who have received proper training (see Section 4.0) will enter the Exclusion Zone (if required) to remove the injured person to the boundary of the Exclusion Zone.

The SHSO (or his designated site representative) then will evaluate the nature of the injury. Appropriate first aid will be initiated (see Section 11.12), and the ambulance and designated medical facility (Attachment B) will be contacted if required. No persons will reenter the Exclusion Zone until the cause of the injury or symptoms of the illness have been determined.

11.8.2 Personnel Injury in the Support Zone

Upon notification of an injury in the Support Zone, the SHSO (or his designated site representative) will assess the nature of the injury. If the cause of the injury or loss of the injured person does not affect the performance of site personnel, operations may continue. The appropriate first aid will be initiated (see Section 11.12) and necessary follow-up as stated in Section 11.5 above. If the injury increases the risk to others, the designated emergency signal will be sounded and all site personnel will move a prearranged location for further instructions. Activities on site will stop until the added risk is removed or minimized.

11.9 FIRE/EXPLOSION

The following contingency plan will be implemented in the event of a fire at the project site.

1. **Initial Alarm.** Upon observation of any on-site fire, personnel must immediately notify the SHSO (or his designated on-site representative). No attempt will be made to extinguish the fire prior to sounding the alarm.
2. **Control and/or extinguish small fires which can be suppressed promptly with available on-site equipment.** Without risking personal injury, an attempt will be made to control or extinguish small fire(s) utilizing ABC-type fire extinguishers. Water will not be used except on wood or paper fires.
3. **Notify local fire company.** The SHSO (or his designated on-site representative) will immediately assess the situation and, if deemed necessary, notify the local fire department of the location and type of fire or explosion. If required, the SHSO (or his designated site representative) will immediately order the site evacuated if a fire occurs which cannot be controlled with a portable fire extinguisher.
4. **Follow-up.** The SHSO will determine why the fire or explosion occurred, and will take appropriate steps to prevent a similar recurrence. Events associated with the fire or explosion will be recorded in the safety officer's logbook.

An Incident Report Form (sample provided in Attachment A) must be completed by the SHSO and submitted to the Project Manager within 24 hours of the fire/explosion.

11.10 PERSONAL PROTECTIVE EQUIPMENT FAILURE

If any site worker experiences a failure or alteration of protective equipment that affects the protection factor, that person and his/her buddy immediately will leave the Exclusion Zone and notify the SHSO (or his designated site representative). Reentry will not be permitted until the equipment has been replaced or repaired.

11.11 OTHER EQUIPMENT FAILURE

If any on-site equipment other than PPE (see Section 11.10 above) fails to operate properly, the SHSO (or his designated site representative) will be notified. The SHSO (or his designated site representative) then will determine the effect of this failure on continuing operations on site. If the failure affects the safety of personnel, all personnel will leave the Work Zone until the situation is evaluated and all appropriate actions taken.

11.12 EMERGENCY EQUIPMENT & ON-SITE FIRST AID

Emergency and first aid equipment to be maintained on-site includes:

- ▶ An approved, portable emergency eye wash will be provided and maintained by the Contractor(s) performing the earthwork activities in the site office trailer or other approved location.
- ▶ At least one "industrial" first aid kit will be provided and maintained fully stocked by the Contractor(s) performing the earthwork activities in the site office trailer or other approved location.
- ▶ First aid kit and emergency eye wash locations will be specifically marked by the SHSO. Adequate water and other supplies necessary to cleanse and decontaminate burns, wounds, or lesions will be provided.
- ▶ A First Aid Technician certified by the American Red Cross or other approved agency will be on-site at all times. Proof of certification of the First Aid Technician shall be provided to the SHSO for review and approval.
- ▶ 2A-10 B:C type dry chemical fire extinguishers will be provided by the earthwork Contractor(s) at all site locations where flammable materials present a fire risk.

The SHSO shall maintain records of the approval, inspection and maintenance of the items listed above and shall provide all records to Canon as requested. Agencies and medical facilities to be contacted in the event of an on-site emergency are identified in Attachment B of this HASP. The Emergency Response Notification Table also includes the route to the nearest hospital. The table will be posted in a prominent location(s) on-site.

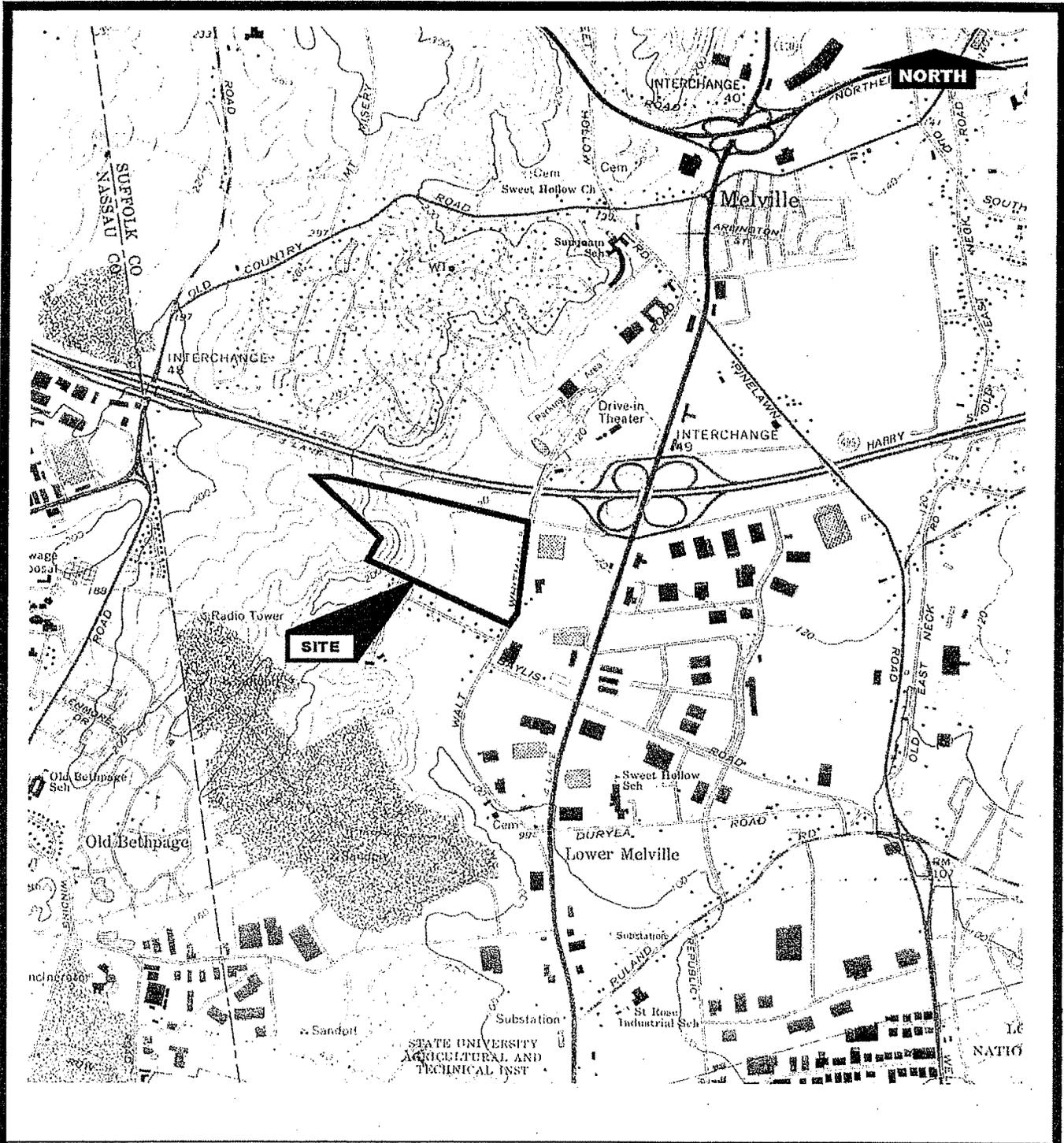
If a site worker becomes injured or ill, Red Cross first aid procedures will be followed. First aid or other appropriate initial actions will be provided by the site personnel closest to the incident. If the injury to the worker is chemical in nature, the following first aid procedures are to be instituted:

- ▶ ***Eye Exposure.*** If contaminated solids or liquids get into the eyes, wash eyes immediately at the emergency eyewash station using large amounts of water and lifting the lower and upper lids occasionally. Wash for at least 15 minutes. Obtain medical attention.
- ▶ ***Skin Exposure.*** If contaminated solids or liquids get on the skin, promptly wash the contaminated skin using soap and water. Obtain medical attention immediately when exposed to concentrated solids or liquids.
- ▶ ***Respiratory Exposure.*** Move victim to fresh air at once and begin CPR. Obtain immediate medical attention.
- ▶ ***Ingestion Exposure.*** For swallowed contaminants, identify the item swallowed. Follow appropriate procedures and obtain medical attention as soon as possible.

NOTE: Any person transported to the hospital for treatment related to an exposure injury will take with them the appropriate information (i.e., Table 1 of this HASP or MSDS) on the chemical(s) to which he/she has been exposed. MSDSs (if available) for chemicals known or suspected to exist on-site will be maintained in the on-site command post (on-site office trailer) by the SHSO.



FIGURE 1
Site Location Map



TITLE:	Site Location Plan
CLIENT:	CANON U.S.A., INC.

WHITESTONE ASSOCIATES, INC.
 35 TECHNOLOGY DRIVE
 WARREN, NEW JERSEY 07059
 908.668.7777 ♦ 908.754.5936 FAX

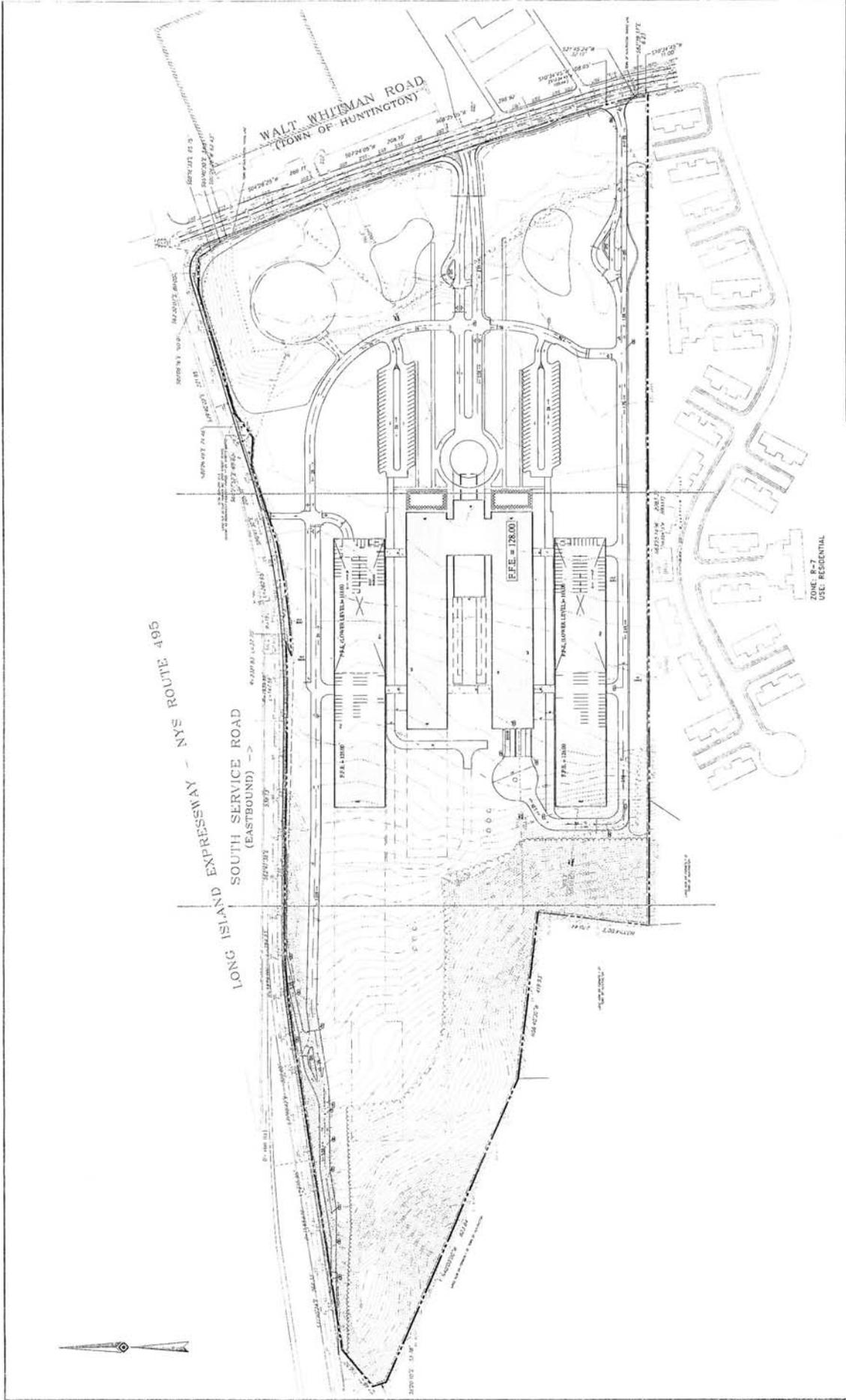
PROJECT:	Proposed Office Complex South Service Road & Walt Whitman Road Melville, Suffolk County, New York	PROJECT #:	EJ0810321.000	BY:	USGS	PRO. MGR.	RFM	DATE:	5/2008	SCALE:	1:24,000	FIGURE:	1
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FIGURE 2
Soil Sample Location Plan
and Analytical Summary



FIGURE 3
Proposed Arsenic Soils
Management Plan



WHITESTONE ASSOCIATES, INC. 15 TECHNOLOGY DRIVE WALKERVILLE, GA 30181 908.688.7777 • 908.754.9336 FAX	
SOIL MANAGEMENT PLAN	
CLIENT: CANON U.S.A., INC. PROJECT: PROPOSED OFFICE COMPLEX SOUTH SERVICE ROAD & WALT WHITMAN ROAD HUNTINGTON TOWN OF HUNTINGTON	PROJECT #: 19013312-000
DATE: 4/13/08	SCALE: 1" = 100'
BY: [Signature]	CHECKED: [Signature]
DATE: 4/13/08	PROJECT NO.: 19013312-000

LEGEND

--- SUBJECT PROPERTY BOUNDARY

--- REFERENCE

THE PLAN IS BASED UPON AN APRIL 8, 2007 GRADING & DRAINAGE PLAN PREPARED BY BOJLER ENGINEERING, P.C.



ZONE: R-7
 USE: RESIDENTIAL

ATTACHMENT A
Sample Health & Safety
Report Forms

DAILY SAFETY REPORT

Project Name: Proposed Office Complex - Earthwork Date: _____
 Project Location: South Service Road and Walt Whitman Road, Melville, Suffolk County, New York

Weather Conditions

_____ A.M. _____ P.M.	Rain/Snowfall: _____ Inches (Approx.) Temp.: ____°F (Minimum) ____°F (Maximum)
--------------------------	---

Scheduled Work Activities

Personnel	Activity	PPE	Equipment

Noticed Deficiencies/Corrective Action

Deficiency	Corrective Action	Date Corrected	Time Corrected

Accidents/Incidents/Illnesses: (Briefly Describe and Complete In Full Incident Report Form For Submittal to the Project Manager and QC Supervisor.) _____

Miscellaneous Comments: _____

Report Completed By:

 SHSO (Printed Name)

 SHSO (Signature)

Date: _____

AIR MONITORING REPORT

Project Name: Proposed Office Complex - Earthwork Date: _____
 Project Location: South Service Road and Walt Whitman Road, Melville, Suffolk County, New York Page 1 of 2

Instrument Calibration

Instrument	Calibrated By:	Date	Time(s)
			___ <input type="checkbox"/> AM <input type="checkbox"/> PM ___ <input type="checkbox"/> AM <input type="checkbox"/> PM
			___ <input type="checkbox"/> AM <input type="checkbox"/> PM ___ <input type="checkbox"/> AM <input type="checkbox"/> PM
			___ <input type="checkbox"/> AM <input type="checkbox"/> PM ___ <input type="checkbox"/> AM <input type="checkbox"/> PM
			___ <input type="checkbox"/> AM <input type="checkbox"/> PM ___ <input type="checkbox"/> AM <input type="checkbox"/> PM
			___ <input type="checkbox"/> AM <input type="checkbox"/> PM ___ <input type="checkbox"/> AM <input type="checkbox"/> PM
			___ <input type="checkbox"/> AM <input type="checkbox"/> PM ___ <input type="checkbox"/> AM <input type="checkbox"/> PM

Perimeter & Personnel Sampling

Perimeter Samples Collected: _____

Perimeter and Personnel Sample Results from Previous Days (Provide Data When Received, Indicate Date on Which Sample Was Collected): _____

Meteorological Data

Temperature: _____°F Wind Direction: _____ Humidity: _____%
 Weather Condition (i.e., Gusty, Rain, Snow, Sun, Etc.): _____

Comments: _____

INCIDENT REPORT FORM

Date _____ Project _____

Employee's Name _____ Home Phone _____

Incident Description _____

Extent of Injury or Damage _____

Actions Taken _____

List of all personnel involved and their home phone numbers:

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Describe any measures taken to prevent recurrence: _____

Other notes: _____

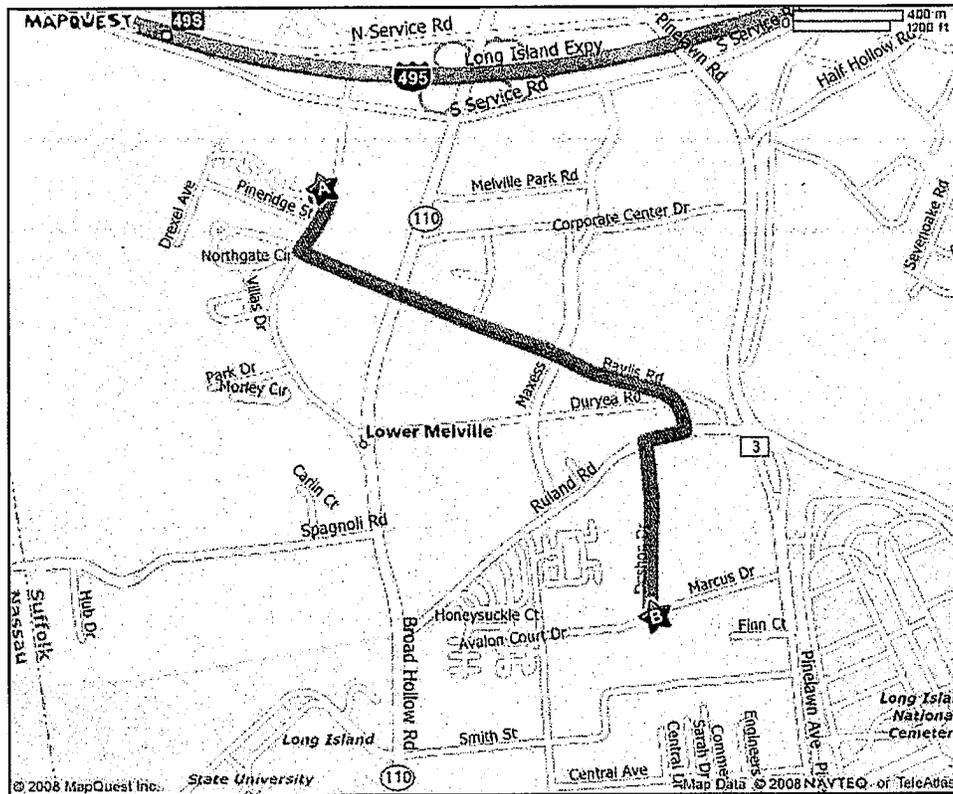
Site Supervisor's Signature _____

ATTACHMENT B
Emergency Notification Table
& Map to Hospital

**EMERGENCY NOTIFICATION TABLE
(Post On-Site)**

Agency	Contact	Phone Number
Police	Emergency	911
Fire	Emergency	911
EMS/Ambulance	Emergency	911
Hospital	Jamaica Hospital 80 Marcus Drive Melville, NY 11747	(631) 391-7700
Canon USA, Inc.	Seymour Leibman	(516) 328-5191
E.W. Howell, Co., Inc.	Thomas Gilhooley	(212) 930-1042
Whitestone	TBD	(908) 668-7777
General Contractor (R.G. Brinkmann Const. Co.)	TBD	TBD Office TBD Mobile
	TBD	TBD Office TBD Mobile
	TBD	TBD
Earthworks Subcontractor	TBD	TBD
	TBD	TBD
NYSDEC	Spill Hotline	(877) 457-7362
USEPA Regional Office	Emergency Response Center	(800) 425-8500
Chemical Emergency Advice	CHEMTREC	(800) 424-9300
Poison Control Center	Hotline	(800) 962-1258
DIRECTIONS TO HOSPITAL: (See Attached Map)	<p>Jamaica Hospital is <i>located approximately 2.0 miles (6 minutes) from the site.</i></p> <p>From Site: Start heading south on Old Walt Whitman Road/Walt Whitman Road. Turn left onto Baylis Road. Keep right at the fork to continue on Baylis Road. Turn right onto Ruland Road. Turn left onto Deshon Drive. End at 80 Marcus Drive. Hospital is located approximately 2.0 miles (6 minutes) from the site.</p>	

MAP TO HOSPITAL
JAMAICA HOSPITAL
80 Marcus Drive • Melville, New York 11747
(631) 391-7700



DIRECTIONS: Start heading south on Old Walt Whitman Road/Walt Whitman Road. Turn left onto Baylis Road. Keep right at the fork to continue on Baylis Road. Turn right onto Ruland Road. Turn left onto Deshon Drive. End at 80 Marcus Drive. Hospital is located approximately 2.0 miles (6 minutes) from the site.



ATTACHMENT C
Spill Prevention and
Contingency Plan

ATTACHMENT C

Spill Prevention & Contingency Plan

This Spill Prevention and Contingency Plan (SPCP) has been prepared for equipment fueling operations in support of earthwork operations related to the development of the proposed office complex at the southwestern corner of the intersection of South Service Road and Walt Whitman Road in Melville, Suffolk County, New York. Copies of this plan will be maintained by the SHSO in the on-site Command Post. This plan will be reviewed with field personnel prior to project start-up and thereafter as necessary during regular weekly safety meetings and daily briefings.

1.0 SPILL EMERGENCY NUMBERS

The names and phone numbers of emergency services and offices to be contacted in the event of a spill or other on-site emergency is provided in Attachment B of the HASP. This table will be posted by the SHSO in prominent position(s) throughout the site.

2.0 DEFINITION

For the purposes of this plan, a spill is defined as any material accidentally or intentionally leaked, pumped, poured, dumped, or emitted onto the ground, surface water, groundwater, or air. All spilled material will be considered hazardous; cleaned up following established spill response procedures; and reported as described in Section 4.0 of this plan.

Spills will be categorized in one of two ways: Priority 1 or Priority 2.

- ▶ **Priority 1 spills** result in a significant release of contamination into the air or onto the ground outside the exclusion zone.
- ▶ **Priority 2 spills** result in minor spillage (less than five [5] gallons) which can be cleaned up easily.

3.0 POTENTIAL SOURCES & PREVENTATIVE MEASURES

The contracted work has one potential spill source.

Potential Spill Source	Preventative Measure(s)
Refueling on-site equipment	The amount of fuel kept on-site to only that required for weekly equipment usage. An easily accessible spill response station will be set up in the immediate vicinity of the equipment fueling area. The spill response station will contain absorbent pillows, floor dry, shovels, and brushes to be used in the event of a spillage.

4.0 SPILL RESPONSE PROCEDURES

The following procedures will be utilized in the event of a spill or release at the project site.

4.1 Initial Containment & Response

In the event of a spill, the following initial containment and response procedures must be implemented immediately.

1. *Administer first aid to injured/contaminated persons.* Any employee observing a spill will act immediately to remove and/or protect injured/contaminated persons from any life-threatening situation. First aid and/or decontamination procedures (see HASP, Section 11.12) will be implemented as appropriate.
2. *Warn unsuspecting persons/vehicles of the hazard.* Personnel will act to prevent any unsuspecting persons from coming in contact with spilled materials by alerting other nearby persons and by obtaining assistance of other project personnel who are familiar with spill control and cleanup techniques.
3. *Stop the spill at the source, if possible.* Without taking unnecessary risks, personnel will attempt to stop the spill at the source. This may involve activities such as uprighting a drum, closing a valve, or temporarily sealing a hole with a plug. Contractor personnel will not expend more than a brief effort prior to notifying the SHSO.
4. *Notify the SHSO.* Utilizing available on-site communication systems or other rapid communication procedures, the SHSO will be notified of the spill, including information on material spilled, quantity, personnel injuries, and immediate life-threatening hazards.

NOTE: If a flammable liquid is involved in the spill, remove all ignition sources and monitor for explosive conditions with an explosimeter during the clean-up. Also, remove any surrounding materials that might chemically react with the spill materials.

4.2 Spill Containment

The SHSO will make a rapid assessment of any spill occurring at the project site; apply the appropriate safety considerations to the use of protective clothing and equipment in the spill release zone; and direct primary containment measures.

Depending upon the nature of the spill, primary containment measures may include, but are not limited to:

- ▶ Constructing a temporary containment berm to control the horizontal flow of the spill using absorbent pads, booms, sandbags, sand, and/or other inert materials;
- ▶ Placing drums under the leak to collect the spilling material before it flows onto the ground;
- ▶ Digging a sump, installing a polyethylene liner and diverting the spilled material to the sump; and/or
- ▶ Transferring the material from its original container to another container.

The SHSO will notify the Project Manager about the spill and steps taken to institute primary containment.

4.3 Spill Clean-Up

The SHSO and project manager will develop an incident-specific spill clean-up plan which takes into consideration associated hazards, quantity of spilled material, disposal methods, and costs. The incident-specific spill clean-up plan will be reviewed for acceptance by the Environmental Engineer and/or other involved federal, state, or local regulatory personnel.

Once approved, the spill clean-up plan will be implemented under the direct supervision of Contractor's Site Superintendent.

Generally, all visually detectable spills, leaks, or releases of fuel oil will be collected and cleaned up using absorbent pads, booms, sandbags, sand, and/or other inert materials as practicable using the response procedures outlined below.

Spill Type	Response
Waste Oil on Ground	Contain spill and excavate visually contaminated soil. Containerize, sample for classification purposes, and dispose off-site.
Building/Paved Surfaces	Contain spill. Power wash contaminated area. Collect and containerize resultant washwater. Sample for classification purposes. Off-site dispose.
Vehicle	Power wash in CRZ. Collect, handle, and dispose of decon fluids.

4.4 Inspection

A representative of the Environmental Engineer, the SHSO, and the Project Manager will jointly inspect the spill site to determine that the spill has been cleaned up to the satisfaction of involved regulatory agencies.

4.5 Spill Reporting

In the event of an incident, the SHSO will:

1. Immediately contact the Project Manager.
2. Initiate the emergency procedure steps provided in Sections 4.1 and 4.2 of this Plan, and
3. Complete a Spill Report Form (attached) for submittal to the Project Manager.

Priority 1 spills will be reported immediately following the incident. A written report will be submitted not more than seven days after the telephone call reporting the occurrence. The written report will include the item spilled, quantity, identification and manifest numbers, whether the amount spilled is EPA/State/District reportable, exact location, containment procedures used, anticipated clean-up and disposal procedures, and disposal of spill residue.

5.0 EQUIPMENT

The following spill control equipment will be utilized as needed:

- ▶ Spill (absorbent) pads;
- ▶ Floor dry;
- ▶ Shovels and brushes;
- ▶ Salvage drums;
- ▶ Polyethylene sheeting;
- ▶ Sandbags;
- ▶ Pneumatic foam;
- ▶ Emergency eye wash station;
- ▶ Emergency decontamination equipment;
- ▶ Fire extinguishers, 10 A-20BC rated; and
- ▶ Modified Level D PPE.