

**52-01 QUEENS BOULEVARD**

**QUEENS, NEW YORK**

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# **Remedial Action Work Plan**

**NYC BCP Site Number: 12CVCP066Q**

**E-Designation Site Number: E-163**

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**JUNE 2012**

# **REMEDIAL ACTION WORK PLAN**

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## LIST OF ACRONYMS

Acronym	Definition
AOC	Area of Concern
AS/SVE	Air Sparging/Soil Vapor Extraction
BOA	Brownfield Opportunity Area
CAMP	Community Air Monitoring Plan
C/D	Construction/Demolition
COC	Certificate of Completion
CQAP	Construction Quality Assurance Plan
CSOP	Contractors Site Operation Plan
DCR	Declaration of Covenants and Restrictions
ECs/ICs	Engineering and Institutional Controls
HASP	Health and Safety Plan
IRM	Interim Remedial Measure
BCA	Brownfield Cleanup Agreement
MNA	Monitored Natural Attenuation
NOC	Notice of Completion
NYC BCP	New York City Brownfield Cleanup Program
NYC DEP	New York City Department of Environmental Protection
NYC DOHMH	New York State Department of Health and Mental Hygiene
NYCRR	New York Codes Rules and Regulations
NYC OER	New York City Office of Environmental Remediation
NYS DEC	New York State Department of Environmental Conservation
NYS DEC DER	New York State Department of Environmental Conservation Division of Environmental Remediation
NYS DOH	New York State Department of Health
NYS DOT	New York State Department of Transportation
ORC	Oxygen-Release Compound
OSHA	United States Occupational Health and Safety Administration
PE	Professional Engineer

PID	Photo Ionization Detector
QEP	Qualified Environmental Professional
QHHEA	Qualitative Human Health Exposure Assessment
RAOs	Remedial Action Objectives
RAR	Remedial Action Report
RAWP	Remedial Action Work Plan or Plan
RCA	Recycled Concrete Aggregate
RD	Remedial Design
RI	Remedial Investigation
RMZ	Residual Management Zone
SCOs	Soil Cleanup Objectives
SCG	Standards, Criteria and Guidance
SMP	Site Management Plan
SPDES	State Pollutant Discharge Elimination System
SVOC	Semi-Volatile Organic Compound
USGS	United States Geological Survey
UST	Underground Storage Tank
VOC	Volatile Organic Compound

# CERTIFICATION

I, Reza Sharif, am a Professional Engineer licensed in the State of New York. I have primary direct responsibility for implementation of the remedial action for the 52-01 Queens Boulevard Site (NYC BCP Site Number 12CVCP066Q).

I, William Silveri, am a Qualified Environmental Professional as defined in §43-140. I have primary direct responsibility for implementation of the remedial action for the 52-01 Queens Boulevard Site.

I certify that this Remedial Action Work Plan (RAWP) has a plan for handling, transport and disposal of soil, fill, fluids and other materials removed from the property in accordance with applicable City, State and Federal laws and regulations. Importation of all soil, fill and other material from off-Site will be in accordance with all applicable City, State and Federal laws and requirements. This RAWP has provisions to control nuisances during the remediation and all invasive work, including dust and odor suppression.

Reza Sharif, P.E.

Name

074803

NYS PE License Number



Signature

June 29, 2012

Date



William Silveri

QEP Name



QEP Signature

June 29, 2012

Date

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I, Reza Sharif, am a Professional Engineer licensed in the State of New York. I have primary direct responsibility for implementation of the remedial action for the 52-01 Queens Boulevard Site (NYC BCP Site Number 12CVCP066Q).

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Reza Sharif, P.E.

Name

074803

NYS PE License Number

\_\_\_\_\_  
Signature

June 29, 2012

Date



William Silveri

QEP Name

\_\_\_\_\_  
QEP Signature

June 29, 2012

Date

# **EXECUTIVE SUMMARY**

5201 LLC has enrolled in the New York City Voluntary Cleanup Program (NYC VCP) to investigate and remediate a 12,000 -square foot site located at 52-01 Queens Boulevard in Queens, New York. A remedial investigation (RI) was performed to compile and evaluate data and information necessary to develop this Remedial Action Work Plan (RAWP). The remedial action described in this document provides for the protection of public health and the environment consistent with the intended property use, complies with applicable environmental standards, criteria and guidance and conforms with applicable laws and regulations.

## **Site Location and Current Usage**

The Site is located in the Woodside section of Queens, New York and is identified as Block number 1321 and Lot number 1 on the New York City Tax Map. Figure 1 is a Site location map. The Site is a 12,000-square feet and is bounded by an automobile repair shop to the north, Queens Boulevard to the south, an automobile repair shop and two residential dwellings to the east, and 52<sup>nd</sup> Street to the west. Currently, the Site is a vacant lot, without any structures, and is fully enclosed by a perimeter fence. Figure 2, Site Plan, shows the current boundaries of the Site.

## **Summary of Proposed Redevelopment Plan**

The proposed use of the Site will consist of a 9-story, mixed-use building, with commercial tenants on the ground floor and residential units on floors above. Layout of the proposed site development is presented in Figure 3. The current zoning designation for the Site is R7X/R5-B, and is residential with a commercial overlay. The proposed redevelopment plan is consistent with the zone.

The proposed redevelopment will entail the construction of a new 9-story building, with a full basement. The basement will extend over the entire footprint of the Site. The new building will occupy the south portion of the Site. A setback for ground level parking, which will be above a basement level, will occupy the remainder of the Site. There will be no landscaped areas at the Site. The proposed use of the basement of the new building will consist mainly of parking, with mechanical equipment rooms and a laundry at the northernmost portion of the

basement. Figure 4 shows the proposed use of the basement. Commercial tenants will occupy the ground floor of the building, and residential units will occupy the remaining floors above.

Excavation of soil for the full basement will extend to an approximate elevation of 85 feet (Borough of Queens Datum), which is 2.7525 feet above the U.S. Coast Geodetic Survey Mean Sea Level Datum at Sandy Hook. This elevation corresponds to 10 to 12 feet below the grade of the south portion of the Site and the adjacent sidewalk of Queens Boulevard. Excavation of soils for the elevator pits will be approximately 4½ feet below the bottom of the basement floor slab (i.e. elevation of 80.5). Soils at the northernmost portion of the Site already have been excavated to the approximate top of the basement floor slab. Based on the existing grades of the Site, the volume of remaining soils to be excavated is estimated to be approximately 4,000 cubic yards. No excavation is anticipated below the groundwater table, which is at least 20 feet below the proposed basement floor slab or 15.5 feet below the bottom of the elevator pits.

The remedial action contemplated under this RAWP may be implemented independently of the proposed redevelopment plan.

### **Summary of the Remedy**

The proposed remedial action achieves protection of public health and the environment for the intended use of the property. The proposed remedial action achieves all of the remedial action objectives established for the project and addresses applicable standards, criterion, and guidance; is effective in both the short-term and long-term and reduces mobility, toxicity and volume of contaminants; is cost effective and implementable; and uses standards methods that are well established in the industry.

The proposed remedial action will consist of:

1. Preparation of a Community Protection Statement and implementation of a Citizen Participation Plan;
2. Perform a Community Air Monitoring Program (CAMP) for particulates and volatile organic carbon compounds;
3. Establish Track 1 Soil Cleanup Objectives (SCOs);

4. Site mobilization involving Site security setup, equipment mobilization, utility mark outs and marking & staking excavation areas;
5. Excavation and removal of soil/fill exceeding SCOs. Excavation will be performed to a depth of at least 15 feet over the entire footprint of the Site;
6. Removal of underground storage tanks and closure of petroleum spills in compliance with applicable local, State and Federal laws and regulations;
7. Screening of excavated soil/fill during intrusive work for indications of contamination by visual means, odor, and monitoring with a PID;
8. Transportation and off-Site disposal of all soil/fill material at permitted facilities in accordance with applicable laws and regulations for handling, transport, and disposal, and this plan. Sampling and analysis of excavated media as required by disposal facilities. Appropriate segregation of excavated media onsite;
9. Collection and analysis of end-point samples to determine the performance of the remedy with respect to attainment of SCOs;
10. As part of new building construction, construction and maintenance of an engineered composite cover consisting of 6-inch thick concrete building slab, underlain by a 1½-foot gravel bed, over the entire Site;
11. As part of the new building construction, installation of a vapor barrier system beneath the building slab and along the east, west, and south foundation sidewalls;
12. Import of materials to be used for backfill and cover in compliance with this plan and in accordance with applicable laws and regulations;
13. Implementation of storm-water pollution prevention measures in compliance with applicable laws and regulations;
14. Performance of all activities required for the remedial action, including permitting requirements and pretreatment requirements, in compliance with applicable laws and regulations;

15. If the Track 1 Alternative is not achieved, a Track 2 remedial action will be achieved and will include a deed notice and site management plan to address institutional and engineering controls;
16. Submission of a RAR that describes the remedial activities, certifies that the remedial requirements have been achieved, defines the Site boundaries, and describes all Engineering and Institutional Controls to be implemented at the Site, and lists any changes from this RAWP; and
17. Installation of three permanent groundwater monitoring wells (at completion of remedial excavation and before building slab installation) and collection of representative groundwater samples from each well to evaluate impacts to groundwater quality from potential adjacent and upgradient sources of groundwater contamination.

## COMMUNITY PROTECTION STATEMENT

The Office of Environmental Remediation created the New York City Voluntary Cleanup Program (NYC VCP) to provide governmental oversight for the cleanup of contaminated property in NYC. This Remedial Action Work Plan (“cleanup plan”) describes the findings of prior environmental studies that show the location of contamination at the site, and describes the plans to clean up the site to protect public health and the environment.

This cleanup plan provides a very high level of protection for neighboring communities. This cleanup plan also includes many other elements that address common community concerns, such as community air monitoring, odor, dust and noise controls, hours of operation, good housekeeping and cleanliness, truck management and routing, and opportunities for community participation. The purpose of this Community Protection Statement is to explain these community protection measures in non-technical language to simplify community review.

**Remedial Investigation and Cleanup Plan.** Under the NYC VCP, a thorough cleanup study of this property (called a remedial investigation) has been performed to identify past property usage, to sample and test soils, groundwater and soil vapor, and identify contaminant sources present on the property. The cleanup plan has been designed to address all contaminant sources that have been identified during the study of this property.

**Identification of Sensitive Land Uses.** Prior to selecting a cleanup, the neighborhood was evaluated to identify sensitive land uses nearby, such as schools, day care facilities, hospitals and residential areas. The cleanup program was then tailored to address the special conditions of this community.

**Qualitative Human Health Exposure Assessment.** An important part of the cleanup planning for the Site is the performance of a study to find all of the ways that people might come in contact with contaminants at the Site now or in the future. This study is called a Qualitative Human Health Exposure Assessment (QHHEA). A QHHEA was performed for this project. This assessment has considered all known contamination at the Site and evaluated the potential for people to come in contact with this contamination. All identified public exposures will be addressed under this cleanup plan.

**Health and Safety Plan.** This cleanup plan includes a Health and Safety Plan that is designed to protect community residents and on-Site workers. The elements of this plan are in compliance with safety requirements of the United States Occupational Safety and Health Administration. This plan includes many protective elements including those discussed below.

**Site Safety Coordinator.** This project has a designated Site safety coordinator to implement the Health and Safety Plan. The safety coordinator maintains an emergency contact sheet and protocol for management of emergencies. The Site safety coordinator is Demetri Tsilogiannis and can be reached at (518)-829-0100.

**Worker Training.** Workers participating in cleanup of contaminated material on this project are required to be trained in a 40-hour hazardous waste operators training course and to take annual refresher training. This pertains to workers performing specific tasks including removing contaminated material and installing cleanup systems in contaminated areas.

**Community Air Monitoring Plan.** Community air monitoring will be performed during this cleanup project to ensure that the community is properly protected from contaminants, dust and odors. Air samples will be tested in accordance with a detailed plan called the Community Air Monitoring Plan or CAMP. Results will be regularly reported to the NYC Office of Environmental Remediation. This cleanup plan also has a plan to address any unforeseen problems that might occur during the cleanup (called a 'Contingency Plan').

**Odor, Dust and Noise Control.** This cleanup plan includes actions for odor and dust control. These actions are designed to prevent off-Site odor and dust nuisances and includes steps to be taken if nuisances are detected. Generally, dust is managed by application of physical covers and by water sprays. Odors are controlled by limiting the area of open excavations, physical covers, spray foams and by a series of other actions (called operational measures). The project is also required to comply with NYC noise control standards. If you observe problems in these areas, please contact the onsite Project Manager, Demetri Tsilogiannis at (516) 829-0100 or NYC Office of Environmental Remediation Project Manager, Jimit Shah at (212) 788-8348.

**Quality Assurance.** This cleanup plan requires that evidence be provided to illustrate that all cleanup work required under the plan has been completed properly. This evidence will be

summarized in the final report, called the Remedial Action Report. This report will be submitted to the NYC Office of Environmental Remediation and will be thoroughly reviewed.

**Storm-Water Management.** To limit the potential for soil erosion and discharge, this cleanup plan has provisions for storm-water management. The main elements of the storm water management include physical barriers such as tarp covers and erosion fencing, and a program for frequent inspection.

**Hours of Operation.** The hours for operation of cleanup will comply with the NYC Department of Buildings construction code requirements or according to specific variances issued by that agency. For this cleanup project, the hours of operation are 8:00 a.m. and 6:00 p.m., Monday through Friday.

**Signage.** While the cleanup is in progress, a placard will be prominently posted at the main entrance of the property with a laminated project Fact Sheet that states that the project is in the NYC Brownfield Cleanup Program, provides project contact names and numbers, and locations of project documents can be viewed.

**Complaint Management.** The contractor performing this cleanup is required to address all complaints. If you have any complaints, you can call the facility Project Manager Demetri Tsilogiannis at (516) 829-0100, the NYC Office of Environmental Remediation Project Manager Jimit Shah at 212-788-8348, or call 311 and mention the Site is in the NYC Voluntary Cleanup Program.

**Utility Mark-outs.** To promote safety during excavation in this cleanup, the contractor is required to first identify all utilities and must perform all excavation and construction work in compliance with NYC Department of Buildings regulations.

**Soil and Liquid Disposal.** All soil and liquid material removed from the Site as part of the cleanup will be transported and disposed of in accordance with all applicable City, State and Federal regulations and required permits will be obtained.

**Soil Chemical Testing and Screening.** All excavations will be supervised by a trained and properly qualified environmental professional. In addition to extensive sampling and chemical testing of soils on the Site, excavated soil will be screened continuously using hand-held

instruments, by sight, and by smell to ensure proper material handling and management, and community protection.

**Stockpile Management.** Soil stockpiles will be kept covered with tarps to prevent dust, odors and erosion. Stockpiles will be frequently inspected. Damaged tarp covers will be promptly replaced. Stockpiles will be protected with silt fences. Hay bales will be used, as needed to protect storm water catch basins and other discharge points.

**Trucks and Covers.** Loaded trucks leaving the Site will be covered in compliance with applicable laws and regulations to prevent dust and odor. Trucks will be properly recorded in logs and records and placarded in compliance with applicable City, State and Federal laws, including those of the New York State Department of Transportation. If loads contain wet material that can leak, truck liners will be used. All transport of materials will be performed by licensed truckers and in compliance with all laws and regulations.

**Imported Material.** All fill materials proposed to be brought onto the Site will comply with rules outlined in this cleanup plan and will be inspected and approved by a qualified worker located on-Site. Waste materials will not be brought onto the Site. Trucks entering the Site with imported clean materials will be covered in compliance with applicable laws and regulations.

**Equipment Decontamination.** All equipment used for cleanup work will be inspected and washed, if needed, before it leaves the Site. Trucks will be cleaned at a truck inspection station on the property before leaving the Site.

**Housekeeping.** Locations where trucks enter or leave the Site will be inspected every day and cleaned regularly to ensure that they are free of dirt and other materials from the Site.

**Truck Routing.** Truck routes have been selected to: (a) limit transport through residential areas and past sensitive nearby properties; (b) maximize use of city-mapped truck routes; (c) limit total distance to major highways; (d) promote safety in entry to highways; (e) promote overall safety in trucking; and (f) minimize off-Site line-ups (queuing) of trucks entering the property. Operators of loaded trucks leaving the Site will be instructed not to stop or idle in the local neighborhood.

**Final Report.** The results of all cleanup work will be fully documented in a final report (called a Remedial Action Report) that will be available for you to review in the public document repositories located at the Woodside library (54-22 Skillman Avenue).

**Long-Term Site Management.** To provide long-term protection after the cleanup is complete, the property owner will be required to comply with an ongoing Site Management Plan that calls for continued inspection of protective controls, such as Site covers. The Site Management Plan is evaluated and approved by the NYC Office of Environmental Remediation. Requirements that the property owner must comply with are defined in the property's deed. A certification of continued protectiveness of the cleanup will be required from time to time to show that the approved cleanup is still effective.

# **REMEDIAL ACTION WORK PLAN**

## **1.0 SITE BACKGROUND**

52-01, LLC has enrolled in the New York City Voluntary Cleanup Program (NYC VCP) to investigate and remediate a property located at 52-01 Queens Boulevard in the Woodside section of Queens, New York (the Site). A Remedial Investigation (RI) was performed to compile and evaluate data and information necessary to develop this Remedial Action Work Plan (RAWP) in a manner that will render the Site protective of public health and the environment consistent with the contemplated end use. This RAWP establishes remedial action objectives, provides a remedial alternatives analysis that includes consideration of a permanent cleanup, and provides a description of the selected remedial action. The remedial action described in this document provides for the protection of public health and the environment, complies with applicable environmental standards, criteria and guidance and applicable laws and regulations.

### **1.1 SITE LOCATION AND CURRENT USAGE**

The Site is located in the Woodside section of Queens, New York and is identified as Block number 1321 and Lot number 1 on the New York City Tax Map. Figure 1 is a Site location map. The Site is a 12,000-square feet and is bounded by an automobile repair shop to the north, Queens Boulevard to the south, an automobile repair shop and two residential dwellings to the east, and 52<sup>nd</sup> Street to the west. Currently, the Site is a vacant lot, without any structures, and is fully enclosed by a perimeter fence. Figure 2, Site Plan, shows the current boundaries of the Site.

### **1.2 PROPOSED REDEVELOPMENT PLAN**

The proposed use of the Site will consist of a 9-story, mixed-use building, with commercial tenants on the ground floor and residential units on floors above. Layout of the proposed site development is presented in Figure 3. The current zoning designation for the Site is R7X/R5-B, and is residential with a commercial overlay. The proposed redevelopment plan is consistent with the zone.

The proposed redevelopment will entail the construction of a new 9-story building, with a full basement. The basement will extend over the entire footprint of the Site. The new building will occupy the south portion of the Site. A setback for ground level parking, which will be above a basement level, will occupy the remainder of the Site. There will be no landscaped areas at the Site. The proposed use of the basement of the new building will consist mainly of parking, with mechanical equipment rooms and a laundry at the northernmost portion of the basement. Figure 4 shows the proposed use of the basement. Commercial tenants will occupy the ground floor of the building, and residential units will occupy the remaining floors above.

Excavation of soil for the full basement will extend to an approximate elevation of 85 feet (Borough of Queens Datum), which is 2.7525 feet above the U.S. Coast Geodetic Survey Mean Sea Level Datum at Sandy Hook. This elevation corresponds to 10 to 12 feet below the grade of the south portion of the Site and the adjacent sidewalk of Queens Boulevard. Excavation of soils for the elevator pits will be approximately 4½ feet below the bottom of the basement floor slab (i.e. elevation of 80.5). Soils at the northernmost portion of the Site already have been excavated to the approximate top of the basement floor slab. Based on the existing grades of the Site, the volume of remaining soils to be excavated is estimated to be approximately 4,000 cubic yards. No excavation is anticipated below the groundwater table, which is at least 20 feet below the proposed basement floor slab or 15.5 feet below the bottom of the elevator pits.

The remedial action contemplated under this RAWP may be implemented independently of the proposed redevelopment plan.

### **1.3 DESCRIPTION OF SURROUNDING PROPERTY**

According to the OER Searchable Property Environmental E-Database (SPEED), there are no sensitive receptors, such as schools, hospitals and day care facilities within 500-foot radius of the Site.

Figure 5 shows the surrounding land usage.

## 1.4 REMEDIAL INVESTIGATION

A remedial investigation was performed and the results are documented in a companion document called “*Remedial Investigation Report, 52-01 Queens Boulevard*”, dated June 2012 (RIR).

### **Summary of Past Uses of Site and Areas of Concern**

According to Sanborn maps, the subject site is shown to be occupied by a stone yard from 1902 to 1932, an asphalt parking lot with no structures in 1951, used auto sales lot with a small one-story structure located at the northeast portion of the property from 1982 to 2006. According to knowledgeable sources, the Site has been utilized primarily for the sale of used automobiles. Several hydraulic oil lifts reportedly were present in the on-site building where minor repairs of automobiles presumably occurred prior to their sale.

The AOCs identified for this Site include:

- The past use of the Site as a stone yard and automobile repair,
- Hydraulic oil lifts in the former on-site building at the northeast portion of the Site, and
- Historic and current use of surrounding properties as automobile repair

### **Summary of the Work Performed under the Remedial Investigation**

The Remedial Investigation of the Site consisted of two distinct phases of work to characterize the Site in response to its “E” designation for hazardous materials. The initial subsurface investigation of the Site occurred in 2007 and 2008 to evaluate subsurface soil conditions and groundwater, if present within 30 feet below grade surface (bgs), at the Site. A subsequent subsurface investigation occurred in May and June 2012 to evaluate soil, soil gas and groundwater conditions at the Site.

Remedial Investigation of the Site included a geophysical survey across the entire Site to identify and locate underground storage tanks (USTs); installation of six soil borings, three temporary groundwater monitoring wells and three temporary vapor implants; and excavation of

four (4) test pits. To evaluate subsurface conditions, the Remedial Investigation (i.e. both phases) included the collection and analysis of 18 soil, 3 groundwater, and 3 soil gas samples.

### **Summary of Environmental Findings**

Significant environmental findings are summarized below. Results of the remedial investigation are presented in Tables 1 through 3.

1. Elevation of the Site ranges from approximately 89 to 100 feet (Borough of Queens Datum), which is 2.75 feet above the U.S. Coast Survey Mean Sea Level at Sandy Hook). The elevation of the Site slopes from south to north where excavation of soils for construction of the northernmost foundation wall of the new building had occurred.
2. Depth to perched groundwater ranges from 20 to 31 feet below ground surface (bgs) at the Site. Borings installed to 34 feet bgs have not encountered the water table. Due to subsurface obstructions, deeper borings for installation of permanent groundwater monitoring wells could not be installed by conventional drilling methods. Based on United States Geological Survey (USGS) report titled “Water Table Altitude in Kings and Queens Counties, New York, March 1997”, the depth to the water table is likely 40 to 50 feet bgs.
3. Since no permanent groundwater monitoring wells have been installed, the actual direction of groundwater flow is unknown. Based on surface topography and the aforementioned USGS report, the anticipated direction of groundwater flow at the Site is to the southwest, towards the East River.
4. Depth to bedrock is approximately 200 feet at the Site according to available geological information (Bedrock and Engineering Geological Map, 1994, Baskerville, Charles). Bedrock was not encountered during any portion of either site investigation.
5. The stratigraphy of the site, from the surface down, consists of 2 to 4 feet of fill consisting mainly of bricks and stone, underlain by 28 feet of Upper Glacier Aquifer consisting of sand with some silts, pebbles and boulders..
6. Six (6) Soil/fill samples collected from the five (5) borings installed during the initial phase of the RI in 2007 showed no concentrations of volatile organic compounds

(VOCs), semi-volatile organic compounds (SVOCs) and polychlorinated biphenyls (PCBs) that were above their corresponding Part 375 Unrestricted Use/Track 1 SCOs. The only VOCs detected in the soil were acetone and methylene chloride, both common laboratory contaminants that incidentally were also found in the laboratory blank. Trace concentrations of polycyclic aromatic hydrocarbons (PAHs), a subset of SVOCs, were found in some soil samples. These PAHs included phenanthrene, fluoranthene, pyrene, benzo (a) anthracene, benzo (b) fluoranthene, benzo (k) fluoranthene, benzo (a) pyrene, and benzo (g,h,i) perylene. Concentrations of these PAHs were well within published values for historic fill and therefore their presence is likely attributable to historic fill.

7. Both grab and composite soil/fill samples collected from all test pits excavated during the subsequent phase of the RI in 2012 found no VOCs or metals above their corresponding Part 375 Unrestricted Use/Track 1 SCOs. The only VOCs detected in the soil samples were trace levels of toluene and acetone, and the presence of the latter is likely an artifact arising from laboratory contamination. No detectable concentrations of other VOCs, in particular tetrachloroethene (PCE), trichloroethene (TCE) and cis-1,2-Dichloroethane, were found in the soil samples.
8. Soil vapor samples collected during the 2012 RI did not contain detectable concentrations of carbon tetrachloride and 1,1,2,2-Tetrachloroethane. PCE was detected in all three (3) samples retrieved, at concentrations ranging from 15 to 83 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ). TCE was only detected in one (1) of three (3) samples, at a concentration of 1  $\mu\text{g}/\text{m}^3$ . The highest concentration of PCE was found at soil vapor implant SV-2 located at the easternmost portion of the Site and closest to the off-site and adjacent auto repair facility to the East. Decay products of PCE and TCE were not identified in soil vapor. Low levels of several petroleum-associated compounds (below 25  $\mu\text{g}/\text{m}^3$ ) were also identified in soil vapor. No detectable concentrations of any chlorinated solvents were found in the soil samples collected at the Site, but were found in groundwater which may indicate the presence of an offsite source. Concentrations of chlorinated solvents in the soil vapor were relatively low, which is inconsistent with a significant on-Site source.

9. All three (3) Groundwater samples collected during the 2012 phase of the RI revealed the presence of PCE, TCE and cis-1,2-Dichloroethane in perched groundwater at concentrations well above their Part 703.5 Class GA groundwater standards. Concentrations of PCE in the perched groundwater ranged from 252 to 882 microgram per liter (ug/L). Concentrations of TCE ranged from 2.1 to 10.4 ppb. Concentrations of cis-1,2-Dichloroethane ranged from 1.6 to 11.3 ug/L. The highest concentration of these chlorinated solvents was found at temporary well TW-3 located at the northernmost portion of the Site and closest to the off-site and adjacent auto repair facility to the North. As both on-site soil and soil vapor quality do not indicate the presence of TCE or PCE in detectable quantities, and given the current/former uses of surrounding properties, it is strongly believed that the contamination pathway of these chemicals originates from an off-site source. Site and logistical issues impeded the installation and development of permanent groundwater wells during the 2012 remedial investigation. As a result, three (3) perimeter permanent flush-mounted groundwater wells will be installed immediately after full site excavation has been achieved. Samples retrieved from these will be analyzed for the presence of VOCs, SVOCs, unfiltered/filtered metals, pesticides, and PCBs. The data generated from said analysis will be used to further bolster the reasoning that TCE/PCE contamination in groundwater is a result of off-site ingress.

For more detailed results, consult the RIR. Based on an evaluation of the data and information from the RIR and this RAWP, disposal of significant amounts of hazardous waste is not suspected at this site.

## **2.0 REMEDIAL ACTION OBJECTIVES**

Based on the results of the RI, the following Remedial Action Objectives (RAOs) have been identified for this Site:

### **Groundwater**

- Remove contaminant sources causing impact to groundwater.
- Prevent direct exposure to contaminated groundwater.
- Prevent exposure to contaminants volatilizing from contaminated groundwater.

### **Soil**

- Prevent direct contact with contaminated soil.
- Prevent exposure to contaminants volatilizing from contaminated soil.
- Prevent migration of contaminants that would result in groundwater contamination.

### **3.0 REMEDIAL ALTERNATIVES ANALYSIS**

The goal of the remedy selection process is to select a remedy that is protective of human health and the environment taking into consideration the current, intended and reasonably anticipated future use of the property. The remedy selection process begins by establishing RAOs for media in which chemical constituents were found in exceedance of applicable standards, criteria and guidance values (SCGs). A remedy is then developed based on the following nine criteria:

- Protection of human health and the environment;
- Compliance with SCGs;
- Short-term effectiveness and impacts;
- Long-term effectiveness and permanence;
- Reduction of toxicity, mobility, or volume of contaminated material;
- Implementability;
- Cost effectiveness;
- Community Acceptance; and
- Land use.

The following is a detailed description of the alternatives analysis and remedy selection to address impacted media at the Site. As required, a minimum of two remedial alternatives (including a Track 1 scenario) are evaluated, as follows:

Alternative 1 is Track 1 alternative that involves attainment of Track 1 SCOs and complete removal of all soil and fill material that exceed the unrestricted Track 1 SCOs. This alternative will require the excavation of soil and fill to 15 feet or deeper bgs and eliminates impact sources.

Alternative 2 is Track 2 alternative that involves removal of the soil and fill material that exceed the Track 2 Residential Soil Cleanup Objectives (SCOs). This Alternative 2 involves the following:

- Establishment of Track 2 Residential Soil Cleanup Objectives (SCOs);

- Removal of soil and fill within the property boundary to an approximate depth 15 feet bgs, and will entail the excavation and off-site disposal of approximately 4,000 cubic yards of soil and fill, which will thereby eliminates contaminated sources;
- Placement of a final cover over the entire Site to eliminate exposure to remaining soil/fill;
- Management of Soil vapors by the operation of a ventilated parking area under the building;
- Establishment of Institutional Controls including prohibitions on the use of ground water from the Site and prohibitions on other sensitive site uses, such as farming or vegetable gardening, to eliminate future exposure pathways;
- Establishment of a Site Management Plan to ensure long-term management of the Engineering Controls, including performance of periodic inspections and certifications that the controls are performing as they were intended; and
- Placement of deed restriction.

### **3.1 THRESHOLD CRITERIA**

#### **Protection of Public Health and the Environment**

This criterion is an evaluation of the remedy’s ability to protect public health and the environment, and an assessment of how risks posed through each existing or potential pathway of exposure are eliminated, reduced or controlled through removal, treatment, and implementation of Engineering Controls or Institutional Controls. Protection of public health and the environment must be achieved for all approved remedial actions. The Track 1 alternative will result in the excavation and removal of soil/fill with contaminant concentrations above Track 1 SCOs. As such, this alternative would be consistent with the RAOs and provide overall protection of public health and the environment in consideration of current and potential future land use by:

- Eliminating the potential for direct contact with contaminated on-site soils and groundwater; and,

- Eliminating potential sources for on-site production of soil vapors.

Alternative 2 would achieve comparable protections of human health and the environment and would be consistent with the RAOs and would provide overall protection of public health and the environment in consideration of current and potential future land use by:

- Removing soil/fill with contaminant concentrations above Track 2 Residential SCOs. Soils will be excavated to a depth of at least 15 feet over the entire property;
- Eliminating the potential for direct contact with contaminated soil or groundwater by placement of a composite cover system and via institutional controls;
- Installation a vapor barrier beneath the basement floor slab to prevent the risk of vapor intrusion;
- Minimizing the potential for migration of soil vapor into occupied structures and associated inhalation exposures by operation of a ventilated parking garage beneath the building;
- Minimizing the potential for direct contact with contaminated on-site soils during the remediation by implementing an approved soil and materials management plan and Community Air Monitoring Plan (CAMP);
- Establishing Engineering and Institutional controls for use restrictions, periodic inspections and deed restrictions; and
- Establishing a Site Management Plan to ensure long term management of Institutional and Engineering Controls.

### **3.2. BALANCING CRITERIA**

#### **Compliance with Standards, Criteria and Guidance (SCGs)**

The Track 1 alternative would address the chemical-specific SCGs for soil by excavation and removal of all material above the Track 1 SCOs. Focused attention on means and methods employed during remedial action would ensure the handling and management of contamination material would be in compliance with applicable SCGs.

The Track 2 alternative would address chemical-specific SCGs for soil by establishment of Track 2 SCOs and attainment of these standards for onsite soil. Similar to the Track 1, focused attention on means and methods employed during remedial action would ensure the handling and management of contamination material would be in compliance with applicable SCGs. Soil vapor impacts within the building structure would be mitigated by the installation of a vapor barrier.

### **Short-term effectiveness and impacts**

This evaluation criterion assesses the effects of the alternative during the construction and implementation phase until remedial action objectives are met. Under this criterion, alternatives are evaluated with respect to their effects on public health and the environment during implementation of the remedial action, including protection of the community, environmental impacts, time until remedial response objectives are achieved, and protection of workers during remedial actions.

The Track 1 alternative would result in some short-term impacts due to the quantity of excavation and transport required to remove all historic fill and other material necessary to achieve Track 1 SCOs throughout the Site. These impacts could include higher air quality impacts caused by greater soil excavation, handling and load out, and associated truck traffic. Focused attention to means and methods employed during the remedial action, including community air monitoring and appropriate truck routing, would minimize or negate the overall impact of this additional activity.

The Track 2 alternative would result in marginally fewer short-term impacts associated with excavation, handling, load out of materials, and truck traffic than a Track 1 remediation. However, focused attention to means and methods during the remedial action, including community air monitoring and appropriate truck routing, would minimize or negate the overall impact of these activities under either alternative.

### **Long-term effectiveness and permanence**

This evaluation criterion addresses the results of a remedial action in terms of its permanence and quantity/nature of waste or residual contamination remaining at the Site after response objectives have been met, such as permanence of the remedial alternative, magnitude of

remaining contamination, adequacy of controls including the adequacy and suitability of ECs/ICs that may be used to manage contaminant residuals that remain at the Site and assessment of containment systems and ICs that are designed to eliminate exposures to contaminants, and long-term reliability of Engineering Controls.

The Track 1 alternative would be effective over the long-term by providing a permanent cleanup of on-Site contamination through removal of all soils in excess of the Track 1 SCOs and would eliminate any potential on-Site sources of soil vapors and groundwater contamination consistent with remedial action objectives.

Alternative 2 would also be effective over the long-term by attaining Track 2 Residential SCOs, placement of a composite cover over the entire Site, establishment of a Site Management Plan to ensure long-term management of Institutional and Engineering Controls, and placement of a deed restriction to memorialize these controls after remedial construction is complete. Soil and fill removal would also eliminate potential sources soil vapors, and installation of a vapor barrier would prevent migration of vapors into occupied structures and would eliminate associated inhalation exposures. Establishment of a SMP and a deed restriction will ensure that these protections remain effective in perpetuity.

### **Reduction of toxicity, mobility, or volume of contaminated material**

This evaluation criterion assesses the remedial alternative's use of remedial technologies that permanently and significantly reduce toxicity, mobility, or volume of contaminants as their principal element. The following is the hierarchy of source removal and control measures that are to be used to remediate a Site, ranked from most preferable to least preferable: removal and/or treatment, containment, elimination of exposure and treatment of source at the point of exposure. It is preferred to use treatment or removal to eliminate contaminants at a Site, reduce the total mass of toxic contaminants, cause irreversible reduction in contaminants mobility, or reduce of total volume of contaminated media.

The Track 1 alternative will provide maximum reduction of toxicity, mobility, and volume of contaminated material on-Site by excavation and removal of all soils that exceed the Track 1 unrestricted use SCOs.

The Track 2 alternative will provide:

- Reduction of toxicity, mobility and volume of contaminated material on-Site by establishing Track 2 SCOs and attainment of these SCOs for onsite soil;
- Placement of a composite cover over the entire Site that will eliminate potential contact with remaining soils and fill below the SCOs;
- Groundwater use restrictions will reduce toxicity by ensuring that there is no direct contact with on-Site groundwater in the future;
- Establishment of a Site Management Plan and placement of a deed restriction to memorialize these controls will ensure long-term management of these Engineering and Institutional Controls and provide assurance that protections will continue in perpetuity.

### **Implementability**

This evaluation criterion addresses the technical and administrative feasibility of implementing an alternative and the availability of various services and materials required during its implementation, including technical feasibility of construction and operation, reliability of the selected technology, ease of undertaking remedial action, monitoring considerations, administrative feasibility (e.g. obtaining permits for remedial activities), and availability of services and materials.

The Track 1 alternative is implementable. The remedial methods used are easily implemented using standard construction technologies.

Similarly, Alternative 2 is also both feasible and implementable. It uses standard materials and services and well established technology. The reliability of the remedy is also high. There are no special difficulties associated with any of the activities proposed, which utilize standard industry methods.

For implementation of both remedies, standard construction equipment utilized for the overall earthwork would be used. OSHA trained personnel will complete all activities that include excavation and handling of impacted soils. No special permits other than earthwork permits required for completion of the required site redevelopment scope are required for implementation of the remedy.

## **Cost effectiveness**

This evaluation criterion addresses the cost of alternatives, including capital costs (such as construction costs, equipment costs, and disposal costs, engineering expenses) and site management costs (costs incurred after remedial construction is complete) necessary to ensure the continued effectiveness of a remedial action.

The capital costs for the Track 1 alternative is higher than the Track 2 alternative in that a higher volume of soil/fill will be excavated for off-site disposal to achieve a Track 1 status over the entire site. In both cases, appropriate public health and environmental protections are achieved.

Both alternatives satisfy the threshold balancing criterion and other criterion listed here, and each is fully protective of public health and the environment, will control migration of contaminants, will comply with SCGs, are effective for the short-term and long-term, are implementable, and reduce both mobility and toxicity.

## **Community Acceptance**

This evaluation criterion addresses community opinion and support for the remedial action. Observations here will be supplemented by public comment received on the RAWP.

Based on the overall goals of the remedial program and initial observations by the project team, both alternatives will be acceptable to the community. This RAWP will be subject to and undergo public review under the NYC CP and will provide the opportunity for detailed public input on the remedial alternative and the selected remedial action. This public comment will be considered by OER prior to approval of this plan.

## **Land use**

This evaluation criterion addresses the proposed use of the property. This evaluation has considered reasonably anticipated future uses of the Site and takes into account: current use and historical and/or recent development patterns; applicable zoning laws and maps; NYS Department of State's Brownfield Opportunity Areas (BOA) pursuant to section 970-r of the general municipal law; applicable land use plans; proximity to real property currently used for residential use, and to commercial, industrial, agricultural, and/or recreational areas;

environmental justice impacts, Federal or State land use designations; population growth patterns and projections; accessibility to existing infrastructure; proximity of the site to important cultural resources and natural resources, potential vulnerability of groundwater to contamination that might emanate from the site, proximity to flood plains, geography and geology; and current Institutional Controls applicable to the site.

The Track 1 and 2 alternatives for remedial action at the Site are comparable with respect to the proposed use and land uses in the vicinity of the Site. The proposed use is consistent with the existing zoning designation for the property and is consistent with recent development patterns. The Site is surrounded by residential and commercial properties and the proposed alternatives provide comprehensive protection of public health and the environment for these uses. Improvements in the current brownfield condition of the property achieved by the alternatives are also consistent with the City's goals for the cleanup of contaminated land and bringing such properties into productive reuse. The alternative is equally protective of natural resources and cultural resources. This RAWP will be subject to public review under the NYC VCP and will provide the opportunity for detailed public input on the land use factors described in this section. This public comment will be considered by OER prior to approval of this plan.

### **Sustainability of the Remedial Action**

This criterion evaluates the overall sustainability of the remedial action alternatives and the degree to which sustainable means are employed to implement the remedial action including those that take into consideration NYC's sustainability goals defined in *PlaNYC: A Greener, Greater New York*. Sustainability goals may include: maximizing the recycling and reuse of non-virgin materials; reducing the consumption of virgin and non-renewable resources; minimizing energy consumption and greenhouse gas emissions; improving energy efficiency; and promotion of the use of native vegetation and enhancing biodiversity during landscaping associated with Site development.

Both alternatives have an equal potential to utilize sustainable means to achieve the cleanup goals. This program contemplates the utilization of several green remediation methods that are compatible with the alternative. The full list of green remediation activities considered in this program is included in the Sustainability Statement.

## **4.0 REMEDIAL ACTION**

### **4.1 SUMMARY OF PREFERRED REMEDIAL ACTION**

The preferred remedial action alternative is the Track 1 Alternative. The preferred remedial action alternative achieves protection of public health and the environment for the intended use of the property. The preferred remedial action alternative will achieve all of the remedial action objectives established for the project and addresses applicable SCGs. The preferred remedial action alternative is effective in both the short-term and long-term and reduces mobility, toxicity and volume of contaminants. The preferred remedial action alternative is cost effective and implementable and uses standards methods that are well established in the industry.

The proposed remedial action will consist of:

1. Preparation of a Community Protection Statement and implementation of a Citizen Participation Plan;
2. Perform a Community Air Monitoring Program for particulates and volatile organic carbon compounds;
3. Establish Track 1 Soil Cleanup Objectives (SCOs);
4. Site mobilization involving Site security setup, equipment mobilization, utility mark outs and marking & staking excavation areas;
5. Excavation and removal of soil/fill exceeding SCOs. Excavation will be performed to a depth of at least 15 feet over the entire footprint of the Site;
6. Removal of underground storage tanks and closure of petroleum spills in compliance with applicable local, State and Federal laws and regulations;
7. Screening of excavated soil/fill during intrusive work for indications of contamination by visual means, odor, and monitoring with a PID;
8. Transportation and off-Site disposal of all soil/fill material at permitted facilities in accordance with applicable laws and regulations for handling, transport, and disposal,

and this plan. Sampling and analysis of excavated media as required by disposal facilities. Appropriate segregation of excavated media onsite;

9. Collection and analysis of end-point samples to determine the performance of the remedy with respect to attainment of SCOs;
10. As part of new building construction, construction and maintenance of an engineered composite cover consisting of 6-inch thick concrete building slab, underlain by a 1½-foot gravel bed, over the entire Site;
11. As part of the new building construction, installation of a vapor barrier system beneath the building slab and along the east, west, and south foundation sidewalls;
12. Import of materials to be used for backfill and cover in compliance with this plan and in accordance with applicable laws and regulations;
13. Implementation of storm-water pollution prevention measures in compliance with applicable laws and regulations;
14. Performance of all activities required for the remedial action, including permitting requirements and pretreatment requirements, in compliance with applicable laws and regulations;
15. If the Track 1 Alternative is not achieved, a Track 2 remedial action will be achieved and will include a deed notice and site management plan to address institutional and engineering controls;
16. Submission of a RAR that describes the remedial activities, certifies that the remedial requirements have been achieved, defines the Site boundaries, and describes all Engineering and Institutional Controls to be implemented at the Site, and lists any changes from this RAWP; and
17. Installation of three permanent groundwater monitoring wells (at completion of remedial excavation and before building slab installation) and collection of representative groundwater samples from each well to evaluate impacts to groundwater quality from potential adjacent and upgradient sources of groundwater contamination.

## **4.2 SOIL CLEANUP OBJECTIVES AND SOIL/FILL MANAGEMENT**

Track 1 Soil Cleanup Objectives (SCOs) are proposed for this project. The SCOs for this Site are listed in Table 5. Soil and materials management on-Site and off-Site, including excavation, handling and disposal, will be conducted in accordance with the Soil/Materials Management Plan in Appendix 3. The location of planned excavations is shown in Figure 6.

Discrete contaminant sources (such as hotspots) identified during the remedial action will be identified by GPS or surveyed. This information will be provided in the Remedial Action Report.

### **Estimated Soil/Fill Removal Quantities**

The total quantity of soil/fill expected to be excavated and disposed off-Site is 6,000 tons.

Disposal facilities will be reported to OER when they are identified and prior to the start of remedial action.

### **End-Point Sampling**

If hotspots are encountered, hotspot removal actions under this plan will be performed in conjunction with remedial end-point sampling. End-point sampling frequency will consist of the following:

1. For excavations less than 20 feet in total perimeter, at least one bottom sample and one sidewall sample biased in the direction of surface runoff.
2. For excavations 20 to 300 feet in perimeter:
  - For surface removals, one sample from the top of each sidewall for every 30 linear feet of sidewall and one sample from the excavation bottom for every 900 square feet of bottom area.
  - For subsurface removals, one sample from each sidewall for every 30 linear feet of sidewall and one sample from the excavation bottom for every 900 square feet of bottom area.

3. For sampling of volatile organics, bottom samples should be taken within 24 hours of excavation, and should be taken from the zero to six-inch interval at the excavation floor. Samples taken after 24 hours should be taken at six to twelve inches.

4. For contaminated soil removal, post remediation soil samples for laboratory analysis should be taken immediately after contaminated soil removal. If the excavation is enlarged horizontally, additional soil samples will be taken pursuant to bullets 1-3 above.

Post-remediation sample locations and depth will be biased towards the areas and depths of highest contamination identified during previous sampling episodes unless field indicators such as field instrument measurements or visual contamination identified during the remedial action indicate that other locations and depths may be more heavily contaminated. In all cases, post-remediation samples should be biased toward locations and depths of the highest expected contamination.

New York State ELAP certified labs will be used for all end-point sample analyses. Labs for end-point sample analyses will be reported in the RAR. The RAR will provide a tabular and map summary of all end-point sample results and will include all data including non-detects and applicable standards and/or guidance values. End-point samples will be analyzed for trigger analytes (those for which SCO exceedance is identified) utilizing the following methodology:

Soil analytical methods will include:

- Volatile organic compounds by EPA Method 8260;
- Semi-volatile organic compounds by EPA Method 8270;
- Target Analyte List metals by EPA Methods 6010/7471; and
- Pesticides/PCBs by EPA Method 8081/8082.

If either LNAPL and/or DNAPL are detected, appropriate samples will be collected for characterization and “finger print analysis” and required regulatory reporting (i.e. spills hotline) will be performed.

Based on the estimated size of the excavation for construction of the new building, a minimum of 6 end-point bottom samples are proposed for the Site. No sidewall samples are proposed since the excavation will extend to the boundaries of the property. If additional

excavation is required for removal of hot spots, additional bottom and sidewall samples will be collected for analysis. Figure 7 shows the proposed end-point soil sample locations.

### **Quality Assurance/Quality Control**

Quality assurance (duplicate and trip blanks) and quality control (field blanks) samples will be incorporated into the sampling events, and will consist of duplicate soil and field blank for every 20 end-point soil samples and every groundwater sampling event. In addition, a trip blank will be included in every groundwater sampling event. Soil and ground field blanks will be analyzed for VOCs, SVOCs, Pesticides, PCBs, and metals. The trip blank will be analyzed for only VOCs.

### **Import and Reuse of Soils**

Import of soils onto the property and reuse of soils already onsite will be performed in conformance with the Soil/Materials Management Plan in Appendix 3. No import or reuse of soils is anticipated for the Site.

## **4.3 GROUNDWATER INVESTIGATION**

Groundwater quality will be evaluated at three locations of the Site in order to further investigate the likely source and extent of solvent-related groundwater contamination identified by the RIR. These groundwater monitoring wells will be installed at their proposed locations after soils have been excavated to proposed development depths and prior to installation of the composite cover system.

A motorized drill rig will be utilized to install the permanent groundwater monitoring wells. Figure 8 shows the proposed locations of groundwater monitoring wells along with the prior sampling locations of the RIR. As indicated by Figure 8, two of the groundwater monitoring wells, MW-1 and MW-2, will be located at the presumed upgradient and north and east perimeters of the Site. The purpose of these groundwater monitoring wells will be to evaluate groundwater quality immediately downgradient of off-site and upgradient, potential sources of groundwater contamination (i.e. auto repair facilities). The third groundwater monitoring well,

MW-3, will be located at the southwest and downgradient portion of the Site and will evaluate the Site's overall impact to groundwater quality.

### **Well Construction**

Groundwater monitoring wells will be constructed of 2-inch, inner diameter Schedule 40 PVC with a 10-foot slotted PVC screen. The screen will be set to be 5 feet above and 5 below the groundwater table. A solid 2-inch diameter PVC riser will extend from the top of the screen to the surface. A sand pack will be placed around the wells screens to an elevation of one foot above the screen. A two-foot bentonite seal will be placed atop the sand/gravel pack. A cement slurry will be placed around the PVC riser from the bentonite seal to grade. The wells will be finished with a steel flush-mounted manhole cover.

### **Well Development**

Following 48 hours after their installation, the groundwater monitoring wells will be developed via purging a minimum of three well volumes. Purged water will be containerized in a 55-gallon drum and disposed of at an appropriate off-site facility.

### **Groundwater Sampling Procedures**

Groundwater sampling will be performed approximately one week after well development. The newly installed permanent groundwater monitoring wells will be screened for headspace VOC vapors using a PID immediately after opening the well cap. After taking headspace measurements, the groundwater monitoring wells will be gauged for groundwater and/or free product levels. An oil-water interface probe will be utilized to establish the depth to groundwater and/or product.

Representative groundwater samples from each groundwater monitoring well will be collected utilizing low-flow purging and sampling methods. If free product is observed in any of the groundwater monitoring wells, groundwater within that well will not be sampled (See Fingerprinting analysis).

Each groundwater monitoring well will be purged until water quality parameters, such as turbidity, conductivity, pH, and dissolved oxygen, are stabilized (10 percent variation or less)

over three consecutive measurements while draw-down during purging is kept to a minimum (0.3 feet or less).

Groundwater samples from each groundwater monitoring well will be placed into laboratory-supplied glassware, immediately stored in an ice-filled cooler, and delivered with a chain-of-custody documentation to an ELAP certified and accredited laboratory. The groundwater samples will be analyzed for TCL VOC by Method 8260, TCL SVOC by Method 8270, dissolved TAL metals by Methods 6010/7471, and PCBs and pesticides by Methods 8081 and 8082.

### **Finger Print Analysis**

If measurable free product is detected in any groundwater monitoring well, a sample of the free product will be collected from that well. A disposal plastic bailer will be utilized for collection of the free product sample, and the sample will be submitted for finger print analysis by EPA method 8015.

### **Surveying**

The groundwater monitoring well locations and top of casing elevations to the nearest 0.01 foot will be surveyed. The groundwater well elevations and measured depths to water will be utilized to determine the groundwater flow direction at the Site.

### **Management of Investigation Derived Waste**

Investigation derived waste (IDW) materials generated from the field operations will consist of soil cuttings, and development and purged water. If soil excavation activities are still occurring at the Site, the drill cuttings will be disposed with the excavated soils. If soil excavation has been completed at the Site, the drill cuttings will be stored in 55-gallon drums. The development and purged water will be containerized in 55-gallon drums. After receipt of waste characterization results, the drummed IDW will be disposed at an appropriate off-site facility. The waste manifests documenting the disposal of the IDW will be provided in the final remedial closure report.

#### **4.4 ENGINEERING CONTROLS**

Engineering Controls are not employed on sites that achieve Track 1 remedial actions. However, as part of construction the enrollee has agreed to construct several protective systems. These are:

- composite cover system consisting of concrete building slab;
- vapor barrier system;
- ventilated single-level underground parking garage below grade.

The overall purpose of the vapor barrier system will be to prevent entry of vapors into the building. Each of these ECs are further discussed in their respective subsections below.

##### **Composite Cover System**

If a Track 1 remedial action is not achieved, exposure to residual soil/fill will be prevented by an engineered, composite cover system to be built on the Site. This composite cover system will consist of a concrete building floor slab over the entire footprint of the Site. The floor slab will be six inches thick and will be underlain by 1½ feet of gravel bed. Figure 8 shows the typical design for the composite cover system.

If a Track 1 remedial action is not achieved, the composite cover system will act as a permanent engineering control for the Site. The system will be inspected and reported at specified intervals as required by this RAWP and the SMP. A Soil Management Plan will be included in the Site Management Plan and will outline the procedures to be followed in the event that the composite cover system and underlying residual soil/fill is disturbed after the remedial action is complete. Maintenance of this composite cover system will be described in the Site Management Plan in the RAR.

##### **Vapor Barrier**

Migration of soil vapor will be mitigated with a combination of building slab and vapor barrier. The vapor barrier will be installed beneath the building floor slab across the entire Site to prevent infiltration of vapor and moisture into the structure. The vapor barrier beneath the floor slab and east, south and west foundation walls will be a Raven Industries Product called

VapoBlock plus, a 20-mil liner specifically designed for volatile organic compounds and methane gas. A 8-mil water vapor/moisture barrier has been placed on the installed north foundation wall. Figure 5 shows the installation of the vapor barrier beneath the floor slab and foundation walls to be installed. Specifications and installation diagrams from the manufacturer are provided in Appendix 3.

### **Ventilation**

A single level underground parking garage will be built underneath nearly the entire building and the basement area will be ventilated according to NYC building code. The remaining areas of the basement outside of the garage also will be ventilated. The ventilation system for the basement will act as an additional engineering control to mitigate vapor intrusion.

#### 4.5 INSTITUTIONAL CONTROLS

If Track 1 remedial action is not achieved, institutional Controls (IC) will be employed to manage residual soil/fill and other media and render the Site protective of public health and the environment. Institutional Controls are listed below. Long-term employment of EC/ICs will be established in a Declaration of Covenant and Restrictions (DCR) assigned to the property by the title holder and will be implemented under a site-specific Site Management Plan (SMP) that will be included in the RAR.

If the Track 1 cleanup cannot be achieved, ICs for this remedial action under the Track 2 cleanup are as follows:

- Recording of an OER-approved Declaration of Covenant and Restrictions (DCR) with the City Register or county clerk, as appropriate. The DCR will include a description of all ECs and ICs, will summarize the requirements of the Site Management Plan, and will note that the property owner and property owner's successors and assigns must comply with the DCR and the approved SMP. The recorded DCR will be submitted in the Remedial Action Report. The DCR will be recorded prior to OER issuance of the Notice of Completion;
- Submittal of a Site Management Plan in the RAR for approval by OER that provides procedures for appropriate operation, maintenance, monitoring, inspection, reporting and certification of ECs. SMP will require that the property owner and property owner's successors and assigns will submit to OER a periodic written statement that certifies that: (1) controls employed at the Site are unchanged from the previous certification or that any changes to the controls were approved by OER; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. OER retains the right to enter the Site in order to evaluate the continued maintenance of any controls. This certification shall be submitted annually and will comply with RCNY §43-1407(l)(3).
- Vegetable gardens and farming on the Site are prohibited;

- Use of groundwater underlying the Site is prohibited without treatment rendering it safe for its intended use;
- All future activities on the Site that will disturb residual material must be conducted pursuant to the soil management provisions in an approved SMP;
- The Site will be used for residential and commercial use and will not be used for a higher level of use without prior approval by OER.

#### **4.6 SITE MANAGEMENT PLAN**

If Track 1 is not achieved, site Management is the last phase of remediation and begins with the approval of the Remedial Action Report and issuance of the Notice of Completion (NOC) for the Remedial Action. The Site Management Plan (SMP) describes appropriate methods and procedures to ensure implementation of all ECs and ICs that are required by the DCR and this RAWP. The Site Management Plan is submitted as part of the RAR but will be written in a manner that allows its use as an independent document. Site Management continues until terminated in writing by OER. The property owner is responsible to ensure that all Site Management responsibilities defined in the DCR and the Site Management Plan are implemented.

The SMP will provide a detailed description of the procedures required to manage residual soil/fill left in place following completion of the remedial action in accordance with the Brownfield Cleanup Agreement with OER. This includes a plan for: (1) implementation of EC's and ICs; (2) implementation of monitoring programs; (3) operation and maintenance of EC's; (4) inspection and certification of EC's; and (5) reporting.

If Track 1 remedial action is not achieved, site management activities, reporting, and EC/IC certification will be scheduled on a periodic basis to be established in the SMP and will be subject to review and modification by OER. The Site Management Plan will be based on a calendar year and certification reports will be due for submission to OER by March 31 of the year following the reporting period.

#### **4.7 QUALITATIVE HUMAN HEALTH EXPOSURE ASSESSMENT**

Investigations reported in the Remedial Investigation Report (RIR) are sufficient to complete a Qualitative Human Health Exposure Assessment (QHHEA).

As part of the BCP process QHHEA was performed to determine whether the Site poses an existing or future health to the Site's exposed or potentially exposed population. The sampling data from the RI were evaluated to determine whether there is any health risk by characterizing the exposure setting, identifying exposure pathways, and evaluating contaminant fate and transport. This QHHEA was completed in accordance with Appendix 3B and Section 3.3 of the NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation.

##### **Known and Potential Sources**

Historic fill is present at the Site from grade to approximately 4 feet below grade. Based on the results of the RIR and subsequent waste classification soil sampling results, the contaminants of concern are as follows:

##### **Soil:**

- Lead, benzo (b) fluoranethene, and 4, 4-DDT exceeding unrestricted SCOs.

##### **Groundwater:**

- Chlorinated solvents, including tetrachloroethene (PCE), trichloroethene (TCE), and cis-1,2-Dichloroethene.

##### **Soil Vapor:**

- PCE, detected at low concentrations.

##### **Nature, Extent, Fate and Transport of Contaminants**

**Soil:** The RI identified no contaminants above Class 1 Unrestricted Use Criteria. According to waste classification sampling results, concentrations of lead and in the fill from 0 to 4 feet bgs were above Class Unrestricted Use Criteria but below Class 2 Restricted Residential Use

Criteria. The concentration of Benzo (b) fluoranethene in the fill was slightly above the Class 1 Unrestricted Use and Class 2 Restricted Residential Use Criteria.

**Groundwater:** The RI identified PCE above its GQS in the perched groundwater at all three temporary groundwater well locations. The highest concentration of PCE at 882 micrograms per liter ( $\mu\text{g/L}$ ) was found in temporary groundwater well TW-3 located at the north portion of the Site and immediately downgradient of the north adjacent property utilized for auto repair. Concentrations of TCE and cis-1, 2-Dichloroethene were above their GQS in the perched groundwater at only temporary groundwater well TW-3. Since highest concentration of PCE was found in the temporary well closest to the north and upgradient portion of the Site, the presence of this chlorinated solvent in the groundwater above its GQS can be attributed on-Site migration from an off-site source.

**Soil Vapor:** PCE was found in each of the three soil vapor sampling locations, but concentrations were below the NYSDOH evaluation criteria for sub-slab vapor. The highest concentration of PCE was found in soil vapor probe SV-2 located at the easternmost portion of the Site and downgradient of the east adjacent property utilized for auto repair. Trace concentration of TCE was found at one soil vapor probe at concentrations below the NYSDOH evaluation criteria for sub-slab vapor.

### **Potential Routes of Exposure**

The five elements of an exposure pathway are: 1) the source of contamination; 2) the environmental media and transport mechanisms; 3) the point of exposure; 4) the route of exposure; and 5) the receptor population. An exposure pathway is considered complete when all five elements of an exposure pathway are documented. A potential exposure pathway exists when any one or more of the five elements comprising an exposure pathway cannot be determined. An exposure pathway may be eliminated from further evaluation when any one of the five elements comprising an exposure pathway has not existed in the past, does not exist in the present, and will never exist in the future. Three potential primary routes exist by which chemicals can enter the body:

- Ingestion of water, fill, or soil;
- Inhalation of vapors and particulates; and

- Dermal contact with water, fill, or soil.

### **Existence of Human Health Exposure**

*Current Conditions:* As the Site is vacant and unauthorized entry prevented by a perimeter fence, there are no potential exposure pathways from soil and fill. Groundwater is not exposed at the Site, and because the Site is served by the public water supply, groundwater is not used at the Site. There are no structures on Site where soil vapor could accumulate.

*Construction/Remediation Activities:* During remedial action, worker and community exposure to site constituents including metals, SVOCs, and pesticides in soils will be possible.

*Proposed Future Conditions:* The proposed Site development includes the removal of existing soil to a depth of approximately 15.5 feet and construction of a new 9-story building with a full basement floor slab over the entire footprint of the Site. In addition, any soils exhibiting VOC contamination encountered during construction will be excavated and removed from the Site for off-site disposal. These actions will eliminate the potential for direct contact with underlying soil and eliminate the potential for soil in the unsaturated zone to serve as a source of VOCs in soil gas. Any on-Site exposures to residual soil vapor and vapors from off-site sources will be eliminated by installation of a vapor barrier.

### **Receptor Populations**

*On-Site Receptors:* The Site is currently vacant and fully enclosed by a perimeter fence to prevent unauthorized entry.

*Off-Site Receptors:* Potential off-site receptors within a 0.25 mile radius of the Site include: adult and child residents; commercial and construction workers; pedestrians; trespassers; and cyclists, based on the following:

1. Commercial Businesses (up to 0.25 miles) – existing and future
2. Residential Buildings (up to 0.25 miles) –existing and future
3. Building Construction/Renovation (up to 0.25 miles) – existing and future
4. Pedestrians, Trespassers, Cyclists (up to 0.25 miles) – existing and future

5. Schools (up to 0.25 mile) – existing and future

### **Overall Human Health Exposure Assessment**

Based upon this analysis, complete on-site exposure pathways appear to be present only during the current and construction/remediation phase. Under current conditions, on-site exposure pathways are minimized by preventing access to the Site. During the remedial action, on-site exposure pathways will be minimized by preventing access to the Site, through implementation of soils/materials management, storm water pollution prevention, dust controls, employment of a community air monitoring program, and implementation of a construction health and safety plan.

## **5.0 REMEDIAL ACTION MANAGEMENT**

### **5.1 PROJECT ORGANIZATION AND OVERSIGHT**

Principal personnel who will participate in the remedial action include Reza Sharif, P.E. The Professional Engineer (PE) and Qualified Environmental Professionals (QEP) for this project are Reza Sharif and William Silveri, PG, CHMM.

For the vapor barrier installation, Reza Sharif, PE will provide oversight. For the other components of the RAWP, William Silveri, the QEP, will provide oversight.

### **5.2 SITE SECURITY**

Site access will be controlled through gated entrance to the fenced property.

### **5.3 WORK HOURS**

The hours for operation of remedial construction will be from 8:00 a.m. to 6:00 p.m. These hours conform to the New York City Department of Buildings construction code requirements.

### **5.4 CONSTRUCTION HEALTH AND SAFETY PLAN**

The Health and Safety Plan is included in Appendix 4. The Site Safety Coordinator will be Demetri Tsilogiannis. Remedial work performed under this RAWP will be in full compliance with applicable health and safety laws and regulations, including Site and OSHA worker safety requirements and HAZWOPER requirements. Confined space entry, if any, will comply with OSHA requirements and industry standards and will address potential risks. The parties performing the remedial construction work will ensure that performance of work is in compliance with the HASP and applicable laws and regulations. The HASP pertains to remedial and invasive work performed at the Site until the issuance of the Notice of Completion.

All field personnel involved in remedial activities will participate in training required under 29 CFR 1910.120, including 40-hour hazardous waste operator training and annual 8-hour refresher training. Site Safety Officer will be responsible for maintaining workers training records.

Personnel entering any exclusion zone will be trained in the provisions of the HASP and be required to sign an HASP acknowledgment. Site-specific training will be provided to field personnel. Additional safety training may be added depending on the tasks performed. Emergency telephone numbers will be posted at the site location before any remedial work begins. A safety meeting will be conducted before each shift begins. Topics to be discussed include task hazards and protective measures (physical, chemical, environmental); emergency procedures; PPE levels and other relevant safety topics. Meetings will be documented in a log book or specific form.

An emergency contact sheet with names and phone numbers is included in the HASP. That document will define the specific project contacts for use in case of emergency.

## **5.5 COMMUNITY AIR MONITORING PLAN**

Real-time air monitoring for volatile organic compounds (VOCs) and particulate levels at the perimeter of the exclusion zone or work area will be performed. Continuous monitoring will be performed for all ground intrusive activities and during the handling of contaminated or potentially contaminated media. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pit excavation or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be performed during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. Periodic monitoring during sample collection, for instance, will consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. Depending upon the proximity of potentially exposed individuals, continuous monitoring may be performed during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence. Exceedences of action levels observed during performance of the Community Air Monitoring Plan (CAMP) will be reported to the OER Project Manager and included in the Daily Report.

## **VOC Monitoring, Response Levels, and Actions**

Volatile organic compounds (VOCs) will be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis during invasive work. Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work will be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment will be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment will be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities will be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities will resume with continued monitoring.
- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities will be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities will resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.
- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities will be shutdown.

All 15-minute readings must be recorded and be available for OER personnel to review. Instantaneous readings, if any, used for decision purposes will also be recorded.

## **Particulate Monitoring, Response Levels, and Actions**

Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate

monitoring will be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment will be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter ( $\text{mcg}/\text{m}^3$ ) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed. Work will continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed  $150 \text{ mcg}/\text{m}^3$  above the upwind level and provided that no visible dust is migrating from the work area.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than  $150 \text{ mcg}/\text{m}^3$  above the upwind level, work will be stopped and a re-evaluation of activities initiated. Work will resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within  $150 \text{ mcg}/\text{m}^3$  of the upwind level and in preventing visible dust migration.

All readings will be recorded and be available for OER personnel to review.

## **5.6 AGENCY APPROVALS**

All permits or government approvals required for remedial construction have been or will be obtained prior to the start of remedial construction. Approval of this RAWP by OER does not constitute satisfaction of these requirements and will not be a substitute for any required permit.

## **5.7 SITE PREPARATION**

### **Pre-Construction Meeting**

OER will be invited to attend the pre-construction meeting at the Site with all parties involved in the remedial process prior to the start of remedial construction activities.

## **Mobilization**

Mobilization will be conducted as necessary for each phase of work at the Site. Mobilization includes field personnel orientation, equipment mobilization (including securing all sampling equipment needed for the field investigation), marking/staking sampling locations and utility mark-outs. Each field team member will attend an orientation meeting to become familiar with the general operation of the Site, health and safety requirements, and field procedures.

## **Utility Marker Layouts, Easement Layouts**

The presence of utilities and easements on the Site will be fully investigated prior to the performance of invasive work such as excavation or drilling under this plan by using, at a minimum, the One-Call System (811). Underground utilities may pose an electrocution, explosion, or other hazard during excavation or drilling activities. All invasive activities will be performed in compliance with applicable laws and regulations to assure safety. Utility companies and other responsible authorities will be contacted to locate and mark the locations, and a copy of the Markout Ticket will be retained by the contractor prior to the start of drilling, excavation or other invasive subsurface operations. Overhead utilities may also be present within the anticipated work zones. Electrical hazards associated with drilling in the vicinity of overhead utilities will be prevented by maintaining a safe distance between overhead power lines and drill rig masts.

Proper safety and protective measures pertaining to utilities and easements, and compliance with all laws and regulations will be employed during invasive and other work contemplated under this RAWP. The integrity and safety of on-Site and off-Site structures will be maintained during all invasive, excavation or other remedial activity performed under the RAWP.

## **Equipment and Material Staging**

Equipment and materials will be stored and staged in a manner that complies with applicable laws and regulations. The location of proposed equipment and material staging areas, truck inspection station, stockpile areas, and other pertinent remedial management features is the east sidewalk of 52<sup>nd</sup> Street that is contiguous to the Site.

### **Stabilized Construction Entrance**

Steps will be taken to ensure that trucks departing the site will not track soil, fill or debris off-Site. Such actions may include use of cleaned asphalt or concrete roads or use of stone or other aggregate-based egress paths between the truck inspection station and the property exit. Measures will be taken to ensure that adjacent roadways will be kept clean of project related soils, fill and debris.

### **Truck Inspection Station**

An outbound-truck inspection station will be set up close to the Site exit. Before exiting the NYC BCP Site, trucks will be required to stop at the truck inspection station and will be examined for evidence of contaminated soil on the undercarriage, body, and wheels. Soil and debris will be removed. Brooms, shovels and potable water will be utilized for the removal of soil from vehicles and equipment, as necessary.

## **5.8 TRAFFIC CONTROL**

Drivers of trucks leaving the NYC BCP Site with soil/fill will be instructed to proceed without stopping in the vicinity of the site to prevent neighborhood impacts. The planned route on local roads for trucks leaving the site is Queens Boulevard.

## **5.9 DEMOBILIZATION**

Demobilization will include:

- As necessary, restoration of temporary access areas and areas that may have been disturbed to accommodate support areas (e.g., staging areas, decontamination areas, storage areas, temporary water management areas, and access area);
- Removal of sediment from erosion control measures and truck wash and disposal of materials in accordance with applicable laws and regulations;
- Equipment decontamination, and;
- General refuse disposal.

Equipment will be decontaminated and demobilized at the completion of all field activities. Investigation equipment and large equipment (*e.g.*, soil excavators) will be washed at the truck

inspection station as necessary. In addition, all investigation and remediation derived waste will be appropriately disposed.

## **5.10 REPORTING AND RECORD KEEPING**

### **Daily Reports**

Daily reports providing a general summary of activities for each day of *active remedial work* will be emailed to the OER Project Manager by the end of the following day. Those reports will include:

- Project number and statement of the activities and an update of progress made and locations of work performed;
- Quantities of material imported and exported from the Site;
- Status of on-Site soil/fill stockpiles;
- A summary of all citizen complaints, with relevant details (basis of complaint; actions taken; etc.);
- A summary of CAMP excursions, if any;
- Photograph of notable Site conditions and activities.

The frequency of the reporting period may be revised in consultation with OER project manager based on planned project tasks. Daily email reports are not intended to be the primary mode of communication for notification to OER of emergencies (accidents, spills), requests for changes to the RAWP or other sensitive or time critical information. However, such information will be included in the daily reports. Emergency conditions and changes to the RAWP will be communicated directly to the OER project manager by personal communication. Daily reports will be included as an Appendix in the Remedial Action Report.

### **Record Keeping and Photo-Documentation**

Job-site record keeping for all remedial work will be performed. These records will be maintained on-Site during the project and will be available for inspection by OER staff.

Representative photographs will be taken of the Site prior to any remedial activities and during major remedial activities to illustrate remedial program elements and contaminant source areas. Photographs will be submitted at the completion of the project in the RAR in digital format (i.e. jpeg files).

#### **5.11 COMPLAINT MANAGEMENT**

All complaints from citizens will be promptly reported to OER. Complaints will be addressed and outcomes will also be reported to OER in daily reports. Notices to OER will include the nature of the complaint, the party providing the complaint, and the actions taken to resolve any problems.

#### **5.12 DEVIATIONS FROM THE REMEDIAL ACTION WORK PLAN**

All changes to the RAWP will be reported to the OER Project Manager and will be documented in daily reports and reported in the Remedial Action Report. The process to be followed if there are any deviations from the RAWP will include a request for approval for the change from OER noting the following:

- Reasons for deviating from the approved RAWP;
- Effect of the deviations on overall remedy; and
- Determination that the remedial action with the deviation(s) is protective of public health and the environment.

#### **5.13 DATA USABILITY SUMMARY REPORT**

The primary objective of a Data Usability Summary Report (DUSR) is to determine whether or not data meets the site specific criteria for data quality and data use. The DUSR provides an evaluation of analytical data without third party data validation. The DUSR for post-remedial samples collected during implementation of this RAWP will be included in the Remedial Action Report (RAR).

## 6.0 REMEDIAL ACTION REPORT

A Remedial Action Report (RAR) will be submitted to OER following implementation of the remedial action defined in this RAWP. The RAR will document that the remedial work required under this RAWP has been completed and has been performed in compliance with this plan. The RAR will include:

- Information required by this RAWP;
- As-built drawings for all constructed remedial elements, required certifications, manifests and other written and photographic documentation of remedial work performed under this remedy;
- Site Management Plan;
- Description of any changes in the remedial action from the elements provided in this RAWP and associated design documents;
- Tabular summary of all end point sampling results and all material characterization results, QA/QC results for end-point sampling, and other sampling and chemical analysis performed as part of the remedial action and DUSR;
- Test results or other evidence demonstrating that remedial systems are functioning properly;
- Account of the source area locations and characteristics of all contaminated material removed from the Site including a map showing source areas;
- Account of the disposal destination of all contaminated material removed from the Site. Documentation associated with disposal of all material will include transportation and disposal records, and letters approving receipt of the material.
- Account of the origin and required chemical quality testing for material imported onto the Site.
- Recorded Declaration of Covenants and Restrictions.
- Reports and supporting material will be submitted in digital form.

## **Remedial Action Report Certification**

The following certification will appear in front of the Executive Summary of the Remedial Action Report. The certification will include the following statements:

*I, Reza Sharif, am currently a professional engineer licensed by the State of New York. I had primary direct responsibility for implementation of the remedial program for the 52-01 Queens Boulevard Site,*

*I, William Silveri, am a qualified Environmental Professional. I had primary direct responsibility for implementation remedial program for the 52-01 Queens Boulevard Site)*

*I certify that the OER-approved Remedial Action Work Plan dated June 2012 and Stipulations in a letter dated June 2012, if any were implemented and that all requirements in those documents have been substantively complied with. I certify that contaminated soil, fill, liquids or other material from the property were taken to facilities licensed to accept this material in full compliance with applicable laws and regulations.*

## 7.0 SCHEDULE

The table below presents a schedule for the proposed remedial action and reporting. If the schedule for remediation and development activities changes, it will be updated and submitted to OER. Currently, a 4 month remediation period is anticipated.

<b>Schedule Milestone</b>	<b>Weeks from Remedial Action Start</b>	<b>Duration (weeks)</b>
OER Approval of RAWP	0	1 week
Fact Sheet 2 announcing start of remedy	1	1 week
Mobilization	2	2 days
Remedial Excavation	2	2 weeks
Demobilization	4	2 days
Submit Remedial Action Report	12	2 months

# APPENDIX 1

## CITIZEN PARTICIPATION PLAN

The NYC Office of Environmental Remediation and 52-01, LLC have established this Citizen Participation Plan because the opportunity for citizen participation is an important component of the NYC Brownfield Cleanup Program. This Citizen Participation Plan describes how information about the project will be disseminated to the Community during the remedial process. As part of its obligations under the NYC BCP, 52-01, LLC will maintain a repository for project documents and provide public notice at specified times throughout the remedial program. This Plan also takes into account potential environmental justice concerns in the community that surrounds the project Site. Under this Citizen Participation Plan, project documents and work plans are made available to the public in a timely manner. Public comment on work plans is strongly encouraged during public comment periods. Work plans are not approved by the NYC Office of Environmental Remediation (OER) until public comment periods have expired and all comments are formally reviewed. An explanation of cleanup plans in the form of a public meeting or informational session is available upon request to OER's project manager assigned to this Site, Jimit Shah, who can be contacted about these issues or any others questions, comments or concerns that arise during the remedial process at (212) 788-8841

**Project Contact List.** OER has established a Site Contact List for this project to provide public notices in the form of fact sheets to interested members of the Community. Communications will include updates on important information relating to the progress of the cleanup program at the Site as well as to request public comments on the cleanup plan. The Project Contact List includes owners and occupants of adjacent buildings and homes, principal administrators of nearby schools, hospitals and day care centers, the public water supplier that serves the area, established document repositories, the representative Community Board, City Council members, other elected representatives and any local Brownfield Opportunity Area (BOA) grantee organizations. Any member of the public or organization will be added to the Site Contact List on request. A copy of the Site Contact List is maintained by OER's project manager. If you would like to be added to the Project Contact List, contact NYC OER at (212) 788-8841 or by email at [brownfields@cityhall.nyc.gov](mailto:brownfields@cityhall.nyc.gov).

**Repositories.**A document repository is maintained in the nearest public library that maintains evening and weekend hours. This document repository is intended to house, for community review, all principal documents generated during the cleanup program including Remedial Investigation plans and reports, Remedial Action work plans and reports, and all public notices and fact sheets produced during the lifetime of the remedial project. 52-01, LLC will inspect the repositories to ensure that they are fully populated with project information. The repository for this project is:

Repository Name:

Queens Public Library, Woodside Branch

54-22 Skillman Avenue

(718)-429-4700

Hours of Operation:

Sun: Closed

Mon: 1 p.m. – 8 p.m.

Tues: 1 p.m. – 6 p.m.

Wed: 10 a.m. – 6 p.m.

Thurs: 1 p.m. – 8 p.m.

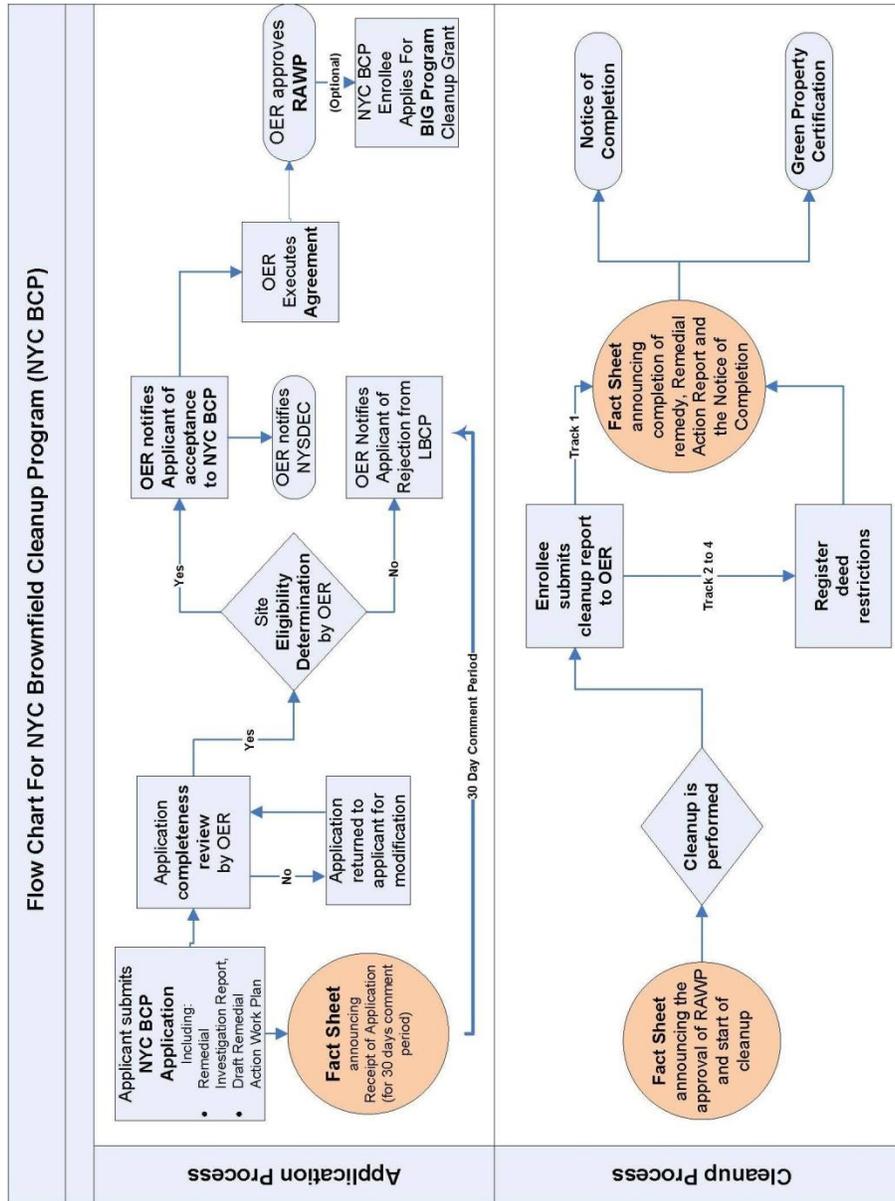
Fri: 10 a.m. – 8 p.m.

Sat: Closed

**Digital Documentation.** NYC OER strongly encourages the use of digital documents in repositories as a means of minimizing paper use while also increasing convenience in access and ease of use.

**Public Notice and Public Comment.**Public notice to all members of the Project Contact List is required at three major steps during the performance of the cleanup program (listed below) and at other points that may be required by OER. Notices will include Fact Sheets with descriptive project summaries, updates on recent and upcoming project activities, repository information, and important phone and email contact information. All notices will be prepared by 52-01, LLC, reviewed and approved by OER prior to distribution and mailed by 52-01, LLC . Public comment is solicited in public notices for all work plans developed under the NYC

Brownfield Cleanup Program. Final review of all work plans by OER will consider all public comments. Approval will not be granted until the public comment period has been completed.



**Citizen Participation Milestones.** Public notice and public comment activities occur at several steps during a typical NYC BCP project. See flow chart on the following page, which identifies when during the NYC BCP public notices are issued: These steps include:

- **Public Notice of the availability of the Remedial Investigation Report and Remedial Action Work Plan and a 30-day public comment period on the Remedial Action Work Plan.**

Public notice in the form of a Fact Sheet is sent to all parties listed on the Site Contact List announcing the availability of the Remedial Investigation Report and Remedial Action Work Plan and the initiation of a 30-day public comment period on the Remedial Action Work Plan. The Fact Sheet summarizes the findings of the RIR and provides details of the RAWP. The public comment period will be extended an additional 15 days upon public request. A public meeting or informational session will be conducted by OER upon request.

- **Public Notice announcing the approval of the RAWP and the start of remediation**

Public notice in the form of a Fact Sheet is sent to all parties listed on the Site Contact List announcing the approval of the RAWP and the start of remediation.

- **Public Notice announcing the completion of remediation, designation of Institutional and Engineering Controls and issuance of the Notice of Completion**

Public notice in the form of a Fact Sheet is sent to all parties listed on the Site Contact List announcing the completion of remediation, providing a list of all Institutional and Engineering Controls implemented for to the Site and announcing the issuance of the Notice of Completion.

## **APPENDIX 2**

### **SUSTAINABILITY STATEMENT**

This Sustainability Statement documents sustainable activities and green remediation efforts planned under this remedial action.

**Reuse of Clean, Recyclable Materials.** Reuse of clean, locally-derived recyclable materials reduces consumption of non-renewable virgin resources and can provide energy savings and greenhouse gas reduction.

This project intends to use recycled gravel under the basement floor slab.

An estimate of the quantity (in tons) of clean, non-virgin materials (reported by type of material) reused under this plan will be quantified and reported in the RAR.

**Reduce Consumption of Virgin and Non-Renewable Resources.** Reduced consumption of virgin and non-renewable resources lowers the overall environmental impact of the project on the region by conserving these resources.

The project will reduce the consumption of virgin materials by substituting recycled gravel for mined gravel whenever possible. In addition, recognizable and uncontaminated construction demolition debris, consisting mainly of bricks and brick fragments will be segregated at the Site and taken to a local facility for off-site re-use, further reducing the consumption of virgin and Non-Renewable Resources by others.

An estimate of the quantity (in tons) of virgin and non-renewable resources, the use of which will be avoided under this plan, will be quantified and reported in the RAR.

**Recontamination Control.** Recontamination after cleanup and redevelopment is completed undermines the value of work performed, may result in a property that is less protective of public health or the environment, and may necessitate additional cleanup work later or impede future redevelopment. Recontamination can arise from future releases that occur within the property or by influx of contamination from off-Site.

Under future conditions, vapor intrusion from potential off-site sources will be prevented through the use of a vapor barrier beneath the building slab and from potential on-site sources by screening of soils VOC-related contamination during excavation.

An estimate of the area of the Site that utilizes recontamination controls under this plan will be reported in the RAR in square feet.

**Storm-water Retention.** Storm-water retention improves water quality by lowering the rate of combined storm-water and sewer discharges to NYC's sewage treatment plants during periods of precipitation, and reduces the volume of untreated influent to local surface waters.

The new building will have a 562 cubic-foot retention tank for collection of storm-water located in the basement.

An estimate of the enhanced storm-water retention capability of the redevelopment project will be included in the RAR.

**Paperless Brownfield Cleanup Program.** 52-01, LLC is participating in OER's Paperless Brownfield Cleanup Program. Under this program, submission of electronic documents will replace submission of hard copies for the review of project documents, communications and milestone reports.

**Trees and Plantings.** Trees and other plantings provide habitat and add to NYC's environmental quality in a wide variety of ways. Native plant species and native habitat provide optimal support to local fauna, promote local biodiversity, and require less maintenance.

New trees will be planted along the Site perimeter fronting Queens Boulevard and 52<sup>nd</sup> Street.

An estimate of the land area that will be vegetated, including the number of trees planted or preserved, will be reported in square feet in the RAR.

## **APPENDIX 3**

### **SOIL/MATERIALS MANAGEMENT PLAN**

#### **1.1 SOIL SCREENING METHODS**

Visual, olfactory and PID soil screening and assessment will be performed under the supervision of a Qualified Environmental Professional and will be reported in the RAR. Soil screening will be performed during invasive work performed during the remedy and development phases prior to issuance of the Notice of Completion.

#### **1.2 STOCKPILE METHODS**

Excavated soil from suspected areas of contamination (e.g., hot spots, USTs, drains, etc.) will be stockpiled separately and will be segregated from clean soil and construction materials. Stockpiles will be used only when necessary and will be removed as soon as practicable. While stockpiles are in place, they will be inspected daily, and before and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by OER. Excavated soils will be stockpiled on, at minimum, double layers of 8-mil minimum sheeting, will be kept covered at all times with appropriately anchored plastic tarps, and will be routinely inspected. Broken or ripped tarps will be promptly replaced.

All stockpile activities will be compliant with applicable laws and regulations. Soil stockpile areas will be appropriately graded to control run-off in accordance with applicable laws and regulations. Stockpiles of excavated soils and other materials shall be located at least of 50 feet from the property boundaries, where possible. Hay bales or equivalent will surround soil stockpiles except for areas where access by equipment is required. Silt fencing and hay bales will be used as needed near catch basins, surface waters and other discharge points.

#### **1.3 CHARACTERIZATION OF EXCAVATED MATERIALS**

Soil/fill or other excavated media that is transported off-Site for disposal will be sampled in a manner required by the receiving facility, and in compliance with applicable laws and regulations. Soils proposed for reuse on-Site will be managed as defined in this plan.

## **1.4 MATERIALS EXCAVATION, LOAD-OUT AND DEPARTURE**

The QEP overseeing the remedial action will:

- oversee remedial work and the excavation and load-out of excavated material;
- ensure that there is a party responsible for the safe execution of invasive and other work performed under this work plan;
- ensure that Site development activities and development-related grading cuts will not interfere with, or otherwise impair or compromise the remedial activities proposed in this RAWP;
- ensure that the presence of utilities and easements on the Site has been investigated and that any identified risks from work proposed under this plan are properly addressed by appropriate parties;
- ensure that all loaded outbound trucks are inspected and cleaned if necessary before leaving the Site;
- ensure that all egress points for truck and equipment transport from the Site will be kept clean of Site-derived materials during Site remediation.

Locations where vehicles exit the Site shall be inspected daily for evidence of soil tracking off premises. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to Site-derived materials.

Open and uncontrolled mechanical processing of historical fill and contaminated soil on-Site will not be performed without prior OER approval.

## **1.5 OFF-SITE MATERIALS TRANSPORT**

Loaded vehicles leaving the Site will comply with all applicable materials transportation requirements (including appropriate covering, manifests, and placards) in accordance with applicable laws and regulations, including use of licensed haulers in accordance with 6 NYCRR Part 364. If loads contain wet material capable of causing leakage from trucks, truck liners will be used. Queuing of trucks will be performed on-Site, when possible in order to minimize off Site disturbance. Off-Site queuing will be minimized.

Outbound truck transport routes are Queens Boulevard. This routing takes into account the following factors: (a) limiting transport through residential areas and past sensitive sites; (b) use of mapped truck routes; (c) minimizing off-Site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport. To the extent possible, all trucks loaded with Site materials will travel from the Site using these truck routes. Trucks will not stop or idle in the neighborhood after leaving the project Site.

## **1.6 MATERIALS DISPOSAL OFF-SITE**

The following documentation will be established and reported by the PE/QEP for each disposal destination used in this project to document that the disposal of regulated material exported from the Site conforms with applicable laws and regulations: (1) a letter from the PE/QEP or Enrollee to each disposal facility describing the material to be disposed and requesting written acceptance of the material. This letter will state that material to be disposed is regulated material generated at an environmental remediation Site in Queens, New York under a governmental remediation program. The letter will provide the project identity and the name and phone number of the PE/QEP or Enrollee. The letter will include as an attachment a summary of all chemical data for the material being transported; and (2) a letter from each disposal facility stating it is in receipt of the correspondence (1, above) and is approved to accept the material. These documents will be included in the RAR.

The Remedial Action Report will include an itemized account of the destination of all material removed from the Site during this remedial action. Documentation associated with disposal of all material will include records and approvals for receipt of the material. This information will be presented in the RAR.

All impacted soil/fill or other waste excavated and removed from the Site will be managed as regulated material and will be disposed in accordance with applicable laws and regulations. Historic fill and contaminated soils taken off-Site will be handled as solid waste and will not be disposed at a Part 360-16 Registration Facility (also known as a Soil Recycling Facility).

Waste characterization will be performed for off-Site disposal in a manner required by the receiving facility and in conformance with its applicable permits. Waste characterization

sampling and analytical methods, sampling frequency, analytical results and QA/QC will be reported in the RAR. A manifest system for off-Site transportation of exported materials will be employed. Manifest information will be reported in the RAR. Hazardous wastes derived from on-Site will be stored, transported, and disposed of in compliance with applicable laws and regulations.

If disposal of soil/fill from this Site is proposed for unregulated disposal (i.e., clean soil removed for development purposes), including transport to a Part 360-16 Registration Facility, a formal request will be made for approval by OER with an associated plan compliant with 6NYCRR Part 360-16. This request and plan will include the location, volume and a description of the material to be recycled, including verification that the material is not impacted by site uses and that the material complies with receipt requirements for recycling under 6NYCRR Part 360. This material will be appropriately handled on-Site to prevent mixing with impacted material.

#### **1.7 MATERIALS REUSE ON-SITE**

Soil and fill that is derived from the property that meets the soil cleanup objectives established in this plan may be reused on-Site. The soil cleanup objectives for on-Site reuse are listed in Table 5. 'Reuse on-Site' means material that is excavated during the remedy or development, does not leave the property, and is relocated within the same property and on comparable soil/fill material, and addressed pursuant to the NYC BCP agreement subject to Engineering and Institutional Controls. The PE/QEP will ensure that reused materials are segregated from other materials to be exported from the Site and that procedures defined for material reuse in this RAWP are followed.

Organic matter (wood, roots, stumps, etc.) or other waste derived from clearing and grubbing of the Site will not be buried on-Site. Soil or fill excavated from the site for grading or other purposes will not be reused within a cover soil layer or within landscaping berms.

#### **1.8 DEMARCATION**

After completion of hotspot removal and any other invasive remedial activities, and prior to backfilling, the top of the residual soil/fill will be defined by one of three methods: (1) placement of a demarcation layer. The demarcation layer will consist of geosynthetic fencing or equivalent

material to be placed on the surface of residual soil/fill to provide an observable reference layer. A description or map of the approximate depth of the demarcation layer will be provided in the SMP; or (2) a land survey of the top elevation of residual soil/fill before the placement of cover soils, pavement and associated sub-soils, or other materials or structures or, (3) all materials beneath the approved cover will be considered impacted and subject to site management after the remedy is complete. Demarcation may be established by one or any combination of these three methods. As appropriate, a map showing the method of demarcation for the Site and all associated documentation will be presented in the RAR.

This demarcation will constitute the top of the site management horizon. Materials within this horizon require adherence to special conditions during future invasive activities as defined in the Site Management Plan.

## **1.9 IMPORT OF BACKFILL SOIL FROM OFF-SITE SOURCES**

This Section presents the requirements for imported fill materials to be used below the cover layer and within the clean soil cover layer. All imported soils will meet OER-approved backfill and cover soil quality objectives for this Site. The backfill and cover soil quality objectives are listed in Table 5.

A process will be established to evaluate sources of backfill and cover soil to be imported to the Site, and will include an examination of source location, current and historical use(s), and any applicable documentation. Material from industrial sites, spill sites, environmental remediation sites or other potentially contaminated sites will not be imported to the Site.

The following potential sources may be used pending attainment of backfill and cover soil quality objectives:

- Clean soil from construction projects at non-industrial sites in compliance with applicable laws and regulations;
- Clean soil from roadway or other transportation-related projects in compliance with applicable laws and regulations;
- Clean recycled concrete aggregate (RCA) from facilities permitted or registered by the regulations of NYS DEC.

All materials received for import to the Site will be approved by a QEP and will be in compliance with provisions in this RAWP. The RAR will report the source of the fill, evidence that an inspection was performed on the source, chemical sampling results, frequency of testing, and a Site map indicating the locations where backfill or soil cover was placed.

### **Source Screening and Testing**

Inspection of imported fill material will include visual, olfactory and PID screening for evidence of contamination. Materials imported to the Site will be subject to inspection, as follows:

- Trucks with imported fill material will be in compliance with applicable laws and regulations and will enter the Site at designated locations;
- The QEP is responsible to ensure that every truck load of imported material is inspected for evidence of contamination; and
- Fill material will be free of solid waste including pavement materials, debris, stumps, roots, and other organic matter, as well as ashes, oil, perishables or foreign matter.

Composite samples of imported material will be taken at a minimum frequency of one sample for every 500 cubic yards of material. Once it is determined that the fill material meets imported backfill or cover soil chemical requirements and is non-hazardous, and lacks petroleum contamination, the material will be loaded onto trucks for delivery to the Site.

Recycled concrete aggregate (RCA) will be imported from facilities permitted or registered by NYSDEC. Facilities will be identified in the RAR. A QEP is responsible to ensure that the facility is compliant with 6NYCRR Part 360 registration and permitting requirements for the period of acquisition of RCA. RCA imported from compliant facilities will not require additional testing, unless required by NYSDEC under its terms for operation of the facility. RCA imported to the Site must be derived from recognizable and uncontaminated concrete. RCA material is not acceptable for, and will not be used as cover material.

## **1.10 FLUIDS MANAGEMENT**

All liquids to be removed from the Site, including dewatering fluids, will be handled, transported and disposed in accordance with applicable laws and regulations. Liquids discharged into the New York City sewer system will receive prior approval by New York City Department of Environmental Protection (NYC DEP). The NYC DEP regulates discharges to the New York City sewers under Title 15, Rules of the City of New York Chapter 19. Discharge to the New York City sewer system will require an authorization and sampling data demonstrating that the groundwater meets the City's discharge criteria. The dewatering fluid will be pretreated as necessary to meet the NYC DEP discharge criteria. If discharge to the City sewer system is not appropriate, the dewatering fluids will be managed by transportation and disposal at an off-Site treatment facility.

Discharge of water generated during remedial construction to surface waters (i.e. a stream or river) is prohibited without a SPDES permit issued by New York State Department of Environmental Conservation.

## **1.11 STORM-WATER POLLUTION PREVENTION**

Applicable laws and regulations pertaining to storm-water pollution prevention will be addressed during the remedial program. Erosion and sediment control measures identified in this RAWP (silt fences and barriers, and hay bale checks) will be installed around the entire perimeter of the remedial construction area and inspected once a week and after every storm event to ensure that they are operating appropriately. Discharge locations will be inspected to determine whether erosion control measures are effective in preventing significant impacts to receptors. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by OER. All necessary repairs shall be made immediately. Accumulated sediments will be removed as required to keep the barrier and hay bale check functional. Undercutting or erosion of the silt fence toe anchor will be repaired immediately with appropriate backfill materials. Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

## **1.12 CONTINGENCY PLAN**

This contingency plan is developed for the remedial construction to address the discovery of unknown structures or contaminated media during excavation. Identification of unknown contamination source areas during invasive Site work will be promptly communicated to OER's Project Manager. Petroleum spills will be reported to the NYS DEC Spill Hotline. These findings will be included in the daily report. If previously unidentified contaminant sources are found during on-Site remedial excavation or development-related excavation, sampling will be performed on contaminated source material and surrounding soils and reported to OER. Chemical analytical testing will be performed for TAL metals, TCL volatiles and semi-volatiles, TCL pesticides and PCBs, as appropriate.

## **1.13 ODOR, DUST AND NUISANCE CONTROL**

### **Odor Control**

All necessary means will be employed to prevent on- and off-Site odor nuisances. At a minimum, procedures will include: (a) limiting the area of open excavations; (b) shrouding open excavations with tarps and other covers; and (c) use of foams to cover exposed odorous soils. If odors develop and cannot otherwise be controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-Site disposal; and (e) use of chemical odorants in spray or misting systems.

This odor control plan is capable of controlling emissions of nuisance odors. If nuisance odors are identified, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. OER will be notified of all odor complaint events. Implementation of all odor controls, including halt of work, will be the responsibility of the PE/QEP's certifying the Remedial Action Report.

### **Dust Control**

Dust management during invasive on-Site work will include, at a minimum:

- Use of a dedicated water spray methodology for roads, excavation areas and stockpiles.

- Use of properly anchored tarps to cover stockpiles.
- Exercise extra care during dry and high-wind periods.
- Use of gravel or recycled concrete aggregate on egress and other roadways to provide a clean and dust-free road surface.

This dust control plan is capable of controlling emissions of dust. If nuisance dust emissions are identified, work will be halted and the source of dusts will be identified and corrected. Work will not resume until all nuisance dust emissions have been abated. OER will be notified of all dust complaint events. Implementation of all dust controls, including halt of work, will be the responsibility of the PE/QEP's responsible for certifying the Remedial Action Report.

### **Other Nuisances**

Noise control will be exercised during the remedial program. All remedial work will conform, at a minimum, to NYC noise control standards.

Rodent control will be provided, during Site clearing and grubbing, and during the remedial program, as necessary, to prevent nuisances.

**APPENDIX 4**

**HEALTH AND SAFETY PLAN**

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CONSTRUCTION HEALTH AND SAFETY PLAN  
FOR  
CONSTRUCTION ACTIVITIES  
52-01 QUEENS BOULEVARD  
WOODSIDE, NEW YORK

---

Prepared For:

5201, LLC  
11 Middle Neck Road, Suite 204  
Great Neck, New York 11021

Prepared By:



ATHENICA ENVIRONMENTAL  
SERVICES, INC.

**Environmental Consultants**

45-09 Greenpoint Avenue  
Long Island City, New York 11104

**MAY 2012**

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## SECTION 0 HEALTH AND SAFETY PLAN (HASP) SUMMARY

### **Emergency Contacts**

Emergency contacts are listed on Table 0.1

### **Emergency Procedures**

Emergency procedures are described in Section 6.

### **Site Specific Hazards and Training**

Site Specific Hazards are described in Section 2.

The Field Safety Office (FSO) will be responsible for providing site-specific training to all personnel that work at the site. This training will cover the following topics:

- ❑ Names of personnel responsible for the site safety and health.
- ❑ Hazards potentially present at the site.
- ❑ Proper use of personnel protective equipment.
- ❑ Work practices by which the employees can minimize risk from hazards.
- ❑ Decontamination procedures,

Personnel will be required to sign and date the Site-Specific Training Form provided in Attachment B prior to working on-site.

### **General Health and Safety Requirements**

Personnel will be required to sign and date the Health and Safety Plan and Work Plan Acceptance Form provided in Attachment B prior to working on-site.

### **Personnel Protective Equipment**

**Level D** protection will be worn for initial entry on-site and for all activities except as noted in Section 3. Level D protection will consist of:

- ❑ Standard work clothes
- ❑ Steel-Toe safety boots
- ❑ Safety glasses or goggles must be worn when splash hazard is present

- 
- ❑ Nitrile outer gloves and PVC or nitrile inner gloves must be worn during all sampling activities
  - ❑ Hard hat (must be worn during all sampling activities).

**Modified Level D** protection may be required under conditions where potential contact of the skin or clothes with significant contamination occurs. Modified Level D is the same as Level D but includes Tyvek coveralls and disposable polyethylene over-boots.

**Level C** protection, unless otherwise specified in Section 3, will consist of Level D equipment and the following additional equipment:

- ❑ Full-face or half-mask air-purifying respirator (APR)
- ❑ Combination dust/organic vapor cartridges
- ❑ Tyvek coveralls if particulate hazard present
- ❑ PE-Coated Tyvek coverall if liquid contamination present
- ❑ 5-minute escape SCBA

**Level B** protection, unless otherwise specified in Section 3, will consist of Level D equipment and the following additional equipment:

- ❑ Hard hat
- ❑ Positive Pressure SCBA or positive air line and respirator with escape SCBA
- ❑ PE-Coated Tyvek coverall
- ❑ Nitrile outer and OVC or nitrile inner gloves
- ❑ Nitrile boot covers

### **Air Monitoring**

A summary of the action levels and restrictions is presented on Table 0.2.

**FIGURE 1 – HOSPITAL ROUTE PLAN (NY Elmhurst Hospital)**

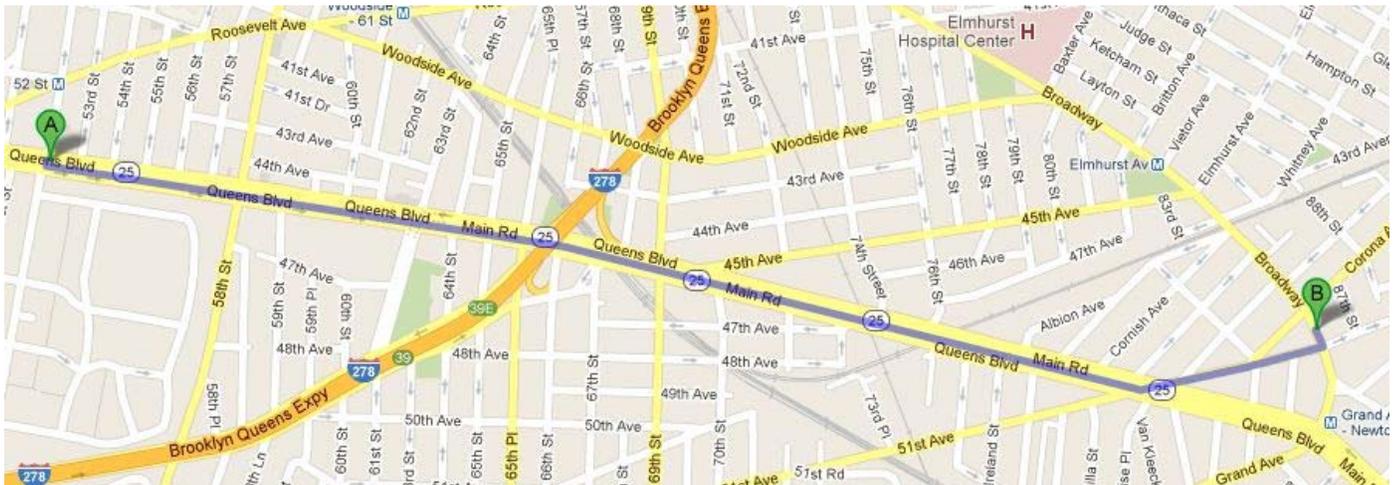
**Site Location:** 52-01 Queens Boulevard, Woodside, New York

**Hospital Location:** Elmhurst Hospital: 85-99 Broadway, Elmhurst, NY 11373

**Information Line:** 718-334-4000

**Emergency Room:** 718-334-5000

-  **52-1 Queens Blvd**  
Queens, NY 11377
-  **1. Head west on Queens Blvd toward 52nd St**  
13 ft
-  **2. Make a U-turn at 52nd St**  
1.6 mi
-  **3. Slight left onto 51st Ave**  
0.3 mi
-  **4. Turn left onto Broadway**  
Destination will be on the left  
141 ft
-  **85 Broadway**  
Queens, NY 11373



**TABLE 0.1  
EMERGENCY CONTACTS**

In the event of any situation or unplanned occurrence requiring assistance, the appropriate contact(s) should be made from the list below. For emergency situations, contact should be made first with the Field Team Leader (or designee) and the Site Safety Office, who will notify emergency personnel who will then contact the appropriate response teams. This emergency contacts list must be in an easily accessible location at the site.

**Emergency Contacts**

	<b><u>Phone Number</u></b>
Fire Department:	911
Police:	911
New York City-Long Island One Call Center: (3 day notice required for utility markouts)	(800) 272-4480
Poison Control Center:	(800) 222-1222
Pollution Toxic Chemical Oil Spills:	(800) 424-8802

**Medical Emergency**

Ambulance Service:	911
Hospital Name:	NY Elmhurst Hospital
Hospital Phone Number:	718-334-4000
Hospital Address:	85-99 Broadway, Elmhurst, NY 11373
Route to Hospital:	See Page 3
Travel Time From Site:	8 minutes

**Duratech Corporation**

Program Manager Project Manager:	Demetri Tsilogiannis (917) 747-2387
Health & Safety Officer:	Demetri Tsilogiannis (917) 747-2387
Field Safety Officer:	Demetri Tsilogiannis (917) 747-2387

**Athenica Environmental Services Inc**

President:	Spiro Dongaris (718) 784-7490
Program Manager Project Manager:	William Silveri (718) 784-7490
Health & Safety Officer:	Joseph Sbarra (732) 841-0006
Quality Assurance Officer	<b>Spiro Dongaris</b> (718) 784-7490

**TABLE 0.2**  
**SUMMARY OF ACTION LEVELS AND RESTRICTIONS**

**Conditions for Level D:**

All areas

- PID readings <25ppm and benzene <1 ppm
- No visible fugitive duct emissions from site activities

**Conditions for Level C**

All areas

- Where PID readings > 25 ppm (sustained for 15 minutes in the breathing zone) to 200 ppm and benzene < 5ppm, and/or
- Visible fugitive dust emissions from site activities that disturb contaminated soil

**Conditions for Level B (or retreat):**

All areas

- Where PID readings > 500 ppm or benzene > 25 ppm,
- Visible fugitive dust emissions from its activities cloud the surrounding air.

## **SECTION 1 INTRODUCTION**

### **1.1 PURPOSE AND POLICY**

The purpose of this health and safety plan (HASP) is to establish personnel protection standards and mandatory safety practices and procedures for the excavation of non-hazardous soil with contaminants and the potential encounter with non-hazardous groundwater that exceeds several Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards (SWQS) for tetrachloroethene, cis-1,2-Dichloroethene, and trichloroethene during development at the Site. This plan assigns responsibilities, establishes standard operating procedures, and provides for contingencies that may arise while operations are being conducted during the sampling and excavation operations at the site.

The provisions of the plan are mandatory for all on-site personnel. Any supplemental plans used by subcontractors shall conform to this plan at the minimum. All personnel who engage in project activities must be familiar with this plan, comply with its requirements, and sign the Plan Acceptance Form (Attachment B), page number B-5, prior to working on the site. The Plan Acceptance Form must be submitted to the Athenica Health and Safety Office (HSO). In addition to this plan, all work shall be performed in accordance with all applicable federal, state and local regulations.

### **1.2 SITE DESCRIPTION**

The site is located at 52-01 Queens Boulevard, Woodside, New York (the "Site"). The Site is bound to the south by Queens Boulevard, to the north and east by commercial properties and to the west by 52<sup>nd</sup> Street and commercial properties. Currently, the Site is a vacant unpaved lot.

### **1.3 SCOPE OF WORK**

The remediation will consist of the removal of soil for the foundation and cellar level of the proposed building as a result of development activity at the Site. The approximately 12,000-square-foot Site will be excavated to a maximum depth of 15 feet below grade surface (bgs), to accommodate foundation elements and a cellar level. Portions of the building footprint will be excavated to an approximate depth of 15 feet bgs.

**1.4 PROJECT TEAM ORGANIZATION**

Table 1.1 describes the responsibilities of on-site personnel associated with this project. The names of principal personnel associated with this project are:

Program Manager Project Manager:	Demetri Tsilogiannis (917) 747-2387
Health & Safety Officer:	Joseph Sbarra (732) 841-0006
Field Safety Officer	Demetri Tsilogiannis (917) 747-2387
Field Team Leader	Demetri Tsilogiannis (917) 747-2387
Quality Assurance Officer	Demetri Tsilogiannis (917) 747-2387

Athenica’s personnel have been appropriately trained in first aid and hazardous waste safety procedures, including the operating and fitting of persona; protective equipment, and are experienced with the field operations planned for this site.

**1.5 ATHENICA PROJECT TEAM ORGANIZATION**

Table 1.1 describes the responsibilities of Athenica’s on-site personnel associated with this project. The names of principal personnel associated with this project are:

Program Manager Project Manager:	William Silveri	(718) 784-7490
Health & Safety Officer:	Joseph Sbarra	(732) 841-0006
Quality Assurance Officer	Spiro Dongaris	(718) 784-7490

Athenica’s personnel have been appropriately trained in first aid and hazardous waste safety procedures, including the operating and fitting of persona; protective equipment, and are experienced with the field operations planned for this site.

TABLE 1.1

**ON-SITE PERSONNEL AND RESPONSIBILITIES**

**PROJECT MANAGER** – Assumes total control over site activities. Reports to upper-level management. Has authority to direct response operations.

**Responsibilities:**

- ❑ Prepares and organizes the background review of the situation, the Work Plan, the Site Health and Safety Plan, and the field team.
- ❑ Obtained permission for site access and coordinates activities with appropriate officials.
- ❑ Ensures that the Work Plan is executed and on schedule.
- ❑ Briefs the field team on their specific assignments.
- ❑ Coordinates with the site Health and Safety Office (HSO) to ensure that health and safety requirements are met.
- ❑ Prepares the final report and support files on the response activities.
- ❑ Serves as the liaison with public officials.

**FIELD SAFETY OFFICE (FSO)** – Advises the HSO and Project Manager on all aspects of health and safety on site. Stops work if any operation threatens worker or public health or safety.

**Responsibilities:**

- ❑ Ensures that all necessary Health and Safety Equipment is available on-site. Ensures that all equipment is functional.
- ❑ Periodically inspects protective clothing and equipment.
- ❑ Ensures that protective clothing and equipment are properly stored and maintained.
- ❑ Controls entry and exit at the Access Control Points.
- ❑ Coordinates health and safety program activities with the Project HSO.
- ❑ Confirms each team member's suitability for work based on a physician's recommendation
- ❑ Monitors the work parties for signs of stress, such as cold exposure, heat stress, and fatigue.
- ❑ Implements the Site Health and Safety Plan.
- ❑ Conducts periodic inspections to determine if the Site Health and Safety Plan is being followed.
- ❑ Enforces the "buddy" system

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**TABLE 1.1 – CONTINUED**  
**ON-SITE PERSONNEL AND RESPONSIBILITIES**

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**Field Safety Officer Responsibilities (continued)**

- ❑ Knows emergency procedures, evacuation routes, and the telephone numbers of the ambulance, local hospital poison control center, fire department, and police department.
- ❑ Notifies, when necessary, local public emergency officials
- ❑ Coordinates emergency medical care.
- ❑ Sets up decontamination lines and the decontamination solutions appropriate for the type of chemical contamination on the site.
- ❑ Controls the decontamination of all equipment, personnel, and samples from the contaminated areas.
- ❑ Assures proper disposal of contaminated clothing and materials.
- ❑ Ensures that all required equipment is available.
- ❑ Advises medical personnel of potential exposures and consequences.
- ❑ Notifies emergency response personnel by telephone or radio in the event of an emergency.

**FIELD TEAM LEADER** – Advises the Project Manager on all aspects of health and safety on site. Stops work if any operation threatens work or public health or safety. Is directly responsible for the field team and the safety of site operations.

**Responsibilities:**

- ❑ Manages field operations.
- ❑ Executes the Work Plan and schedule
- ❑ Enforces safety procedures.
- ❑ Coordinates with the Site Safety Office in determining protection level.
- ❑ Enforces site control.
- ❑ Documents field activities and sample collection
- ❑ Serves as liaison with public officials.

**WORK TEAM** – Operators, laborers, samplers. The work party must consist of at least two people.

**Responsibilities:**

- ❑ Safely completes the on-site tasks required to fulfill the Work Plan.
- ❑ Complies with Site Safety Plan
- ❑ Notifies Site Safety Office or Supervisor of suspected unsafe condition

## SECTION 2 RISK ANALYSIS

### 2.1 CHEMICAL HAZARDS

The primary potential chemical hazard to Magnesium (metal) in the soil. Other compounds that may be encountered are site equipment fuels (gasoline, diesel, etc.) that contain volatile components. Relevant properties of these compounds are outlined in Table 2.1.

It is not anticipated that dust with chemical constituents generated during excavation activities will be a problem. When contamination is evident the necessary control measures will be taken.

In addition to compound detected onsite, some of the solvents used in decontamination of equipment are potentially hazardous to human health if they are not used properly. Material Safety Data sheets for substances that will be used on site and a select number of site contaminants are included in Attachment C.

**TABLE OF 2.1  
RELEVANT PROPERTIES OF CONTAMINANT KNOWN OR SUSPECTED AT THE SITE**

Compound	OSHA PEL(1) (ppm)	IDLH (ppm)	LEL (%)	Odor(2) (ppm)	Odor Character	Vapor Pressure (at 20C)	Physical State	Detection
Tetrachloroethene	100	150		25	Ether-like odor	13 mm	Colorless Liquid	
Trichloroethene	100	1,000		50		61 mm	Colorless Liquid	
cis-1,2-Dichloroethene	200			200	Ether-like, slightly acrid		Combustible Liquid	

(1) 29 CFR 1910, June 30, 1993 (8-hour-Times weighted average unless otherwise specified)

(2) ACGIH 1989 Highest reported value of acceptable odor threshold range. Threshold Limit Value (IDLH) Immediately dangerous to life or health.

### 2.2 RADIATION HAZARDS

No radiation hazards are known or expected at the site.

### 2.3 BOIOLOGICAL HAZARDS

#### 2.3.1 Animals

During site operations animals such as dogs, pigeons, sea gulls, mice, and rats may be encountered. Workers will use discretion and avoid all contact with animals. Bites and scratches from dogs can be painful and if

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the animal is rabid, the potential for Bites and scratches from dogs and if the animal is rabid, the potential for contracting rabies exists. Contact with rat and mice droppings may lead to contracting hantavirus. Inhalation of dried pigeon droppings may lead to psittacosis; cryptococcosis and histoplasmosis are also diseases associated with exposure to dried bird droppings but these are less likely to occur in this occupational setting.

### **2.3.2**

Insects, including bees, wasps, hornets, mosquitoes, and spiders, may be present at this site. Some individuals may have a severe allergic reaction to an insect bite or Sting that can result in a life threatening condition. In addition, mosquito bites may lead to St. Louis encephalitis or West Nile encephalitis. Personnel that have been bitten or stung by an insect at the Site should notify the HSO or FSO of such immediately.

The following is a list of preventive measures:

- Apply insect repellent prior to field work and or as often as needed throughout the shift.
- Wear proper protective clothing (work boots socks and light colored pants)
- When walking in wooded area, to the extent possible avoid contact with bushes, tall grass, or brush.
- Field personnel who may have insect allergies (e.g., bee sting) should provide this information to the HSO and FSO prior to commencing work, and will have allergy medication on site.

The HSO or FSO will instruct the project personnel in the recognition and procedures for encountering potentially hazardous insects at the Site.

Lyme disease is caused by infection from a deer tick that carries a spirochete. During the painless tick bite, the spirochete may be transmitted into the bloodstream, which could lead to the worker contracting Lyme disease. This flu like illness occurs out of season, commonly happening between May and October when ticks are more active. Symptoms can include a stiff neck, chills, fever, sore throat, headache, fatigue and joint pain. Early signs may include an expanding skin rash and joint pains. If left untreated, Lyme disease can cause serious nerve or heart problems as well as a disabling type of arthritis. If personnel feel sick or have signs similar to those above, they should notify the HSO or FSO immediately.

It is recommended that personnel check themselves when in areas that could harbor deer ticks, wear light color clothing and visually check themselves and their buddy when coming from wooded or vegetation covered areas. If a tick is found biting an individual, the HSO or FSO should be contacted immediately. The tick can be removed by pulling gently at the head with tweezers. The affected area should then be disinfected with an antiseptic wipe.

## **2.4 PHYSICAL HAZARDS**

### **2.4.1 Explosion**

No explosion hazards are expected for the scope of work at this site.

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### **2.4.2 Heat Stress**

The use of Level C protective equipment, or greater, may create heat stress. Monitoring of personnel wearing protective clothing should commence when the ambient temperature is 72°F or above. Table 2.2 presents the suggested frequency for such monitoring. Monitoring frequency should increase as ambient temperature increases or as slow recovery rates are observed. Refer to the Table 2.3 below to assist in assessing when the risk for heat related illness is likely. To use this table, the ambient temperature and relative humidity must be obtained (a regional weather should suffice). Heat stress monitoring should be performed by the Field Safety Officer, who shall be able to recognize symptoms related to heat stress.

To monitor workers, be familiar with the following heat-related disorders and their symptoms:

- ❑ **Prickly Heat** (Heat rash)
  - Painful, itchy red rash. Occurs during sweating of skin covered clothing.
- ❑ **Heat Cramps**
  - Painful spasm of arm, leg or abdominal muscles, during or after work.
- ❑ **Heat Exhaustion**
  - Headache, nausea, dizziness. Cool, clammy, moist skin. Heavy sweating.  
Weak, fast pulse. Shallow respiration, normal temperature.
- ❑ **Heat Fatigue**
  - Weariness, irritability, loss of skill for fine or precision work. Decreased ability to concentrate.  
No loss if temperature control.
- ❑ **Heat Stroke**
  - Headache, nausea, weakness, hot dry skin, fever, rapid deep respirations, loss of consciousness, convulsions, coma. **This is a life threatening condition.**

Do not permit a worker to wear a semi-permeable or impermeable garment when they are showing signs or symptoms of heat-related illness.

To monitor the worker, measure:

- ❑ Heart rate. Count the radial pulse during 1 30-second period as early as possible in the rest period.
- ❑ If the heart rate exceeds 100 beats per minute at the beginning of the rest period, shorten the next work cycle by one-third and keep the rest period the same.

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- ❑ If the heart rate still exceeds 100 beats per minute at the next rest period, shorten the following work cycle by one-third. A worker cannot return to work after a rest period until their heart rate is below 100 beats per minute.
  - ❑ Oral temperature. Use a clinical thermometer (3 minutes under the tongue) or similar device to measure the oral temperature at the end of the work period (before drinking)
  - ❑ If oral temperature exceeds 99.6°F (37.6°C), shorten the next work cycle by one-third without changing the rest period. A worker cannot return to work after a rest period until after their oral temperature is below 99.6°F.
  - ❑ If oral temperature still exceeds 99.6°F (37.6°C) at the beginning of the next rest period, shorten the following cycle by one-third.
  - ❑ Do not permit a worker to wear a semi-permeable or impermeable garment when oral temperature exceeds 100.6°F (37.1°C).

**Prevention of Heat Stress** - Proper training and preventative measures will aid in averting loss of worker productivity and serious illness. Heat stress prevention is particularly important because once a person suffers from heat stroke or heat exhaustion, that person may be predisposed to additional heat related illness. To avoid heat stress the following steps should be taken:

- ❑ Adjust work schedules
- ❑ Mandate work slowdowns as needed.
- ❑ Perform work during cooler hours of the day if possible or at night if adequate lighting can be provided.
- ❑ Provide shelter (air-conditioned, if possible) or shaded areas to protect personnel during rest periods.
- ❑ Maintain worker's body fluids at normal levels. This is necessary to ensure that the cardiovascular system functions adequately. Daily fluid intake must approximately equal the amount of water lost in sweat, i.e., eight fluid ounces (0.23 liters) of water must be ingested for approximately every eight ounces (0.23 kg) of weight lost. The normal thirst mechanism is not sensitive enough to ensure that enough water will be drunk to replace lost sweat. When heavy sweating occurs, encourage the worker to drink more. The following strategies may be useful:
  - ❑ Maintain water temperature 50° to 60°F (10° to 16.6°C).
  - ❑ Provide small disposal cups that hold about four ounces (0.1 liter).
  - ❑ Have workers drink 16 ounces (0.5 liters) of fluid (preferably water or dilute drinks) before beginning work.

- ❑ Urge workers to drink a cup or two every 15 to 20 minutes, or at each monitoring break. total of 1 or 1.6 gallons (4 to 6 liters) of fluid per day are recommended, but more may be necessary to maintain body weight.
- ❑ Train workers to recognize the symptoms of heat related illness.

### **2.4.3 Cold- Related Illness**

If work on this project begins in the winter months, thermal injury due to cold exposure can become a problem for field personnel. Systemic cold exposure is referred to as hypothermia. Local cold exposure is generally called frostbite.

**Hypothermia** – Hypothermia is defined as a decrease in the patient core temperature below 96°F. The body temperature is normally maintained by a combination of central (brain and spinal cord) and peripheral (skin and muscle) activity. Interference with any of these mechanisms can result in hypothermia, even in the absence of what normally is considered a “cold” ambient temperature. Symptoms of hypothermia include: shivering, apathy, listlessness, sleepiness, and unconsciousness.

**Frostbite** – Frostbite is both general and medical term given to areas of local cold injury. Unlike systemic hypothermia, frostbite rarely occurs unless the ambient temperatures are less than freezing and usually less than 20°F. Symptoms of frostbite are: a sudden blanching or whitening of the skin; the skin has a waxy or white appearance and is firm to the touch; tissues are cold, pale and solid.

**Prevention of Cold Related Illness** – To prevent cold-related illness:

- ❑ Educate workers to recognize the symptoms of frostbite and hypothermia
- ❑ Identify and limit known risk factors:
- ❑ Assure the availability of enclosed, heated environment on or adjacent to the site.
- ❑ Assure the availability of dry changes of clothing
- ❑ Assure the availability of warm drinks.
- ❑ Start (oral) temperature recording at the job site:
  - ❑ At the FSO or Field Team Leader’s discretion when suspicion is based in changes in workers performance or mental status.
  - ❑ At a workers request.
  - ❑ As a screening measure, two times per shift, under unusually hazardous conditions (e.g., wind-chill less than 30°F with precipitation).
  - ❑ As a screening measure whenever any one worker on the site develops hypothermia.

Any person developing moderate hypothermia (a core temperature of 92°F cannot return to work for 48 hours.

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#### **2.4.4 Noise**

Work activities during the proposed demolition and remediation activities may be conducted at locations with high noise levels from the operation of equipment. Hearing protection will be used as necessary.

#### **2.4.5 Hand and Power Tools**

In order to complete the various tasks for the project, personnel will utilize hand and power tools. The use of hand and power tools can present a variety of hazards, including physical harm from being struck by flying objects, being cut or struck by the tool, fire and electrocution. Ground Fault Circuit Interrupters (GFCIs) are required for all portable tools.

#### **2.4.6 Slips, Trips and fall Hazards**

Care should be exercised when walking at the site especially when carrying equipment. The presence of surface debris, uneven surfaces, pits, facility equipment, and soil piles contribute to tripping hazards and fall hazards. To the extent possible, all hazards should be identified and marked on the Site, with hazards communicated to all workers in the area.

#### **2.4.4 Utilities (Electrocution and Fire Hazards)**

The possibility of encountering underground utilities poses fire, explosion, and electrocution hazards. All excavation work will be preceded by review of available utility drawings and by notification of the subsurface work to the N.Y One Call Center. Potential adverse effects of electrical hazards include burns and electrocution which could result in death.

### **2.5 TASK HAZRAD ANALYSIS**

#### **2.5.1 Soil Excavation and Soil Sampling**

Excavation and soil sampling activities are inherently dangerous. Special attention should be given to establishing the location of any underground utilities prior to excavating.

Chemical exposure may occur as the activities progress the site, where workers may be exposed to contaminants in the excavated soils, encountered groundwater, or products used on-site including gasoline, diesel and motor oil. Also, sampling both in0situ and stocked piled soils presents similar potential exposure hazard. Activities will be conducted initially in Level D but may be upgraded to Modified Level D. Although not anticipated, there will be Level C and B contingency should pockets of contaminants be brought to the surface and breathing zone air becomes contaminated.

If evidence of historic or unknown contamination is encountered during remediation activities or other contaminated materials, such as oily materials, high PID readings etc., the FSO will make a determination of the appropriate level of personnel protection.

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## **SECTION 3 PERSONNEL PROTECTION AND MONITORING**

### **3.1 SITE-SPECIFIC TRAINING**

The Site Safety Office will be responsible for developing a site-specific occupational hazard training program and providing training to all personnel that are to work at the site. This training will be conducted prior to starting field work and will consist of the following topics.

- ❑ Names of personnel responsible for the site safety and health.
- ❑ Hazards potentially present at the site.
- ❑ Proper use of personal protective equipment.
- ❑ Requirements of this HASP.
- ❑ Work practices by which the employee can minimize the risk from hazards. This may include a specific review of heavy equipment safety, safety during inclement weather, changes in common escape rendezvous point, site security measures, or other site-specific issues that need to be addressed before work begins.
- ❑ Safe use of engineering controls and equipment on the site.
- ❑ Acute effects of compounds present at the site.
- ❑ Decontamination procedures.

Upon completion of site-specific training, workers will sign the Site-Specific-Training Form provided in Attachment B. A copy of the completed Site-Specific Training Form will be included in the project files for future reference.

### **3.2 MONITORING REQUIREMENTS**

Based on the existing site data, it is not expected that organic vapors will be encountered to any significant degree during the proposed site excavation. However, if the conditions worsen, worker air monitoring will be conducted for VOCs as described below. If levels above the background air monitoring results are encountered in the worker breathing zone, the Community Air Monitoring program as described in Section 6.4 will be implemented.

Fugitive dust generation that could affect site workers, site occupants, or the public is not expected because the majority of work will be conducted in moist soil. Soil that is not moist will be wetted as appropriate to minimize visible dust emissions. Particulate monitoring will be conducted at the perimeter of the site if sustained visible emissions are observed migrating off-site.

Air monitoring of the breathing zone will be conducted periodically or continuously during all remedial activities to assure proper health and safety protection for the team, workers, and passersby. Initially, ambient air monitoring will be conducted within the work area. If air-monitoring measurements above background are encountered, ventilation of the work area will be implemented as described below to verify levels do not exceed acceptable limits as specified in Table 0.2 and Section 3.4.

When the conditions are worsens, the field health and safety officer will contact Athenica. VOCs will be monitored with a PID in accordance with the HASP with an action level of 25 ppm in the absence of volatile organic vapors. If the action level is exceeded and adequate ventilation cannot be provided, work will cease and the potential affected portion of the work area will be evacuated until adequate mechanical ventilation can be setup to control the hazard. Level C respiratory protection may be donned in accordance with the HASP if untrained personnel are not present and the action level is exceeded.

If air monitoring during operations identifies the presence of volatile organic compounds (not anticipated because of natural ventilation), the action levels, permissible exposure, engineering controls, and personal protective equipment specified in this HASP will be implemented. A PID (MiniRAE 2000 or equivalent) will be used to monitor for organic vapors in the breathing zone and to screen soil samples. Air monitoring results will be recorded in the field book during investigation activities and made available for NYCDEP and NYCDOH review.

The NYSDEC will be consulted regarding the need to apply for an air discharge permit. If required, an application will be submitted prior to the field work.

### 3.3 SUMMARY OF ACTION LEVELS AND RESTRICTIONS

A PID such as the RaeSystems MiniRae 2000, equipped with an 11.7 eV lamp shall be used to screen for total VOCs when necessary. All readings pertain to sustained readings for 15 minutes in the worker breathing zone. The following conditions shall apply to each level of protection.

#### Conditions for Level D:

All areas

- PID readings <25 ppm and benzene < 1 ppm
- No visible fugitive dust emissions form site activities

#### Conditions for Level C:

All areas

- Where PID readings >25 ppm (sustained for 15b minutes in the breathing zone) to 200 ppm and benzene <5ppm, and/or
- Any visible fugitive dust emissions from site activities that disturb contaminated soil.

#### Conditions for Level B (or retreat)

All areas

- Where PID readings >500 ppm or benzene > 25 ppm,

- ❑ Visible fugitive dust emissions from site activities cloud the surrounding air.

### **3.3.1 Level D and Modified Level D**

Level D protection will be worn for initial entry on-site and initially for all activities.

Level D protection will consist of:

- ❑ Standard work clothes
- ❑ Steel-toe safety boots
- ❑ Safety glasses (goggles must be worn when splash hazard is present)
- ❑ Nitrile outer gloves PVC inner gloves must be worn during all activities requiring contact with soils.
- ❑ Hard hat (must be worn during all site activities)

Modified Level D is the same as Level D but included Tyvek coveralls and disposable polyethylene over-boots to contact with the skin or clothes if significant contamination is present in subsurface materials.

### **3.3.2 Level C**

The level of personal protection will be upgraded to Level C. if the concentration of volatile organic compounds which can be detected with a photoionization detector (PID) in the breathing zone equals or exceeds the specified action limits and the contaminants of concern have characteristic warning properties appropriate for air purifying respirators (e.g. taste, odor). Level C protection will consist of the following equipment:

- ❑ Full-face or half mask air purifying respirator (APR) or powered air purifier (PAPR), depending on presence and abundance of airborne toxic constituents of concern
- ❑ Combination HEPA filter /organic vapor cartridges
- ❑ Tyvek coveralls must be worn if particulate hazard present
- ❑ PE-coated Tyvek coveralls if liquid contamination present
- ❑ Steel-toe safety boots
- ❑ Nitrile outer gloves and PVC inner gloves must be worn during all activities requiring contact with soils
- ❑ Hard hat (must be worn during all site activities).

Cartridges will be disposed at the end of each day's use.

**3.3.3 Level B (Retreat)**

If the concentration of volatile organics which can be detected with a PID equals or exceed the specified action levels, all field personnel associated with the project will immediately retreat to a location up-wind of the source of contamination. At this point the Site Safety Officer must consult with the Athenica HSO to discuss appropriate actions.

**3.3.4 OSHA Requirements for Personal Protective Equipment**

All personal protective equipment used during the course of this field investigation must meet the following OSHA standards:

Type of Protection	Regulation	Source
Eye and Face	29CFR 1910. 133 29CFR 1926. 102	ANSI Z87-.1-1968
Respiratory	29 CFR 1910. 134 29CFR 1926.103	ANSI Z288.1-1980
Head	29 CFR 1910. 135 29CFR 1926.100	ANSI Z89.1 – 1969
Foot	29 CFR 1910. 136 29 CFR 1926. 96	ANSI Z41.1 - 1967

ANSI = American National Standards Institute

Both the respirator and cartridges specified for use in Level C protection must be fit-tested prior to use in accordance with OSHA regulations (29 CFR 1910.1025;29 CFR 1910.134).

Based on the performance criteria of air purifying respirators, they cannot be worn under the following conditions:

- ❑ Oxygen deficiency
- ❑ IDLH concentrations;
- ❑ High relative humidity; and
- ❑ If contaminant levels exceed designated use concentrations

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## SECTION 4 WORK ZONES AND DECONTAMINATION

### 4.1 SITE WORK ZONES

To reduce the spread of contaminated materials by workers to clean the areas work zones will be delineated at the site. The establishment of the work zones will help ensure that personnel are properly protected against the hazards present where they are working and ensure that work activities and contamination are confined to the appropriate areas. The work zones described below may be modified in the field depending on the field conditions.

#### **4.1.1 Hot Zone**

Hot zones will be established within a 25-foot radius around each excavation, where possible. Barrier walls will be established at the perimeter of the excavation where the perimeter is shared with an area accessible to the public. Unprotected onlookers should be 50 feet upwind of the activities. All personnel within the hot zone must don the appropriate of personal protection as set forth by the FSO. It is not anticipated that Level C or higher will be required for this site.

All personnel within the hot zone will be required to use the specified level of protection. No food, drink or smoking will be allowed in the hot or warm zones.

#### **4.1.2 Warm Zone**

A warm zone will be established and utilized during the field activities. This zone will be established between the hot zone and the cold zone (discussed below), and will include the personnel and equipment necessary for decontamination of equipment and personnel exiting the hot zone. Personnel and equipment in the hot zone must pass through this zone before entering the cold zone. This zone should always be located upwind of the hot zone.

#### **4.1.3 Cold Zone**

The cold zone will include the remaining areas of the job site. Break areas and support facilities (include equipment storage and maintenance areas) will be located in this zone. No equipment or personnel will be permitted to enter the cold zone from the hot zone without passing through the decontamination station in the warm zone. Eating, smoking and drinking will be allowed only in area.

### **4.2 DECONTAMINATION**

Generally any water used in decontamination procedures will be placed in containers, temporarily stored on-site, and properly characterized and disposed.

#### **4.2.1 Decontamination of Personnel**

Decontamination of personnel will be necessary if Level C or Level B protection is used, which is not anticipated based on previous investigation work completed at the site. Decontamination will not be necessary if only Level D protection is used. However, disposable gloves used during sampling activities should be removed and bagged; personnel should be encouraged to remove clothing and shower as soon as is practicable at the end of the day. All clothing should be machine-washed. All personnel will wash hands and face prior to eating and before and after using the restroom.

#### **4.3 REMEDIAL ACTIVITY- DERIVED WASTE**

All PPE related remedial activity-derived waste materials (PPE, decontamination waste) will be placed in labeled containers and appropriately. Contaminated soil will be kept moist, properly characterized and disposed off-site. Stockpiling of contaminated materials will only occur temporarily and if adequate space exists.

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## SECTION 5 ACCIDENT PREVENTION AND CONTINGENCY PLAN

### 5.1 ACCIDENT PREVENTION

#### **5.1.1 Site Specific Training**

All field personnel will receive health and safety training prior to the initiation of any site activities. The site-specific training form provided in Attachment B must be signed, dated, and returned to the Athenica Field Safety Office. On a day-to-day basis, individual personnel should be constantly monitored for indicators of potentially hazardous situations and for signs and symptoms in themselves and others that warn of hazardous conditions and exposures. Rapid recognition of dangerous situations can avert an emergency. Before daily work assignments, a regular meeting should be held.

Discussion should include:

- ❑ Tasks to be performed;
- ❑ Time consecutives (e.g., rest breaks, cartridge changes)
- ❑ Hazards that may be encountered, including their effects, how to recognize symptoms or monitor them, concentration limits, or other danger signals; and
- ❑ Emergency procedures

#### **5.1.2 Vehicles and Heavy Equipment**

Working with large motor vehicles and heavy equipment could be a major hazard at this site. Injuries can result from equipment hitting or running over personnel, impacts from flying objects, or overturning of vehicles. Vehicle and heavy equipment design and operation will be in accordance with 29 CFR, Subpart O, 1926.600 through 1926.602. In particular, the following precautions will be utilized to help prevent injuries/accident.

- ❑ Brakes, hydraulic lines, light signals, fire extinguishers, fluid level, steering, tires, horn, and other safety devices will be checked at the beginning of each shift.
- ❑ Large construction motor vehicles will not be backed up unless:
  - The vehicle has a reverse signal alarm audible above the surrounding noise level; or
  - The vehicle is backed up only when an observer signals that it is safe to do so.
- ❑ Heavy equipment or motor vehicle cable will be kept free of all nonessential items, and all loose items, and all loose items will be secured.
- ❑ Large construction motor vehicles and heavy equipment will be provided with necessary safety equipment (such as seat belts, roll-over protection, emergency shut-off in case of roll-over, backup warning lights and audible alarms).
- ❑ Blades and buckets will be lowered to the ground and parking brakes will be set before shutting off any equipment or equipment of vehicles.

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## 5.2 SPILL CONTROL PLAN

All personnel must take every precaution to minimize the potential for spills during site operations. Any spill shall be reported immediately to the FSO. Spill control apparatus (sorbent materials) will be located on-site. All materials used for the clean up of spills will be containerized and labeled separately from other wastes,

## 5.3 CONTINGENCY PLAN

### 5.3.1 Emergency Procedures

In the event that an emergency develops on site, the procedures delineated herein are to be immediately followed. Emergency conditions are considered to exist if:

- ❑ Any member of the field crew is involved in an accident or experiences any adverse effects or symptoms of exposure while on site.
- ❑ A condition is discovered that suggests the existence of a situation more hazardous than anticipated.

General emergency procedures and specific procedures for personal injury, chemical exposure and radiation exposure, are described.

### 5.3.2 Chemical Exposure

If a member of the field crew demonstrates symptoms of chemical exposure the procedures outlined below should be followed:

- ❑ Another team member (buddy) should remove the individual from the immediate area of contamination. The buddy should communicate to the Field Team Leader (via voice and hand signals) of chemical exposure. The Field Team Leader should contact the appropriate emergency response Agency.
- ❑ Precautions should be taken to avoid exposure of other individuals to the chemical.
- ❑ If the chemical is on the individual's clothing, the chemical should be neutralized or removed if it is safe to do so.
- ❑ If the chemical has contacted the skin, the skin should be washed with copious amounts of water.
- ❑ In case of eye contact, an emergency eye wash should be used. Eyes should be washed for at least 15 minutes.
- ❑ All chemical exposure incidents must be reported in writing to the Athenica health and Safety Officer. The Field Safety Officer or Field Team Leader is responsible for completing the accident report.

### 5.3.3 Personal Injury

In case of personal injury at the site, the following procedures should be followed:

- ❑ Another team member (buddy) should signal the field Team Leader that an injury has occurred.
- ❑ A field team member trained in first aid can administer treatment to an injured worker.

- ❑ The victim should then be transported to the nearest hospital or medical center. If necessary, an ambulance should be called to transport the victim.
- ❑ For less severe cases, the individual can be taken to the site dispensary.
- ❑ The Field Team Leader or Field Safety Office is responsible for making certain that an Accident Report Form is completed. This form is to be submitted to the Athenica Health and Safety Officer. Follow-up action should be taken to correct the situation that caused the accident.
- ❑ Any incident (near miss, property damage, first air, medical treatment, etc.) must be reported.

A first-aid kit and blood-borne pathogens kit will be kept on-site during the field activities.

#### **5.3.4 Excavation Procedures**

- ❑ The Field team Leader will initiate excavation procedures by signaling to leave the site.
- ❑ All personnel in the work area should evacuate the area and meet in the common designated area.
- ❑ All personnel suspected to be in or near the contract work area should be accounted for and the whereabouts or missing persons determined immediately.
- ❑ The Field Team Leader will then give further instruction.

#### **5.3.5 Procedures Implemented in the Event of a Major Fire, Explosion, or Emergency**

- ❑ Notify the paramedics and/or fire department, as necessary;
- ❑ Signal the evacuation procedure previously outlined and implement the entire procedure;
- ❑ Isolate the area;
- ❑ Stay upwind of any fire;
- ❑ Keep the area report for and distribute to appropriate to personnel.

**ATTACHMENT A**  
**Air Monitoring Forms**



**ATTACHMENT B**

**Forms for Health and Safety Related Activity**







**NOTICE OF SAFETY VIOLATION**

**TO:** \_\_\_\_\_ (Name of Contractor/Subcontractor Supervisor)  
**FROM:** \_\_\_\_\_ (Name of Owner/Contractor's Project Manager)  
**DATE:** \_\_\_\_\_  
**SUBJECT:** *Notice of Safety Violations*

The following Safety Violations were observed at the Name of Site/Project on Date.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

You are requested to take the necessary corrective action to alleviate these safety violations by \_\_\_\_\_ (Date).

Please notify \_\_\_\_\_ (Name of Contractor/Subcontractor's Project Manager) when you have completed this corrective action.

Thank you in advance for your cooperation in this effort.

**CONTRACTOR/SUBCONTRACTOR  
PRE-JOB SAFETY CHECKLIST**

**JOB:**

**SUBCONTRACTOR:**

**LOCATION:**

**PROJECT NO.**

		<u>Yes</u>	<u>No</u>
1.	Standard emergency signals fully understood?	<input type="checkbox"/>	<input type="checkbox"/>
2.	Subcontractor responsibility in time of emergency understood?	<input type="checkbox"/>	<input type="checkbox"/>
3.	Fire and ambulance telephone numbers known?	<input type="checkbox"/>	<input type="checkbox"/>
4.	Areas for possible evacuation designated?	<input type="checkbox"/>	<input type="checkbox"/>
5.	Special safety rules for the plant or area known?	<input type="checkbox"/>	<input type="checkbox"/>
6.	Nature of Chemical or special hazards for area reviewed with safety officer?	<input type="checkbox"/>	<input type="checkbox"/>
7.	Special safety equipment for the area of job known?	<input type="checkbox"/>	<input type="checkbox"/>
8.	Safety shower and eye wash locations known?	<input type="checkbox"/>	<input type="checkbox"/>
9.	Smoking area designated?	<input type="checkbox"/>	<input type="checkbox"/>
10.	Have you been advised of potential hazards, protective Measures and availability of hazard information? e.g. Health & Safety Plan	<input type="checkbox"/>	<input type="checkbox"/>
11.	Do you understand you are required to provide your employees with the information in (10) above?	<input type="checkbox"/>	<input type="checkbox"/>
12.	Have you provided MSDSs to Athenica for any hazardous material you intend to bring on site?	<input type="checkbox"/>	<input type="checkbox"/>
13.	Have you submitted training/medical certification records?	<input type="checkbox"/>	<input type="checkbox"/>
14.	Are your subcontractors aware of the above rules?	<input type="checkbox"/>	<input type="checkbox"/>

Remarks: (Explain all No Answers) \_\_\_\_\_

\_\_\_\_\_  
Subcontractor's Supervisor

\_\_\_\_\_  
Date

\_\_\_\_\_  
Contractor's Project Manager

\_\_\_\_\_  
Date

\_\_\_\_\_  
Contractor's Project Supervisor

\_\_\_\_\_  
Date

# Daily Safety Meeting Report

Project Name: 5201, LLC

Location: 52-01 Queens Boulevard, Queens, New York

Date: \_\_\_\_\_

Today's Tasks/Activities:

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---

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---

---

Potential Chemical/Physical Hazards:

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Personal Protective Equipment:

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Attendees:

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

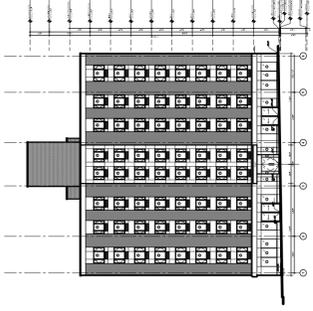
CS: \_\_\_\_\_  
(Signature)

Const. Supt: \_\_\_\_\_  
(Signature)



## **APPENDIX 5**

### **PROPOSED DEVELOPMENT PLANS**



# 52-01 QUEENS BOULEVARD QUEENS, NY 11377

## ARCHITECTURAL DRAWING LIST:

A-000	COVER SHEET
Z-001	ZONING CALCULATION
Z-002	ZONING DEDUCTION DIAGRAMS
Z-003	ZONING DEDUCTION DIAGRAMS
N-001	GENERAL NOTES & BUILDING NOTES
N-002	TYPICAL DETAILS ACCESSIBILITY & CODE CLEARANCES
N-003	GENERAL NOTES & SPECIFICATION
A-100	CELLAR FLOOR PLAN
A-101	FIRST FLOOR PLAN
A-102	SECOND FLOOR PLAN
A-103	THIRD FLOOR THROUGH NINTH FLOOR PLANS
A-104	BULKHEAD, MECHANICAL ROOM AND ROOF PLANS
A-200	SOUTH ELEVATION
A-201	NORTH ELEVATION
A-202	WEST ELEVATION
A-203	EAST ELEVATION
A-300	SECTION 1
A-301	SECTION 2
A-400	ENLARGED STAIR PLANS & DETAILS
A-600	BATHROOM PLANS AND ELEVATIONS
A-700	DOOR TYPES & DETAILS
A-701	WINDOW TYPES AND DETAILS
A-800	WALL SECTIONS
A-801	WALL SECTIONS
A-810	DETAILS
A-811	DETAILS
A-900	PARTITION TYPES
EN-001	ENERGY ANALYSIS
EN-002	ENERGY ANALYSIS

## ARCHITECT:

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ernst\_arch@earthlink.net

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LONG ISLAND CITY, NY 11101  
TEL (718) 752-1500  
FAX (718) 752-9404  
RSHARON@SHARONENGINEERING.COM

DEVELOPING COMPANY:  
DURATECH CORPORATION

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DEVELOPMENT COMPANY:  
DURATECH CORPORATION

REVISIONS AND SUBMISSIONS					
#	REVISIONS	DATE	#	REVISIONS - DOB	DATE
0.1	INTERNAL CODE REVIEW	09/08/09	1	DOB REVIEW	01/14/10
0.2	STRUCTURAL REVIEW	09/08/09	2	DOB RECON	03/10/10
0.3	CLIENT REVIEW	09/16/09	3	ZONING REVIEW	04/14/10
0.4	REVISED CLIENT REVIEW	09/25/09	4	DOB AMENDMENT	05/06/10
0.5	REVISED CLIENT REVIEW	10/09/09	5	DOB AMENDMENT	01/17/12
0.6	MEP-STRUCTURAL	10/09/09			
0.7	ISSUE FOR BANK REVIEW	11/03/09			
0.8	REVISED CLIENT REVIEW	01/28/10			
0.9	REVISED CLIENT REVIEW	05/04/10			
10	CONSTRUCTION	01/29/12			

FOR FILING ONLY - NOT FOR CONSTRUCTION USE

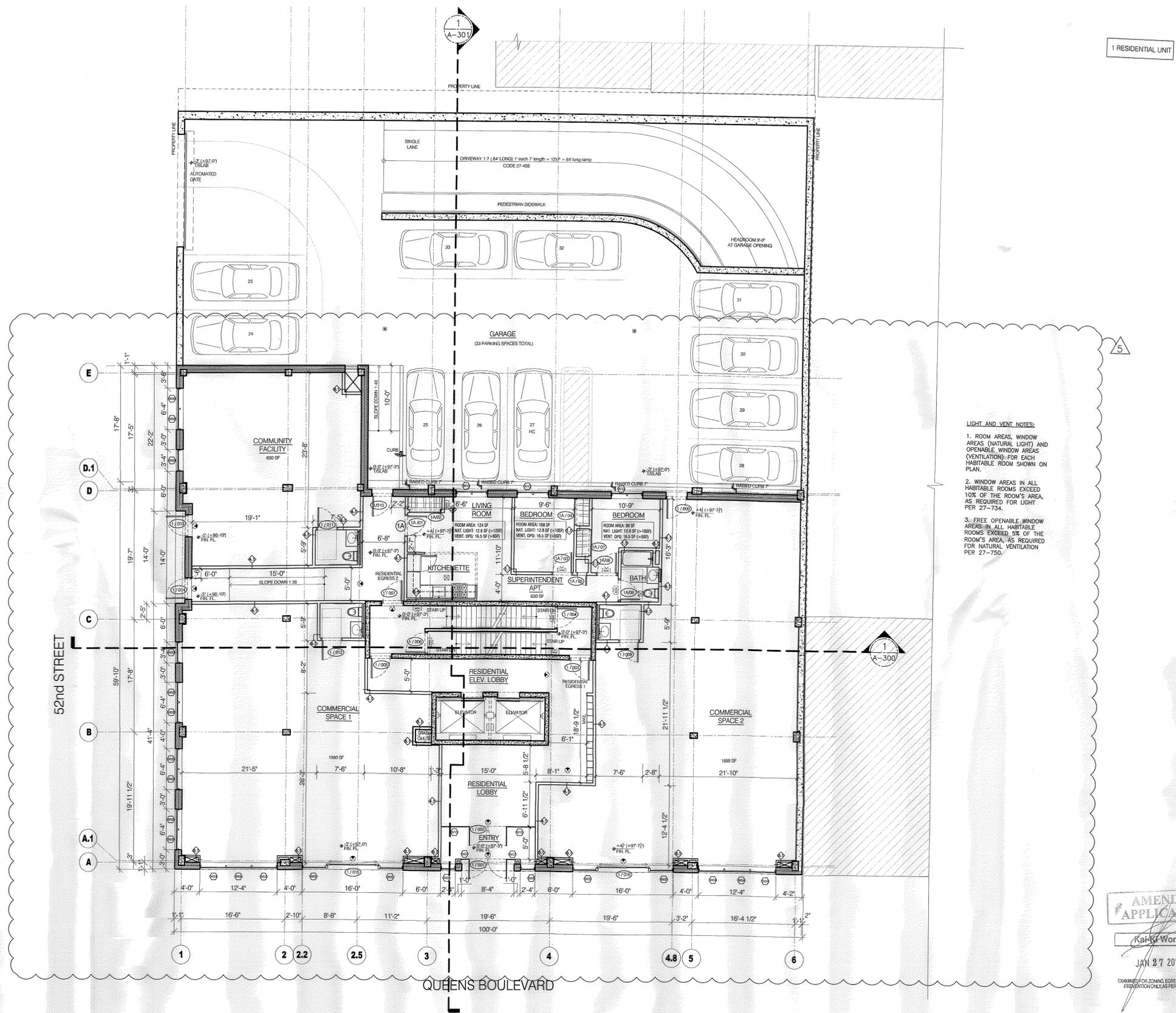
## NOTICE

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**BIS #402639971**

DATE: 07/07/2009





**LIGHT AND VENT. NOTES:**

1. ROOM AREAS, WINDOW AREAS (NATURAL LIGHT) AND OPENABLE WINDOW AREAS (VENTILATION) FOR EACH HABITABLE ROOM SHOWN ON PLAN.
2. WINDOW AREAS IN ALL HABITABLE ROOMS EXCEED 10% OF THE ROOM'S AREA, AS REQUIRED FOR LIGHT PER 27-734.
3. FREE OPENABLE WINDOW AREAS IN ALL HABITABLE ROOMS EXCEED 5% OF THE ROOM'S AREA, AS REQUIRED FOR NATURAL VENTILATION PER 27-750.

**CONSTRUCTION LEGEND**

	NEW EXTERIOR BRICK VENEER WALL - 4" BRICK, 2" AIR SPACE, 1/2" DENSGLASS BOARD, 6" STUD WALL WITH R-19 BATT INSULATION & INTERIOR 5/8" GYPSUM, 3 HR FIRE RATING (UL DESIGN V414)
	6" C.M.U. WALL - 2 HR FIRE RATING (UL DESIGN 906)
	CAST-IN-PLACE CONCRETE WALL/COLUMN
	INTERIOR PARTITION (SEE SHEET A-300 FOR DETAILS & RATING)
	SMOKE/CO COMBO DETECTOR
	ILLUMINATED EXIT SIGN, PROVIDE EGRESS HARDWARE AT THESE LOCATIONS
	MECHANICAL VENTILATION FAN (SEE MEP DRAWINGS)

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 RSHARON@SHARONENGINEERING.COM

**DEVELOPMENT COMPANY:**  
 DURATECH CORPORATION

**REVISIONS AND SUBMISSIONS**

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0.1	INTERNAL CODE REVIEW	09/08/09	1	DOB REVIEW	01/14/10
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0.4	REVISED CLIENT REVIEW	09/25/09	4	DOB AMENDMENT	05/06/10
0.5	REVISED CLIENT REVIEW	10/09/09	5	DOB AMENDMENT	01/17/12
0.6	MEP - STRUCTURAL	10/09/09			
0.7	ISSUE FOR BANK REVIEW	11/03/09			
0.8	REVISED CLIENT REVIEW	01/09/10			
0.9	REVISED CLIENT REVIEW	05/04/10			
1.0	REVISED CLIENT REVIEW	06/21/11			
1.1	REVISED CLIENT REVIEW	12/16/11			
1.2	REVISED CLIENT REVIEW	12/28/11			

TITLE:  
**FIRST FLOOR-SITE PLAN**

LOCATION:  
**52-01 QUEENS BOULEVARD  
 QUEENS, NY 11377**

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**BIS #402639971**

**AMENDED APPLICATION**

Kai-Ki Wong

JAN 27 2012

EXAMINED FOR ZONING, EGRESS AND FIRE PREVENTION ONLY AS PER DEC 2015

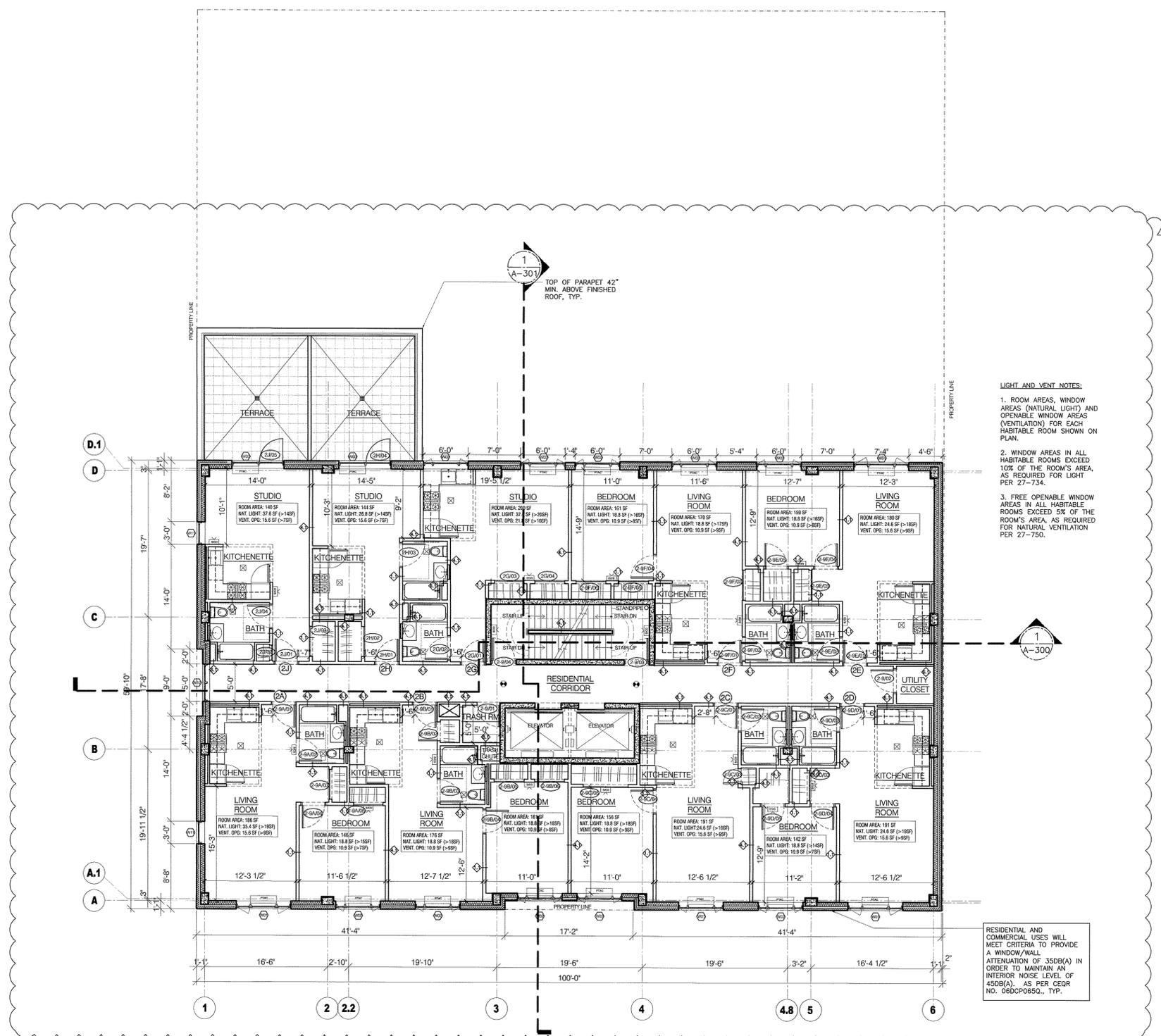


Signature	Date
DATE: 07/07/2009	
SCALE: AS NOTED	
DRAWING No.	
<b>A-101.00</b>	

**1 FIRST FLOOR PLAN**  
 A-101 SCALE: 1/8"=1'-0"



9 RESIDENTIAL UNITS



**LIGHT AND VENT NOTES:**

1. ROOM AREAS, WINDOW AREAS (NATURAL LIGHT) AND OPENABLE WINDOW AREAS (VENTILATION) FOR EACH HABITABLE ROOM SHOWN ON PLAN.
2. WINDOW AREAS IN ALL HABITABLE ROOMS EXCEED 10% OF THE ROOM'S AREA, AS REQUIRED FOR LIGHT PER 27-734.
3. FREE OPENABLE WINDOW AREAS IN ALL HABITABLE ROOMS EXCEED 5% OF THE ROOM'S AREA, AS REQUIRED FOR NATURAL VENTILATION PER 27-750.

RESIDENTIAL AND COMMERCIAL USES WILL MEET CRITERIA TO PROVIDE A WINDOW/WALL ATTENUATION OF 35DB(A) IN ORDER TO MAINTAIN AN INTERIOR NOISE LEVEL OF 45DB(A), AS PER CEQR NO. 06DC085Q, TYP.

1 SECOND FLOOR PLAN  
A-102 SCALE: 1/8"=1'-0"

**CONSTRUCTION LEGEND**

	NEW EXTERIOR BRICK VENEER WALL: 4" BRICK, 2" AIR SPACE, 1/2" DENSGLASS BOARD, 6" STUD WALL WITH R-19 BATT INSULATION & INTERIOR 5/8" GYPSUM 3 HR FIRE RATING (UL DESIGN V414)
	6" C.M.U. WALL 2 HR FIRE RATING (UL DESIGN 906)
	CAST IN PLACE CONCRETE WALL/COLUMN
	INTERIOR PARTITION (SEE SHEET A-500 FOR DETAILS & RATING)
	SMOKE/CO COMBO DETECTOR
	ILLUMINATED EXIT SIGN, PROVIDE EGRESS HARDWARE AT THESE LOCATIONS
	MECHANICAL VENTILATION FAN (SEE MEP DRAWINGS)

**ARCHITECT:**  
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RSHARON@SHARONENGINEERING.COM

**DEVELOPMENT COMPANY:**  
DURATECH CORPORATION

**REVISIONS AND SUBMISSIONS**

#	REVISIONS	DATE	#	REVISIONS - DOB	DATE
0.1	INTERNAL CODE REVIEW	09/08/09	1	DOB REVIEW	01/14/10
0.2	STRUCTURAL REVIEW	09/09/09	2	DOB RECON	03/10/10
0.3	CLIENT REVIEW	09/16/09	3	ZONING REVIEW	04/14/10
0.4	REVISED CLIENT REVIEW	09/25/09	4	DOB AMENDMENT	05/06/10
0.5	REVISED CLIENT REVIEW	10/09/09	5	DOB AMENDMENT	01/17/12
0.6	MEP-STRUCTURAL	10/09/09			
0.7	ISSUE FOR BANK REVIEW	11/03/09			
0.8	REVISED CLIENT REVIEW	01/28/10			
0.9	REVISED CLIENT REVIEW	05/04/10			
1.0	REVISED CLIENT REVIEW	12/07/11			
1.1	REVISED CLIENT REVIEW	12/16/11			
1.2	REVISED CLIENT REVIEW	12/28/11			

TITLE:  
**SECOND FLOOR PLAN**

LOCATION:  
**52-01 QUEENS BOULEVARD  
QUEENS, NY 11377**

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**BIS #402639971**

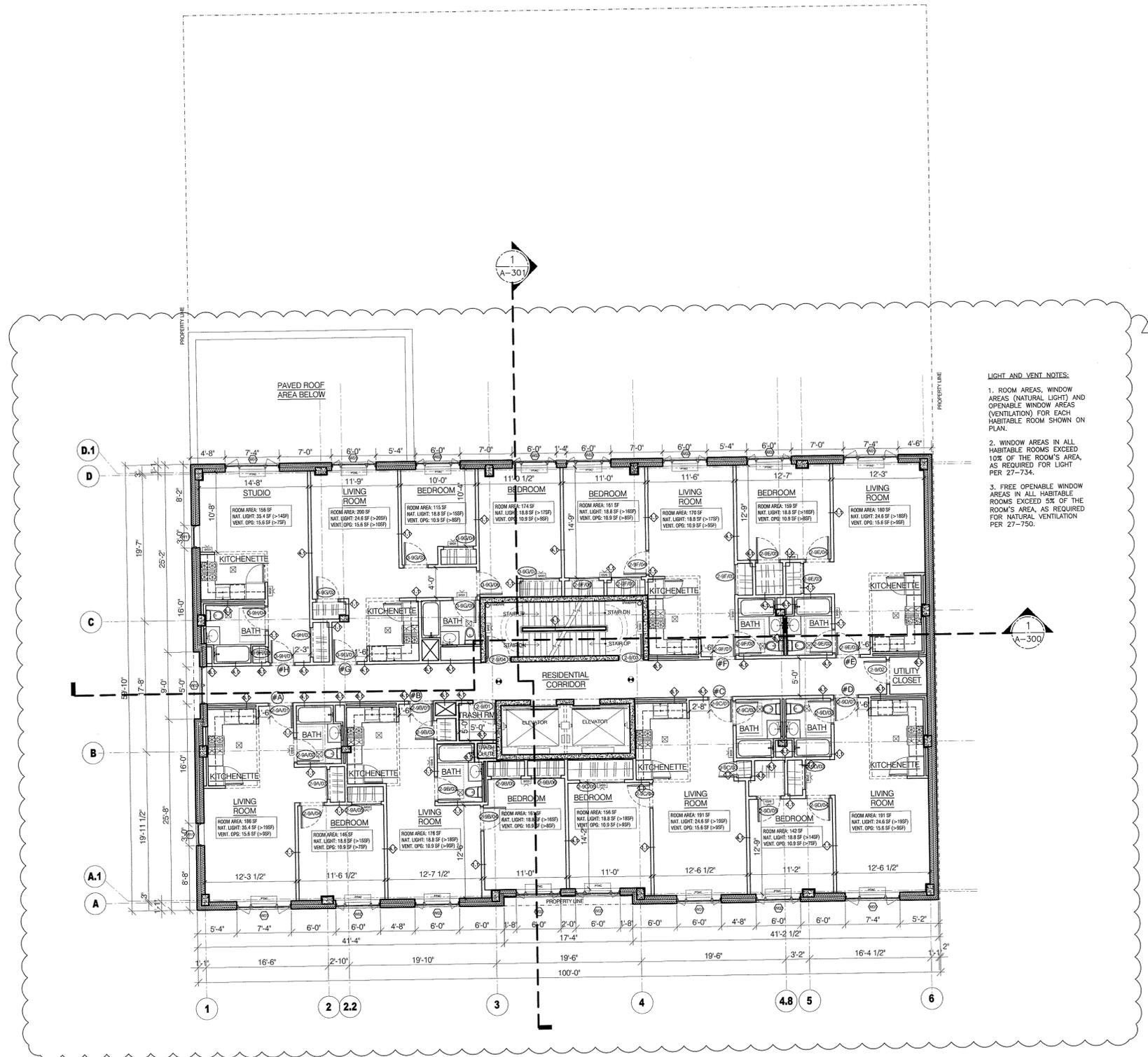
AMENDED APPLICATION  
Ker-Ki Wong  
JAN 27 2012  
EXAMINED FOR ZONING, EGRESS AND FIRE PREVENTION ONLY, AS PER LDCR 2012



DATE:	07/07/2009
SCALE:	AS NOTED
DRAWING No.:	A-102.00
DOB SHEET 9 of 27	



8 RESIDENTIAL UNITS



**LIGHT AND VENT NOTES:**

1. ROOM AREAS, WINDOW AREAS (NATURAL LIGHT) AND OPENABLE WINDOW AREAS (VENTILATION) FOR EACH HABITABLE ROOM SHOWN ON PLAN.
2. WINDOW AREAS IN ALL HABITABLE ROOMS EXCEED 10% OF THE ROOM'S AREA, AS REQUIRED FOR LIGHT PER 27-734.
3. FREE OPENABLE WINDOW AREAS IN ALL HABITABLE ROOMS EXCEED 5% OF THE ROOM'S AREA, AS REQUIRED FOR NATURAL VENTILATION PER 27-750.

1 3RD-9TH FLOOR PLANS  
A-103 SCALE: 1/8"=1'-0"

**CONSTRUCTION LEGEND**

- NEW EXTERIOR BRICK VENEER WALL: 4" BRICK, 2" AIR SPACE, 1/2" DENGLASS BOARD, 6" STUD WALL WITH R-19 BATT INSULATION & INTERIOR 5/8" GYPSUM, 3 HR FIRE RATING (UL DESIGN W14)
- 6" C.M.U. WALL 2 HR FIRE RATING (UL DESIGN 906)
- CAST IN PLACE CONCRETE WALL/COLUMN
- INTERIOR PARTITION (SEE SHEET A-900 FOR DETAILS & RATING)
- SMOKE/CO COMBO DETECTOR
- ILLUMINATED EXIT SIGN, PROVIDE EGRESS HARDWARE AT THESE LOCATIONS
- MECHANICAL VENTILATION FAN (SEE MEP DRAWINGS)

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LONG ISLAND CITY, NY 11101  
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RSHARON@SHARONENGINEERING.COM

**DEVELOPMENT COMPANY:**  
DURATECH CORPORATION

**REVISIONS AND SUBMISSIONS**

#	REVISIONS	DATE	#	REVISIONS - DOB	DATE
0.1	INTERNAL CODE REVIEW	09/08/09	1	DOB REVIEW	01/14/10
0.2	STRUCTURAL REVIEW	09/08/09	2	DOB RECON	03/19/10
0.3	CLIENT REVIEW	09/16/09	3	ZONING REVIEW	04/14/10
0.4	REVISED CLIENT REVIEW	09/25/09	4	DOB AMENDMENT	05/06/10
0.5	REVISED CLIENT REVIEW	10/09/09	5	DOB AMENDMENT	01/17/12
0.6	MEP-STRUCTURAL	10/09/09			
0.7	ISSUE FOR BANK REVIEW	11/03/09			
0.8	REVISED CLIENT REVIEW	01/28/10			
0.9	REVISED CLIENT REVIEW	05/04/10			
1.0	REVISED CLIENT REVIEW	12/07/11			
1.1	REVISED CLIENT REVIEW	12/16/11			
1.2	REVISED CLIENT REVIEW	12/28/11			

**TITLE:**  
3RD - 9TH FLOOR PLANS

**LOCATION:**  
52-01 QUEENS BOULEVARD  
QUEENS, NY 11377

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**BIS #402639971**

AMENDED APPLICATION

Karla Wong

JAN 27 2012

EXAMINED FOR ZONING, EGRESS AND FIRE PREVENTION AS PER LDC 275



Signature: \_\_\_\_\_ Date: \_\_\_\_\_

DATE: 07/07/2009

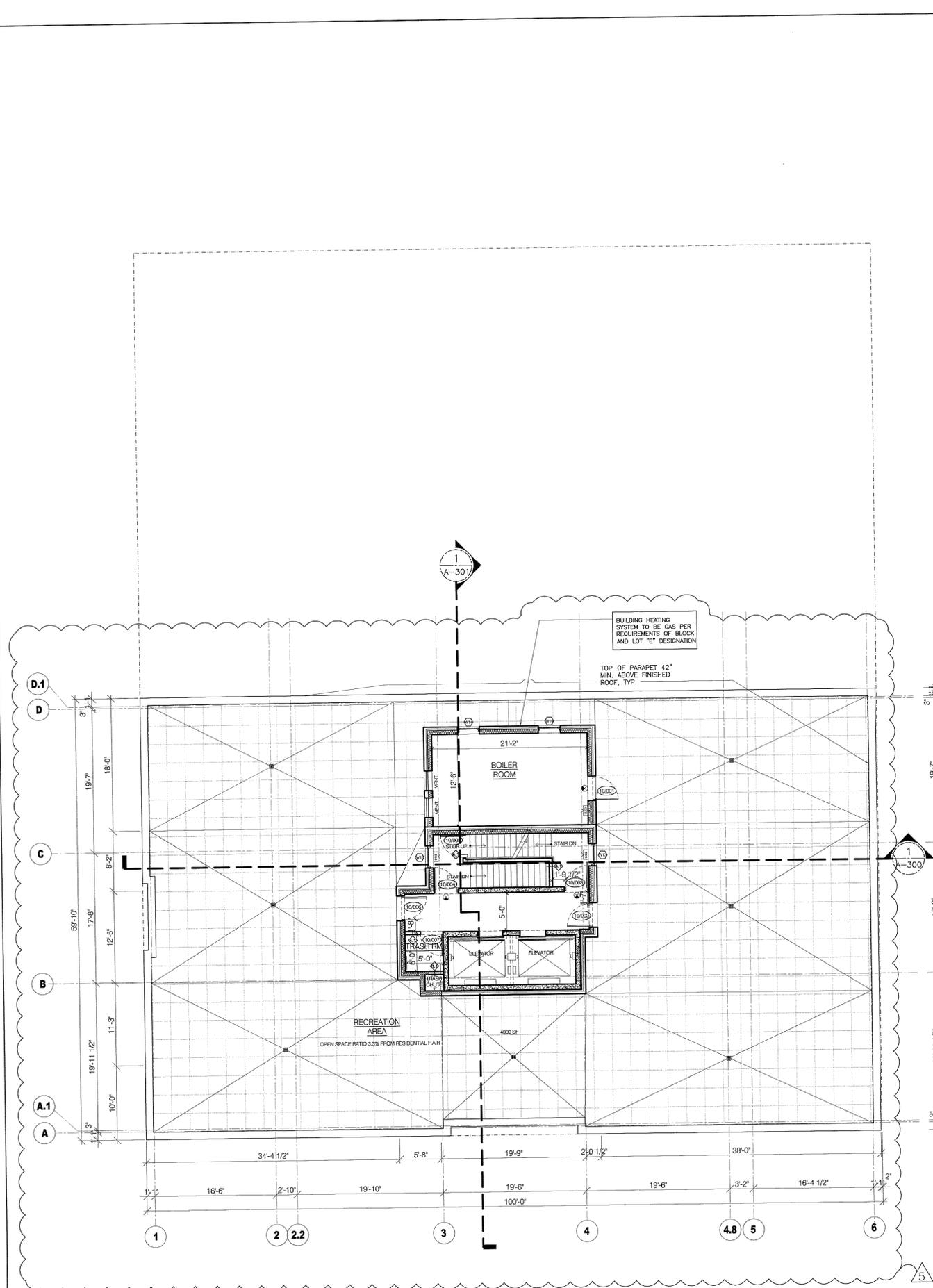
SCALE: AS NOTED

DRAWING No.

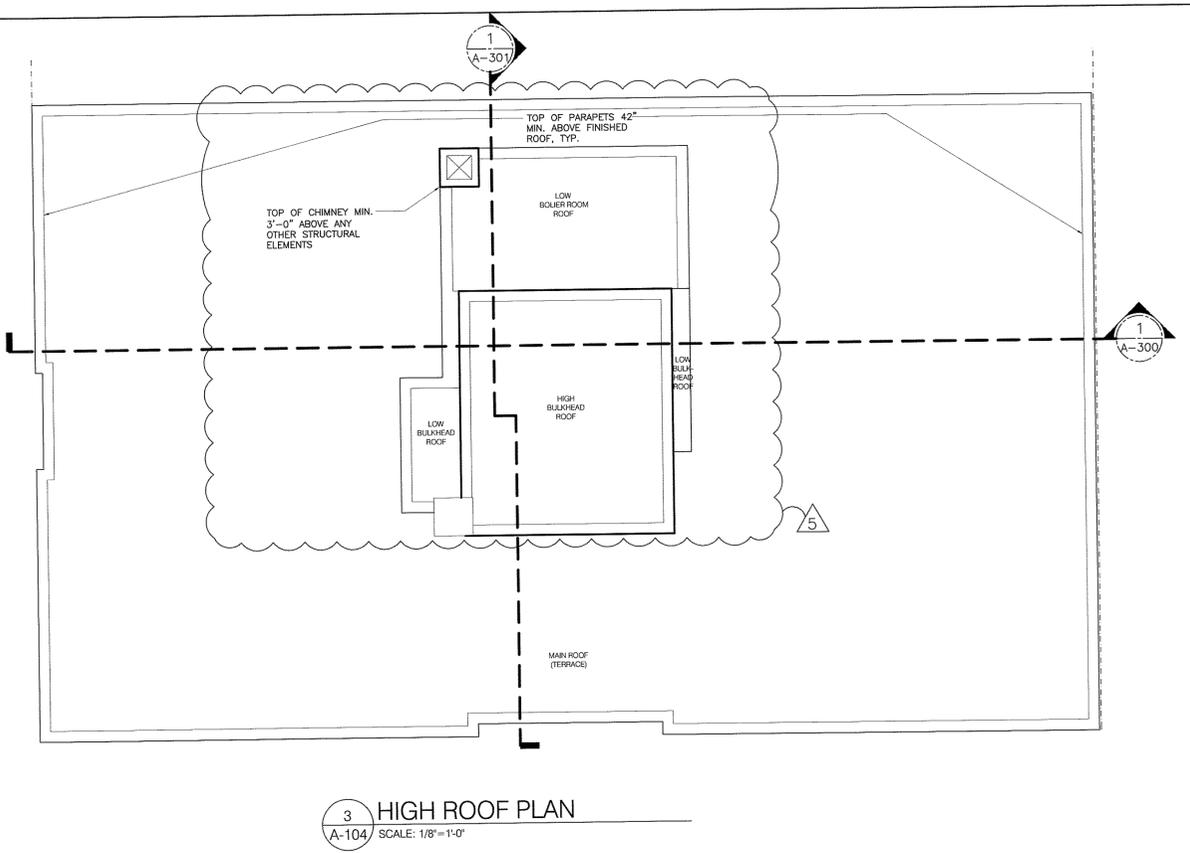
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DOB SHEET 10 of 27

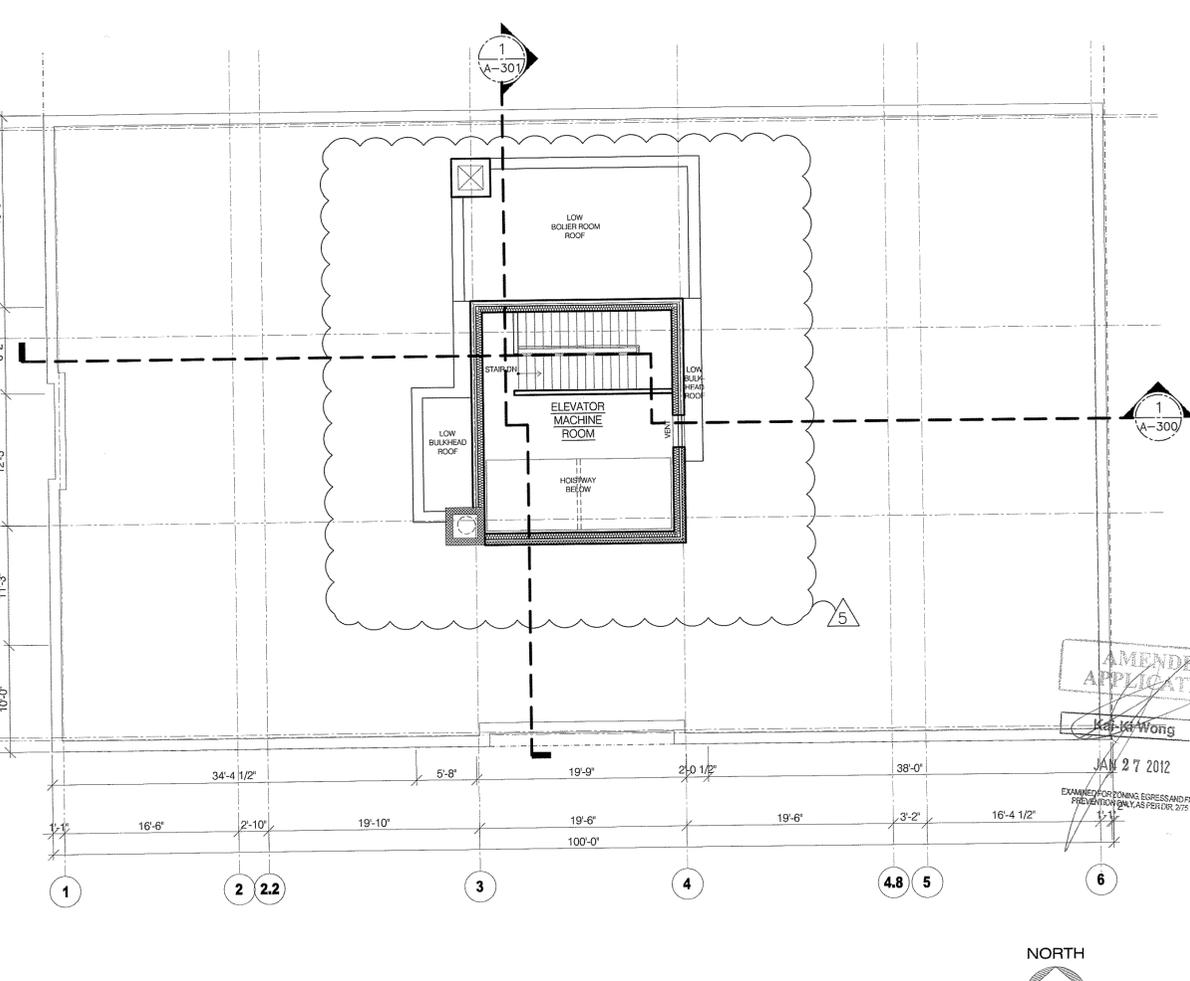




1 ROOF AND BULKHEAD PLAN  
A-104 SCALE: 1/8"=1'-0"



3 HIGH ROOF PLAN  
A-104 SCALE: 1/8"=1'-0"



2 MACHINE ROOM PLAN  
A-104 SCALE: 1/8"=1'-0"

CONSTRUCTION LEGEND

	NEW EXTERIOR BRICK VENEER WALL: 4" BRICK, 2" AIR SPACE, 1/2" DENSGLASS BOARD, 1/2" STUCCO WITH R-19 BATT INSULATION & INTERIOR 5/8" GYPSUM, 3 HR FIRE RATING (UL DESIGN V414)
	6" CMU WALL 2 HR FIRE RATING (UL DESIGN 906)
	CAST IN PLACE CONCRETE WALL/COLUMN
	INTERIOR PARTITION (SEE SHEET A-900 FOR DETAILS & RATING)
	SMOKE/CO COMBO DETECTOR
	ILLUMINATED EXIT SIGN, PROVIDE EGRESS HARDWARE AT THESE LOCATIONS
	MECHANICAL VENTILATION FAN (SEE MEP DRAWINGS)

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DEVELOPMENT COMPANY:  
DURATECH CORPORATION

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0.6	MEP-STRUCTURAL	10/09/09			
0.7	ISSUE FOR BANK REVIEW	11/03/09			
0.8	REVISED CLIENT REVIEW	01/28/10			
0.9	REVISED CLIENT REVIEW	05/04/10			
1.0	REVISED CLIENT REVIEW	12/01/11			
1.1	REVISED CLIENT REVIEW	12/16/11			
1.2	REVISED CLIENT REVIEW	12/28/11			

TITLE:  
**BULKHEAD AND ROOF PLANS**

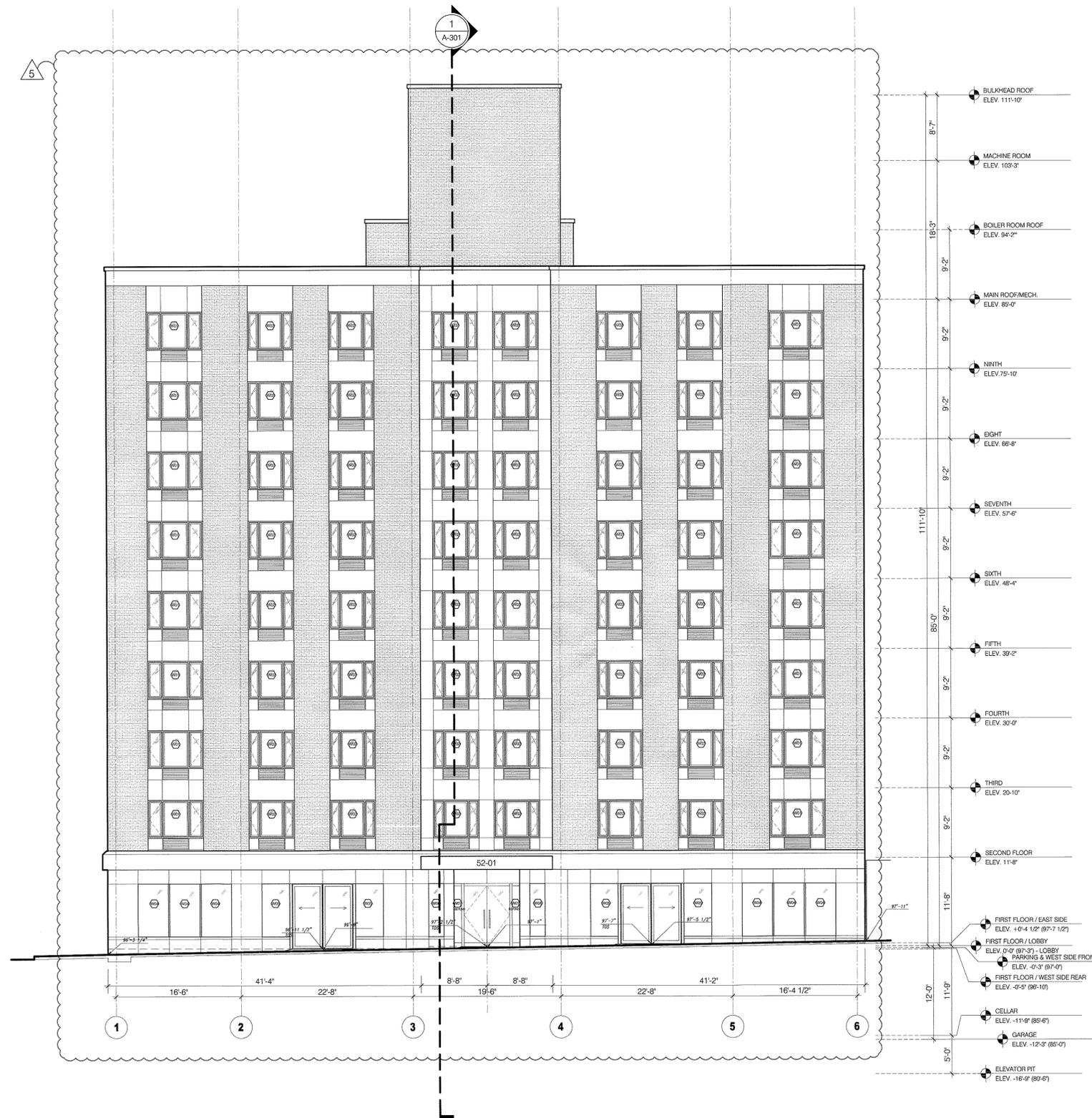
LOCATION:  
**52-01 QUEENS BOULEVARD  
QUEENS, NY 11377**

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**BIS #402639971**

JAN 27 2012  
EXAMINED FOR ZONING EGRESS AND FIRE PREVENTION ONLY AS PER DOR 2175  
Kai-Kai Wong  
Signature: \_\_\_\_\_ Date: \_\_\_\_\_

DATE: 07/07/2009  
SCALE: AS NOTED  
DRAWING No. **A-104.00**  
DOB SHEET 11 of 27



**CONSTRUCTION LEGEND**

	NEW EXTERIOR BRICK VENEER WALL: 4" BRICK, 2" AIR SPACE, 1/2" DENSGLASS BOARD, 6" STUD WALL WITH R-19 BATT INSULATION & INTERIOR 5/8" GYPSUM, 3 HR FIRE RATING (UL DESIGN V414)
	6" CMU WALL 2 HR FIRE RATING (UL DESIGN 906)
	CAST IN PLACE CONCRETE WALL/COLUMN
	INTERIOR PARTITION (SEE SHEET A-900 FOR DETAILS & RATING)
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**DEVELOPMENT COMPANY:**  
 DURATECH CORPORATION

**REVISIONS AND SUBMISSIONS**

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0.4	REVISED CLIENT REVIEW	09/25/09	4	DOB AMENDMENT	05/06/10
0.5	REVISED CLIENT REVIEW	10/08/09	5	DOB AMENDMENT	01/17/12
0.6	MEP- STRUCTURAL	10/08/09			
0.7	ISSUE FOR BANK REVIEW	11/03/09			
0.8	REVISED CLIENT REVIEW	01/28/10			
0.9	REVISED CLIENT REVIEW	05/04/10			
1.0	REVISED CLIENT REVIEW	12/07/11			
1.1	REVISED CLIENT REVIEW	12/16/11			
1.2	REVISED CLIENT REVIEW	12/28/11			

TITLE:  
**SOUTH ELEVATION**

LOCATION:  
**52-01 QUEENS BOULEVARD  
 QUEENS, NY 11377**

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**BIS #402639971**

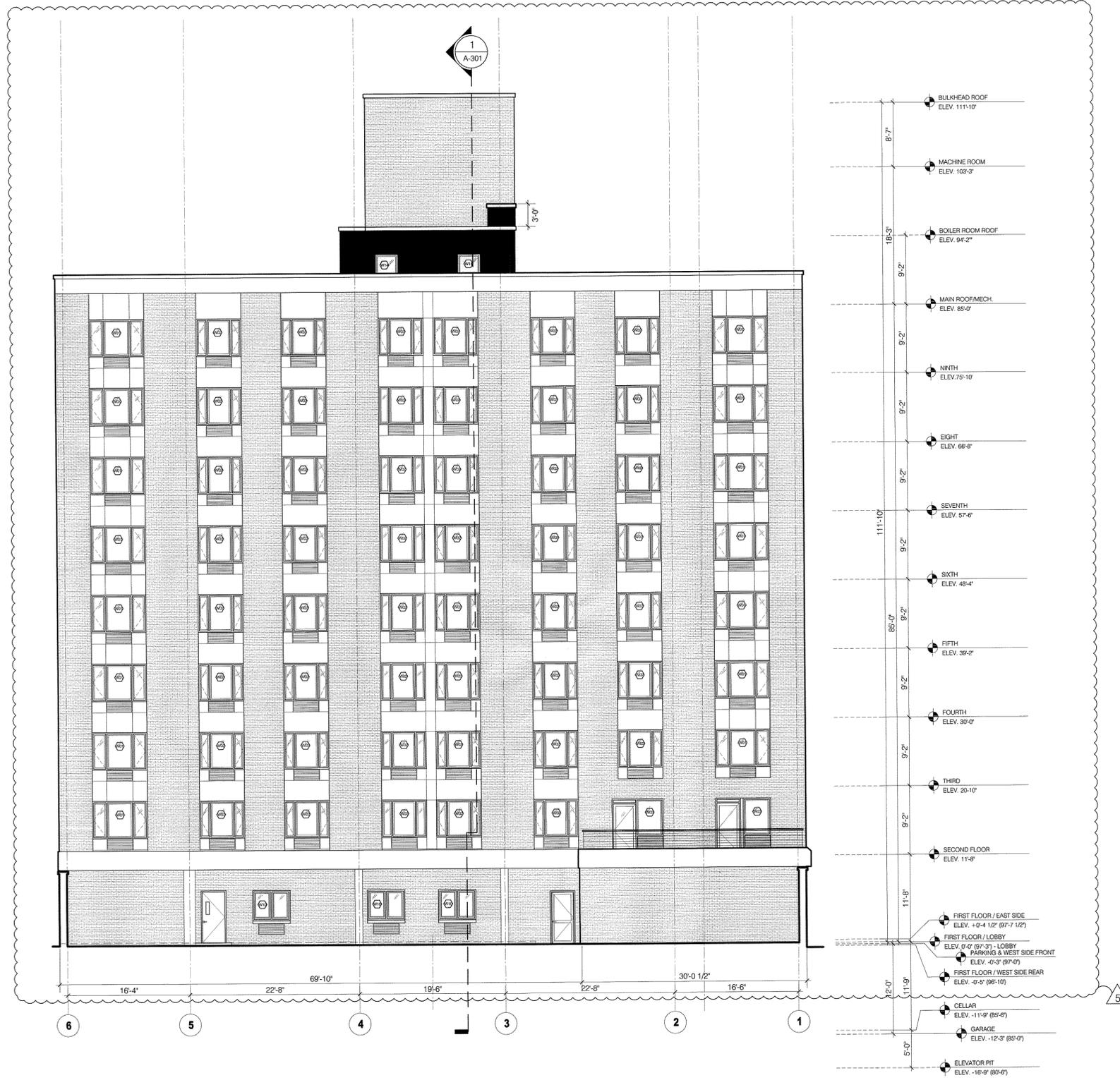
**AMENDED APPLICATION**

*Kai-Ki Wong*  
 JAN 27 2012  
 EXAMINED FOR ZONING, EGRESS AND FIRE PREVENTION ONLY AS PER OR 275



**1 SOUTH ELEVATION**  
 A-200 SCALE: 1/8"=1'-0"

Signature	Date
DATE: 07/07/2009	
SCALE: AS NOTED	
DRAWING No.	
<b>A-200.00</b>	
DOB SHEET 12 of 27	



**CONSTRUCTION LEGEND**

	NEW EXTERIOR BRICK VENEER WALL: 4" BRICK, 2" AIR SPACE, 1/2" DENSGLASS BOARD, 8" STUD WALL WITH R-19 BATT INSULATION & INTERIOR 5/8" GYPSUM, 3 HR FIRE RATING (UL DESIGN V414)
	8" CMU WALL 2 HR FIRE RATING (UL DESIGN 906)
	CAST IN PLACE CONCRETE WALL/COLUMN
	INTERIOR PARTITION (SEE SHEET A-900 FOR DETAILS & RATING)
	SMOKE/CO COMBO DETECTOR
	ILLUMINATED EXIT SIGN, PROVIDE EGRESS HARDWARE AT THESE LOCATIONS
	MECHANICAL VENTILATION FAN (SEE MEP DRAWINGS)

**ARCHITECT:**  
 ERNST ARCHITECT, PLLC  
 177 WEST BROADWAY, THIRD FLOOR  
 NEW YORK, NY 10013  
 ©2009 TODD A. ERNST R.A.  
 TEL (212) 343-3102  
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 ernst\_arch@earthlink.net

**STRUCTURAL & MEP ENGINEER:**  
 SHARON ENGINEERING, P.C.  
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 LONG ISLAND CITY, NY 11101  
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 FAX (718) 752-9404  
 RSHARON@SHARONENGINEERING.COM

**DEVELOPMENT COMPANY:**  
 DURATECH CORPORATION

**REVISIONS AND SUBMISSIONS**

#	REVISIONS	DATE	#	REVISIONS - DOB	DATE
0.1	INTERNAL CODE REVIEW	09/08/09	1	DOB REVIEW	01/14/10
0.2	STRUCTURAL REVIEW	09/09/09	2	DOB RECOM	03/10/10
0.3	CLIENT REVIEW	09/16/09	3	ZONING REVIEW	04/14/10
0.4	REVISED CLIENT REVIEW	09/25/09	4	DOB AMENDMENT	05/06/10
0.5	REVISED CLIENT REVIEW	10/06/09	5	DOB AMENDMENT	01/17/12
0.6	MEP- STRUCTURAL	10/09/09			
0.7	ISSUE FOR BANK REVIEW	11/03/09			
0.8	REVISED CLIENT REVIEW	01/28/10			
0.9	REVISED CLIENT REVIEW	05/04/10			
1.0	REVISED CLIENT REVIEW	12/07/11			
1.1	REVISED CLIENT REVIEW	12/16/11			
1.2	REVISED CLIENT REVIEW	12/28/11			

TITLE:  
**NORTH ELEVATION**

LOCATION:  
**52-01 QUEENS BOULEVARD  
 QUEENS, NY 11377**

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 It is a violation of New York State law to alter plans, specifications or reports to which the seal of an architect has been applied. It is a violation of the law for any person, unless acting under the direction of a licensed architect, to alter an item in any way. If the item bearing the seal of an architect is altered, the altering architect shall affix to his sign the seal and the notation "altered by" followed by his signature and the date of such alteration, and a specific description of the alteration.

**BIS #402639971**

**AMENDED APPLICATION**

**Kai-Ki Wong**

**JAN 27 2012**  
 EXAMINED FOR ZONING, EGRESS AND FIRE PREVENTION ONLY AS PER DCR 2075

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

DATE: **07/07/2009**

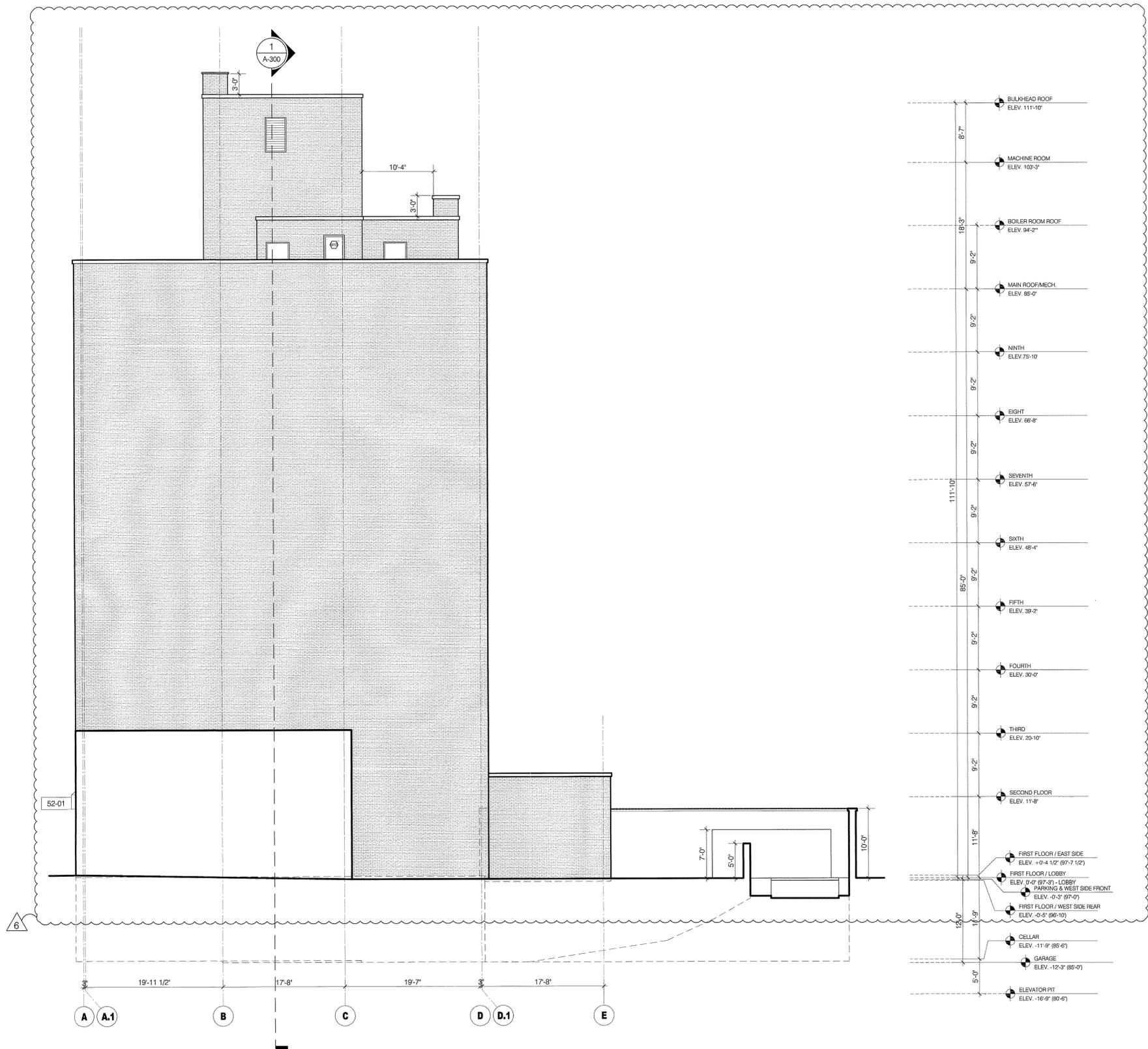
SCALE: **AS NOTED**

DRAWING No. **A-201.00**

DOB SHEET 13 of 27

**1 NORTH ELEVATION**  
 A-201 SCALE: 1/16"=1'-0"





**CONSTRUCTION LEGEND**

	NEW EXTERIOR BRICK VENEER WALL: 4" BRICK, 2" AIR SPACE, 1/2" DENSGLASS BOARD, 6" STUD WALL WITH R-19 BATT INSULATION & INTERIOR 5/8" GYP.SUM. 3 HR FIRE RATING (UL DESIGN V414)
	6" C.M.U. WALL 2 HR FIRE RATING (UL DESIGN 906)
	CAST IN PLACE CONCRETE WALL/COLUMN
	INTERIOR PARTITION (SEE SHEET A-900 FOR DETAILS & RATINGS)
	SMOKE/CO COMBO DETECTOR
	ILLUMINATED EXIT SIGN, PROVIDE EGRESS HARDWARE AT THESE LOCATIONS
	MECHANICAL VENTILATION FAN (SEE MEP DRAWINGS)

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**DEVELOPMENT COMPANY:**  
 DURATECH CORPORATION

**REVISIONS AND SUBMISSIONS**

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0.1	INTERNAL CODE REVIEW	09/08/09	1	DOB REVIEW	01/14/10
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1.0	REVISED CLIENT REVIEW	12/07/11			
1.1	REVISED CLIENT REVIEW	12/16/11			
1.2	REVISED CLIENT REVIEW	12/28/11			

TITLE:  
**EAST ELEVATION**

LOCATION:  
**52-01 QUEENS BOULEVARD  
 QUEENS, NY 11377**

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**BIS #402639971**

AMENDED APPLICATION  
 Kai-Ki Wong  
 JAN 27 2012  
 EXAMINED FOR ZONING EGRESS AND FIRE PREVENTION ONLY AS PER D.R. 205



**1 EAST ELEVATION**  
 A-203 SCALE: 1/8"=1'-0"

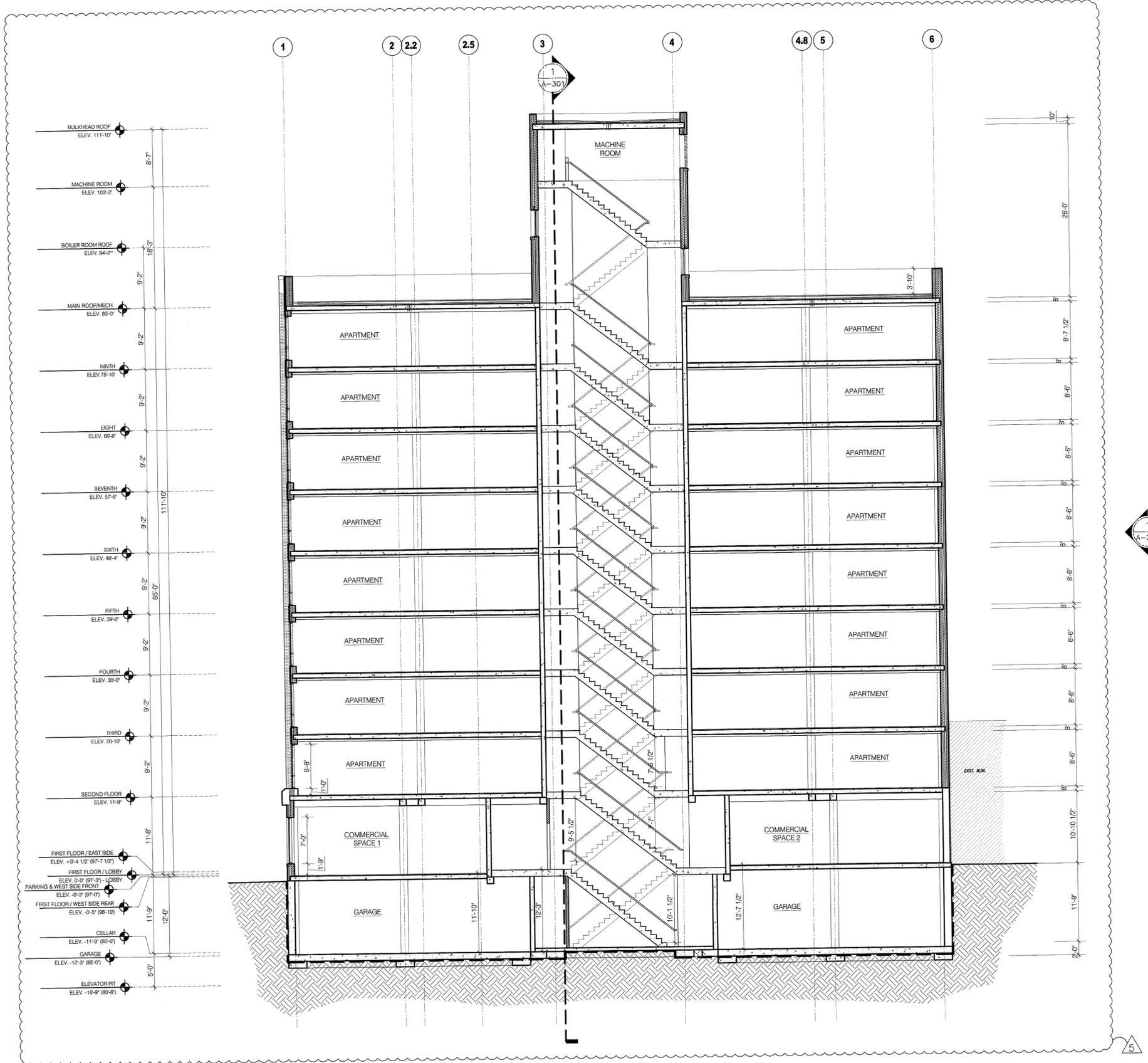
Signature: \_\_\_\_\_ Date: \_\_\_\_\_

DATE: 07/07/2009

SCALE: AS NOTED

DRAWING No. **A-203.00**

DOB SHEET 15 of 27



**CONSTRUCTION LEGEND**

- NEW EXTERIOR BRICK VENEER WALL:  
4" BRICK, 2" AIR SPACE, 1/2" DENSGLASS BOARD, 6" STUD WALL WITH R-19 BATT INSULATION & INTERIOR 5/8" GYPSUM, 3 HR FIRE RATING (UL DESIGN V414)
- 6" C.M.U. WALL  
2 HR FIRE RATING (UL DESIGN 906)
- CAST IN PLACE CONCRETE WALL/COLUMN
- INTERIOR PARTITION  
(SEE SHEET A-900 FOR DETAILS & RATING)
- SMOKE/CO COMBO DETECTOR
- ILLUMINATED EXIT SIGN, PROVIDE EGRESS HARDWARE AT THESE LOCATIONS
- MECHANICAL VENTILATION FAN  
(SEE MEP DRAWINGS)

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**DEVELOPMENT COMPANY:**  
 DURATECH CORPORATION

**REVISIONS AND SUBMISSIONS**

#	REVISIONS	DATE	#	REVISIONS - DOB	DATE
0.1	INTERNAL CODE REVIEW	09/08/09	1	DOB REVIEW	01/14/10
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0.7	ISSUE FOR BANK REVIEW	11/03/09			
0.8	REVISED CLIENT REVIEW	01/28/10			
0.9	REVISED CLIENT REVIEW	05/04/10			
1.0	REVISED CLIENT REVIEW	12/07/11			
1.1	REVISED CLIENT REVIEW	12/16/11			
1.2	REVISED CLIENT REVIEW	12/28/11			

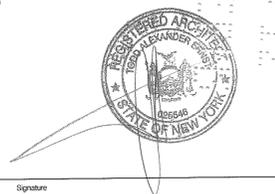
TITLE:  
**SECTION AT QUEENS BOULEVARD**

LOCATION:  
**52-01 QUEENS BOULEVARD  
 QUEENS, NY 11377**

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**BIS #402639971**

**AMENDED APPLICATION**  
 Kai-Ki Wong  
 JAN 27 2012  
 EXAMINED FOR ZONING, EGRESS AND FIRE PREVENTION AS PER OR 27



**1 SECTION AT QUEENS BOULEVARD**  
 A-300 SCALE: 1/8"=1'-0"

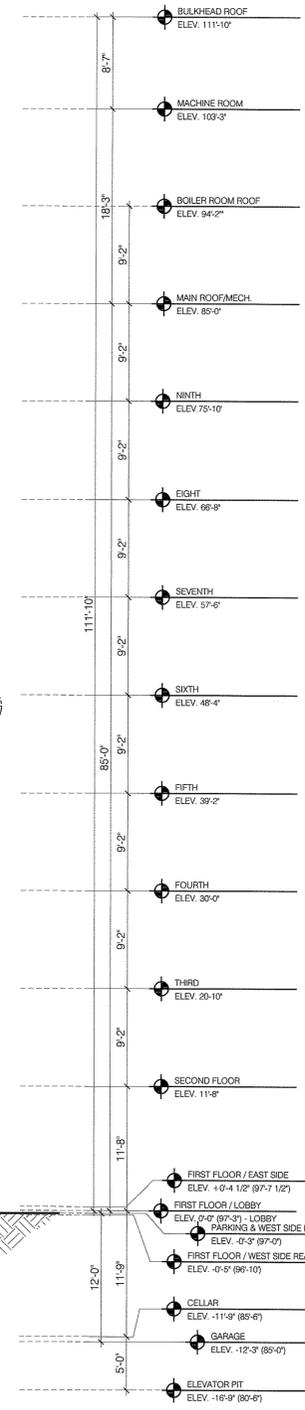
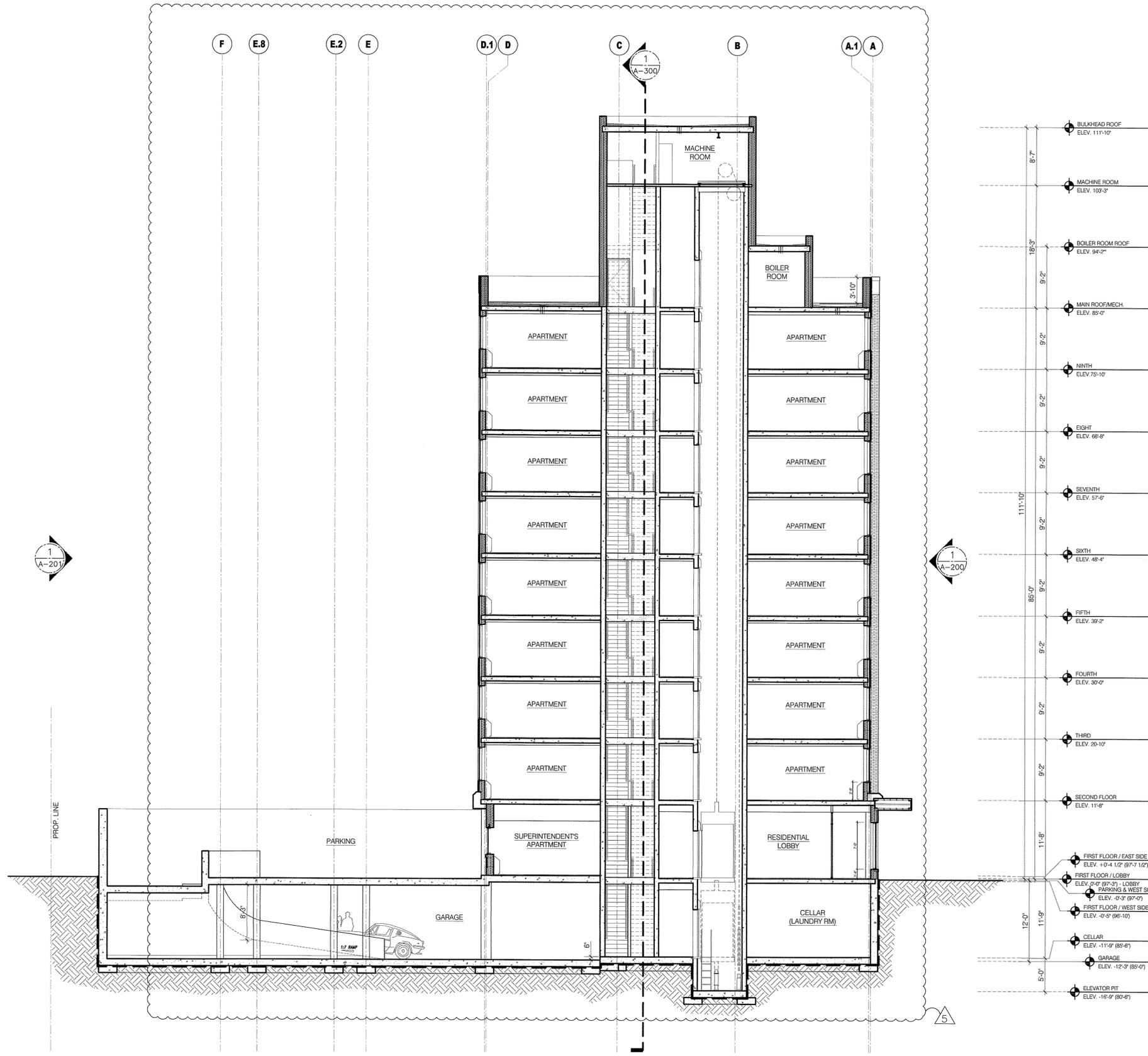
Signature: \_\_\_\_\_ Date: \_\_\_\_\_

DATE: 07/07/2009

SCALE: AS NOTED

DRAWING No. **A-300.00**

DOB SHEET 17 of 27



**CONSTRUCTION LEGEND**

- NEW EXTERIOR BRICK VENEER WALL- 4" BRICK, 2" AIR SPACE, 1/2" DENSGLASS BOARD, 6" STUD WALL WITH R-19 BATT INSULATION & INTERIOR SIP GYPSUM, 3 HR FIRE RATING (UL DESIGN V414)
- 6" C.M.U. WALL 2 HR FIRE RATING (UL DESIGN 906)
- CAST IN PLACE CONCRETE WALL/COLUMN
- INTERIOR PARTITION (SEE SHEET A-900 FOR DETAILS & RATING)
- SMOKE/CO COMBO DETECTOR
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**DEVELOPMENT COMPANY:**  
 DURATECH CORPORATION

**REVISIONS AND SUBMISSIONS**

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0.8	REVISED CLIENT REVIEW	01/28/10			
0.9	REVISED CLIENT REVIEW	05/04/10			
1.0	REVISED CLIENT REVIEW	12/07/11			
1.1	REVISED CLIENT REVIEW	12/16/11			
1.2	REVISED CLIENT REVIEW	12/28/11			

TITLE:  
**SECTION AT 52ND STREET**

LOCATION:  
**52-01 QUEENS BOULEVARD  
 QUEENS, NY 11377**

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**BIS #402639971**

**AMENDED APPLICATION**

Kai-Kai Wong

JAN 27 2012

EXAMINED FOR ZONING, EGRESS AND FIRE PREVENTION ONLY, AS PER D.R. 276

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

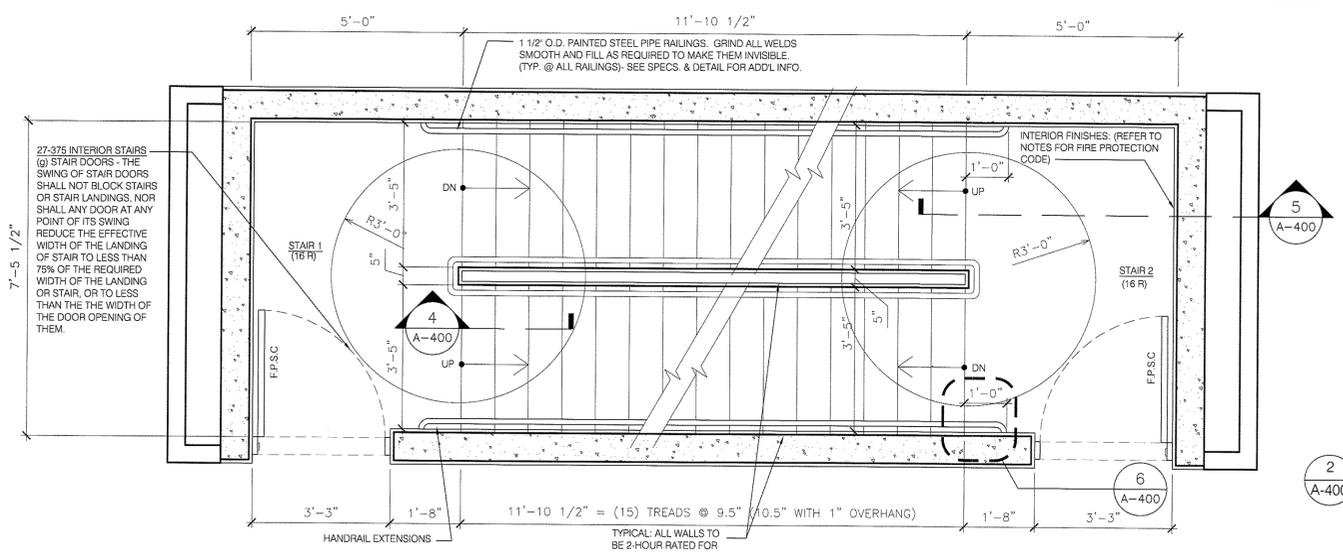
DATE: 07/07/2009

SCALE: AS NOTED

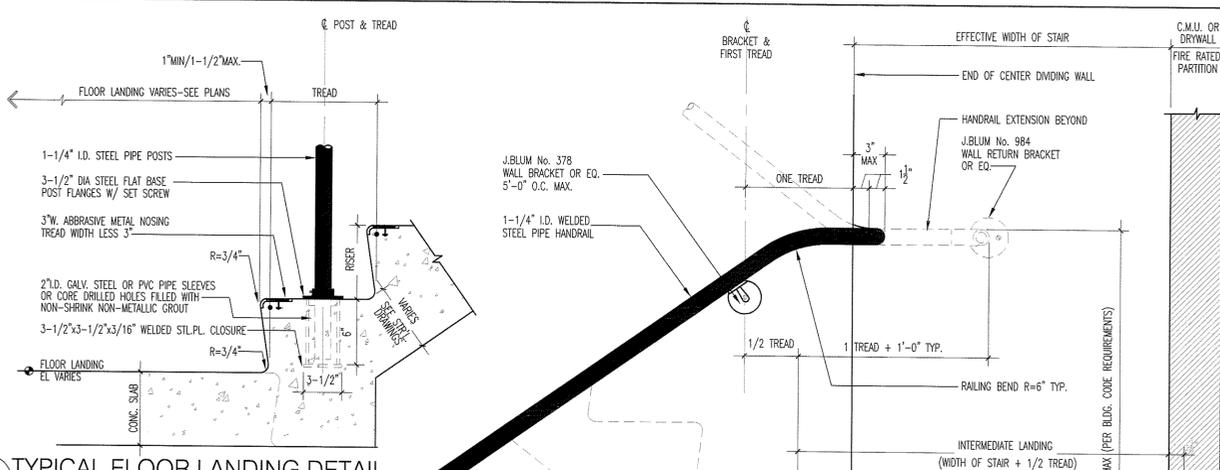
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DOB SHEET 18 of 27

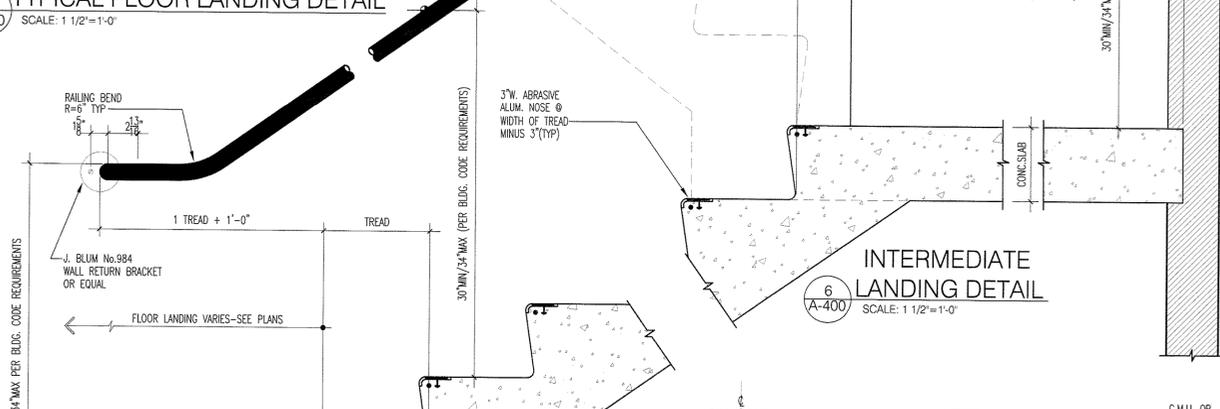
**SECTION AT 52ND STREET**  
 SCALE: 1/8"=1'-0"



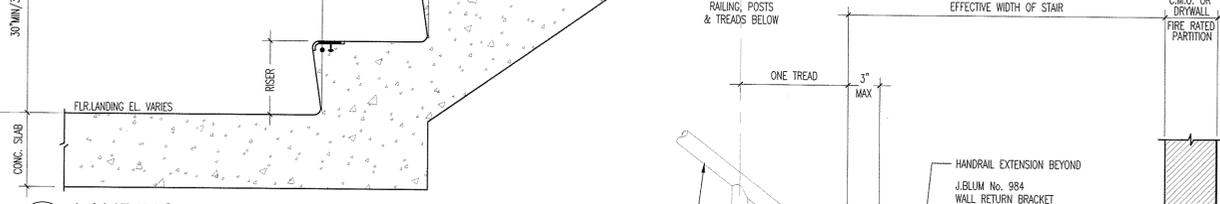
1 TYPICAL PLAN OF SISSOR STAIR  
SCALE: 1 1/2"=1'-0"



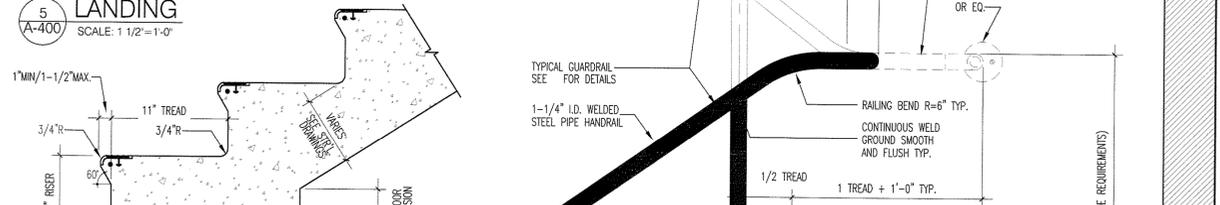
2 TYPICAL FLOOR LANDING DETAIL  
SCALE: 1 1/2"=1'-0"



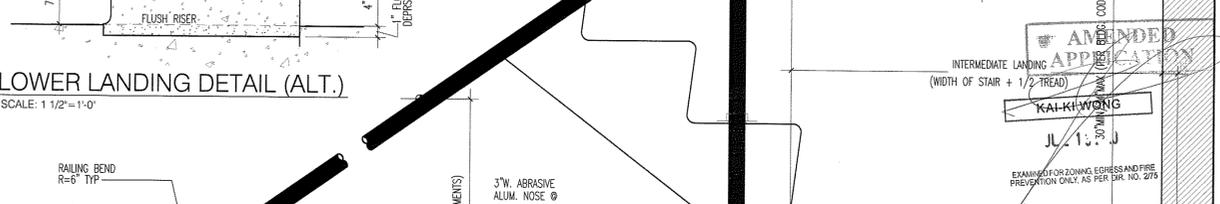
6 INTERMEDIATE LANDING DETAIL  
SCALE: 1 1/2"=1'-0"



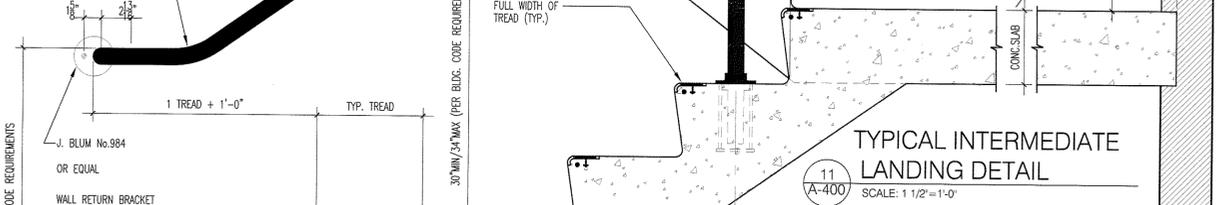
5 LANDING  
SCALE: 1 1/2"=1'-0"



7 LOWER LANDING DETAIL (ALT.)  
SCALE: 1 1/2"=1'-0"

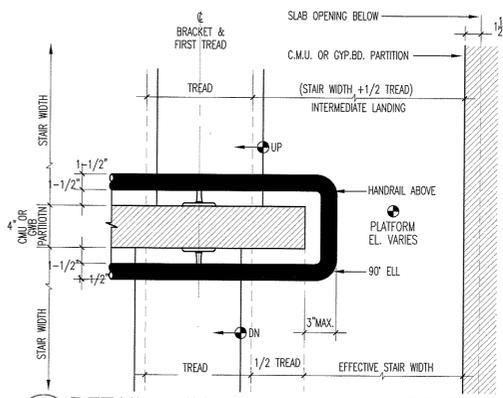


11 TYPICAL INTERMEDIATE LANDING DETAIL  
SCALE: 1 1/2"=1'-0"

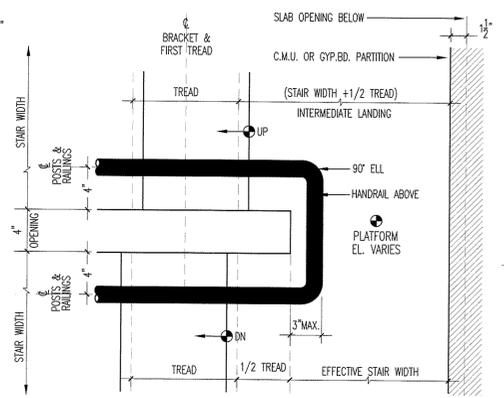


10 LOWER LANDING DETAIL  
SCALE: 1 1/2"=1'-0"

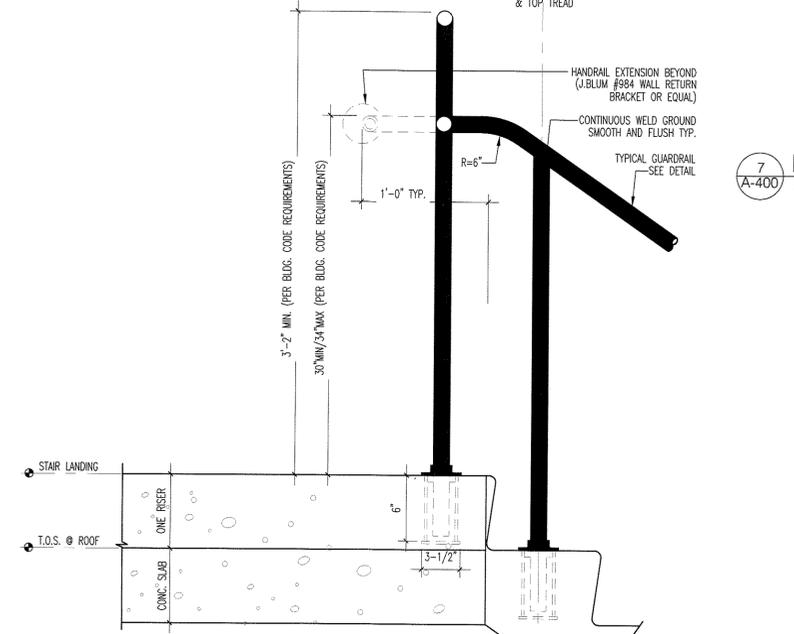
- NOTES:
- THE SUM OF TWO RISERS PLUS ONE TREAD EXCLUSIVE OF NOSING SHALL BE NOT LESS THAN 24" NOR MORE THAN 25 1/2". (PER 27-375 (a)(1))
  - RISER HEIGHT AND TREAD WIDTH SHALL BE CONSISTANT IN ANY FLIGHT OF STAIRS FROM STORY TO STORY. (PER 27-375 (a)(2))
  - THE MINIMUM WIDTH OF LANDINGS AND PLATFORMS PERPENDICULAR TO THE DIRECTION OF TRAVEL SHALL BE EQUAL TO AT LEAST THE WIDTH OF THE STAIRS. (PER 27-375 (a)(1))
  - LANDINGS AND PLATFORMS SHALL BE ENCLOSED ON SIDES BY WALLS, GRILLES, OR GUARDS AT LEAST THREE FEET TALL. (PER 27-375 (a)(3))
  - THE SWING OF STAIR DOORS SHALL NOT BLOCK STAIRS OR STAIR LANDINGS, NOR SHALL ANY DOOR AT ANY POINT OF ITS SWING REDUCE THE EFFECTIVE WIDTH OF THE LANDING OR STAIR TO LESS THAN 75% OF THE REQUIRED WIDTH OF THE LANDING OR STAIR, OR LESS THAN THE WIDTH OF THE DOOR OPENING ON THEM. (PER 27-375 (a)(4))
  - STAIR CONSTRUCTION OF NONCOMBUSTIBLE MATERIAL, CLOSED RISERS AND SOLID TREADS (27-375).
  - PROVIDE SUBMITTAL SAMPLE OF NON-SKID APPLICATION OR FINISH TO ARCHITECT FOR APPROVAL PRIOR TO ORDERING AND INSTALLATION.
  - STAIR STRUCTURE AND ATTACHMENT SYSTEM MUST SUPPORT UNIFORM OR CONCENTRATED LIVE LOAD OF MINIMUM 100 PSF (PER RS 9-2). REFER TO STRUCTURAL DRAWINGS TO COORDINATE.
  - SITE VERIFY (BEFORE FABRICATION) VERTICAL CLEARANCE MINIMUM 7'0" (SEE SECTION) THROUGHOUT EGRESS STAIR, ABOVE STAIR TREAD NOSINGS AND AT ALL LANDINGS.
  - INTERIOR FINISHES TO COMPLY WITH FIRE PROTECTION CODE (27-348). FINISH CLASS 'A' FLAME-SPREAD 0-25 MAX. FOR EXIT SHAFTS, ANY MATERIAL EXCEEDING 20% OF AGGREGATE WALL & CEILING AREA TO HAVE SMOKE DEVELOPED RATING 25 MAX.
- FLOOR FINISH CANNOT BE CARPET IN EXIT STAIRS.
- WALL COATINGS OF LESS THAN 0.036" (-1/32") INCH MAY BE EXCEPT IF APPLIED TO NONCOMBUSTIBLES OR FIRE-RETARDANT WOOD.
- 20% OF COMBINED WALL & CEILING AREA REQUIRED TO BE CLASS 'A' OR 'B' MAY BE REDUCED TO CLASS 'C'.
- SPRINKLER SYSTEM THAT COMPLIES ALLOWS FINISH MATERIAL FLAME-SPREAD TO INCREASE ONE CLASS.



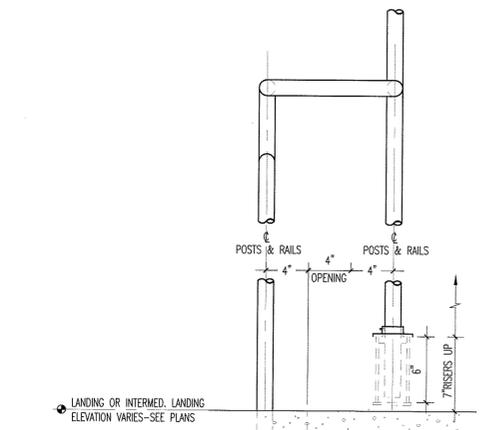
3 DETAIL @ INTERMEDIATE LANDING  
SCALE: 1 1/2"=1'-0"



4 DETAIL @ INTERMEDIATE LANDING  
SCALE: 1 1/2"=1'-0"



9 UPPER LANDING @ ROOF DETAIL  
SCALE: 1 1/2"=1'-0"



8 ELEVATION @ HANDRAIL  
SCALE: 1 1/2"=1'-0"

CONSTRUCTION LEGEND

	NEW EXTERIOR BRICK VENEER WALL: 4" BRICK, 2" AIR SPACE, 1/2" DENSGLASS BOARD, 6" STUD WALL WITH R-19 BAT INSULATION & INTERIOR 5/8" GYPSUM, 3" HR FIRE RATING (UL DESIGN V414)
	6" C.M.U. WALL: 2 HR FIRE RATING (UL DESIGN 908)
	CAST IN PLACE CONCRETE WALL/COLUMN
	INTERIOR PARTITION (SEE SHEET A-900 FOR DETAILS & RATING)
	SMOKE DETECTOR
	CARBON MONOXIDE DETECTOR
	ILLUMINATED EXIT SIGN, PROVIDE EGRESS HARDWARE AT THESE LOCATIONS

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0.7	ISSUE FOR BANK REVIEW	11/03/09			
0.8	REVISED CLIENT REVIEW	01/28/10			
0.9	REVISED CLIENT REVIEW	05/04/10			

TITLE:  
**ENLARGED STAIR PLANS & DETAILS TYP. FLOORS**

LOCATION:  
**52-01 QUEENS BOULEVARD QUEENS, NY 11377**

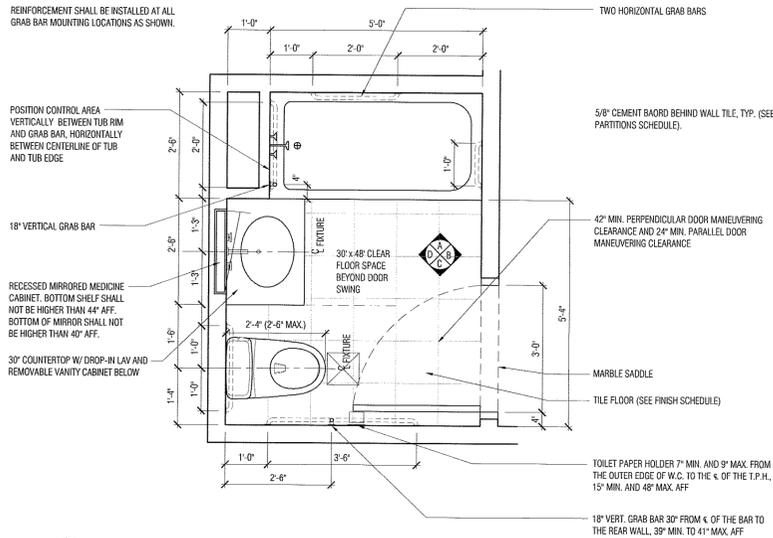
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**BIS #402639971**



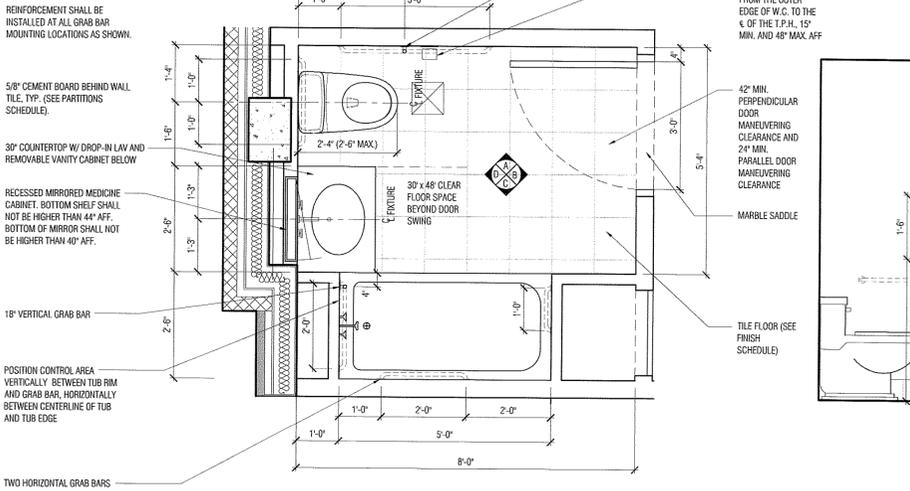
Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
DATE: 07/07/2009  
SCALE: AS NOTED  
DRAWINGS NO: A-400.00

SEAL ALL PENETRATIONS THRU SLAB ABOVE OR BELOW W/APPROVED FIRE STOPPING MATERIALS (TYP.) - SEE SPECS.



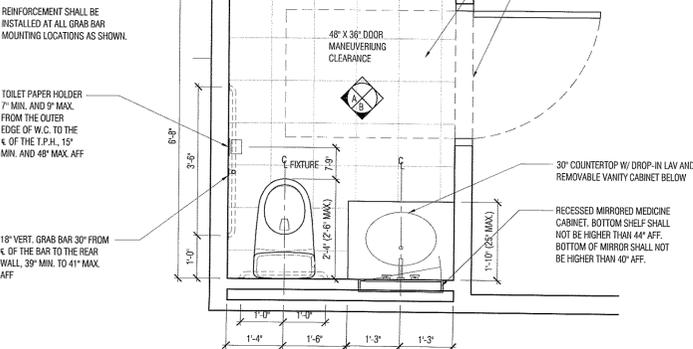
1 TYPICAL BATHROOM (R-2 TYPE B UNIT "APPENDIX P" COMPLIANT)  
A-600 SCALE: 1/2"=1'-0"

SEAL ALL PENETRATIONS THRU SLAB ABOVE OR BELOW W/APPROVED FIRE STOPPING MATERIALS (TYP.) - SEE SPECS.



2 BATH 2J AND 3-9H (R-2 TYPE B UNIT "APPENDIX P" COMPLIANT)  
A-600 SCALE: 1/2"=1'-0"

SEAL ALL PENETRATIONS THRU SLAB ABOVE OR BELOW W/APPROVED FIRE STOPPING MATERIALS (TYP.) - SEE SPECS.



3 TYPICAL COMMERCIAL TOILET ROOM  
A-600 SCALE: 1/2"=1'-0"

CONSTRUCTION LEGEND

	NEW EXTERIOR BRICK VENEER WALL: 4" BRICK, 2" AIR SPACE, 1/2" DENSGLASS BOARD, 6" STUD WALL WITH R-19 BATT INSULATION & INTERIOR 5/8" GYPSUM, 3 HR FIRE RATING (UL DESIGN V414)
	CAST IN PLACE CONCRETE WALL/COLUMN
	INTERIOR PARTITION (SEE SHEET A-900 FOR DETAILS & RATING)
	SMOKE/CO COMBO DETECTOR
	ILLUMINATED EXIT SIGN, PROVIDE EGRESS HARDWARE AT THESE LOCATIONS
	MECHANICAL VENTILATION FAN (SEE MEP DRAWINGS)

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DEVELOPMENT COMPANY:  
DURATECH CORPORATION

REVISIONS AND SUBMISSIONS

#	REVISIONS	DATE	#	REVISIONS - DOB	DATE
1	DOB AMENDMENT	01/27/12			

TITLE:  
**BATHROOM PLANS AND ELEVATIONS**

LOCATION:  
**52-01 QUEENS BOULEVARD  
QUEENS, NY 11377**

NOTICE  
It is a violation of New York State law to alter plans, specifications or reports to which the seal of an architect has been applied. It is a violation of the law for any person, unless acting under the direction of a licensed architect, to alter an item in any way. If the item bearing the seal of an architect is altered, the altering architect shall affix his/her item the initials and the notation "altered by" followed by his signature and the date of such alteration, and a specific description of the alteration.

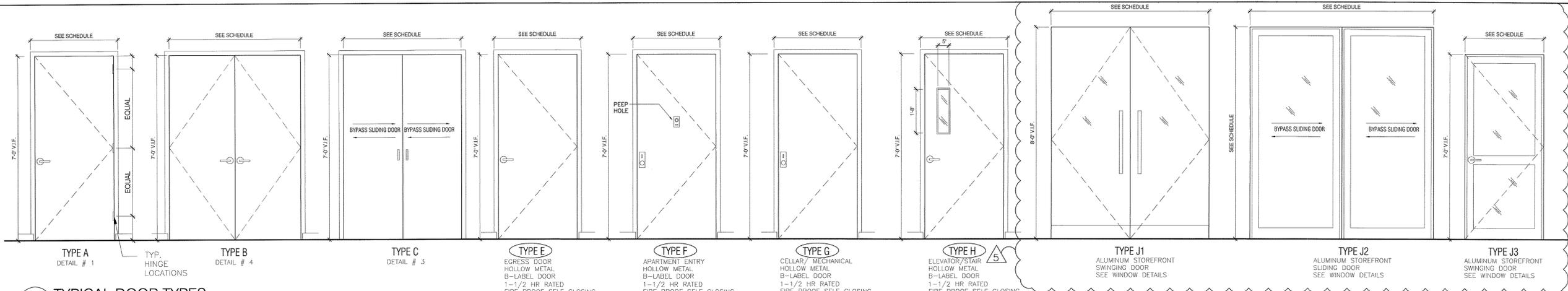
**BIS #402639971**

AMENDED APPLICATION  
Kai-Ki Wong

JAN 27 2012

EXAMINED FOR ZONING, EGRESS AND FIRE PREVENTION ONLY AS PER DOR, § 2711

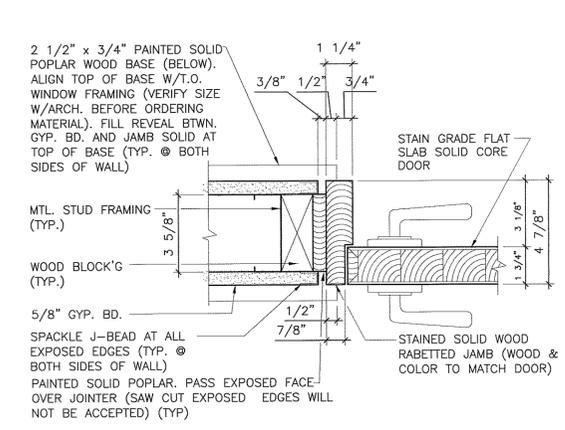
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DATE: 07/07/2009	
SCALE: AS NOTED	
DRAWING No.	<b>A-600.00</b>
DOB SHEET 20 of 27	



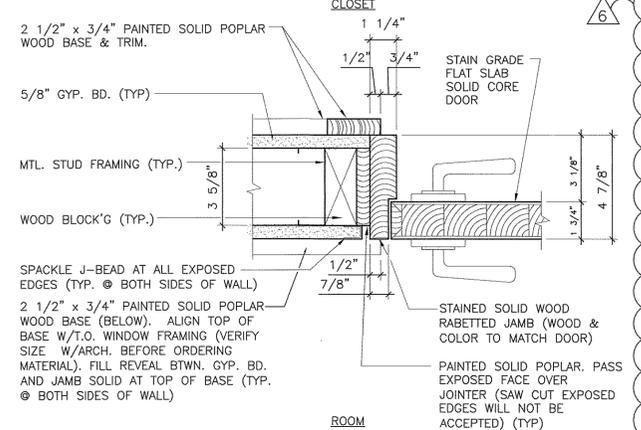
**CONSTRUCTION LEGEND**

- NEW EXTERIOR BRICK VENEER WALL: 4" BRICK, 2" AIR SPACE, 1/2" DENSGLASS BOARD, 6" STUD WALL WITH R-19 BATT INSULATION & INTERIOR 5/8" GYPSUM, 3 HR FIRE RATING (UL DESIGN V414)
- 6" CMU WALL: 2 HR FIRE RATING (UL DESIGN 906)
- CAST IN PLACE CONCRETE WALL/COLUMN
- INTERIOR PARTITION (SEE SHEET A-900 FOR DETAILS & RATING)
- SMOKE/CO COMBO DETECTOR
- ILLUMINATED EXIT SIGN, PROVIDE EGRESS HARDWARE AT THESE LOCATIONS
- MECHANICAL VENTILATION FAN (SEE MEP DRAWINGS)

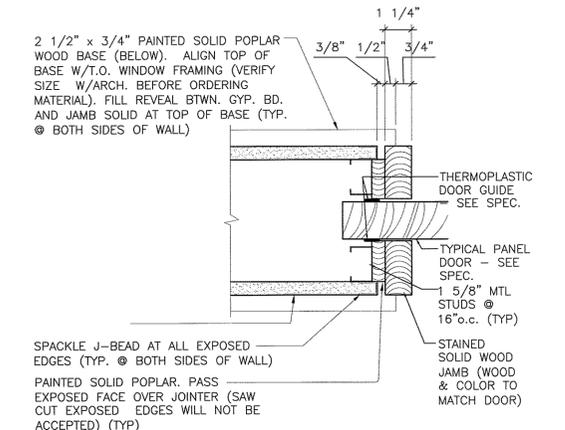
**1 TYPICAL DOOR TYPES**  
A-700 SCALE: 1/2"=1'-0"



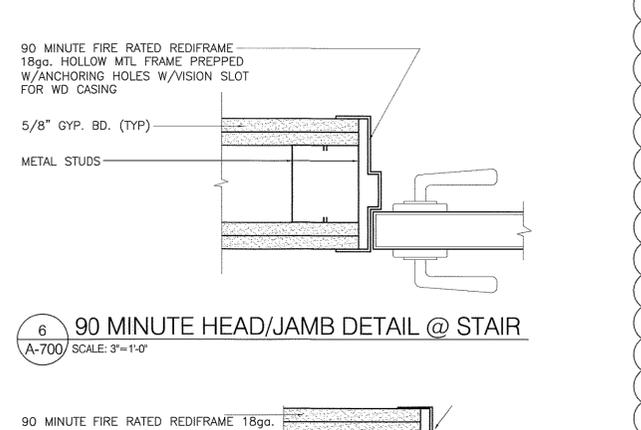
**2 TYPICAL DOOR HEAD/JAMB DETAIL**  
A-700 SCALE: 3/8"=1'-0"



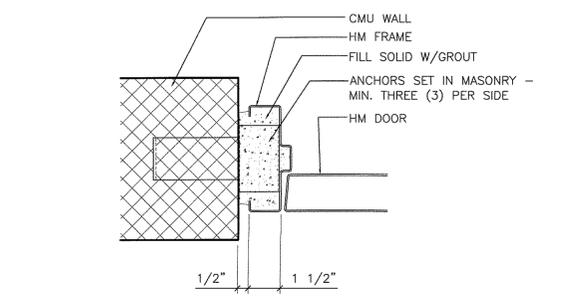
**5 HEAD/JAMB DETAIL AT CLOSET DOOR**  
A-700 SCALE: 3/8"=1'-0"



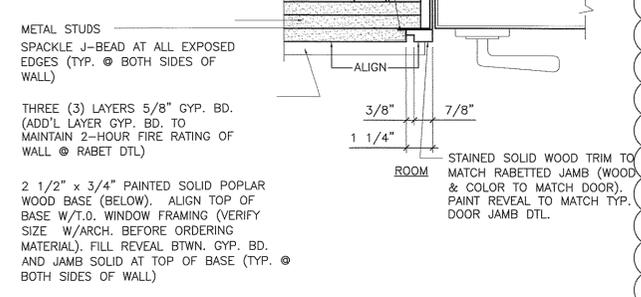
**3 TYPICAL POCKET DOOR JAMB DETAIL**  
A-700 SCALE: 3/8"=1'-0"



**6 90 MINUTE HEAD/JAMB DETAIL @ STAIR**  
A-700 SCALE: 3/8"=1'-0"



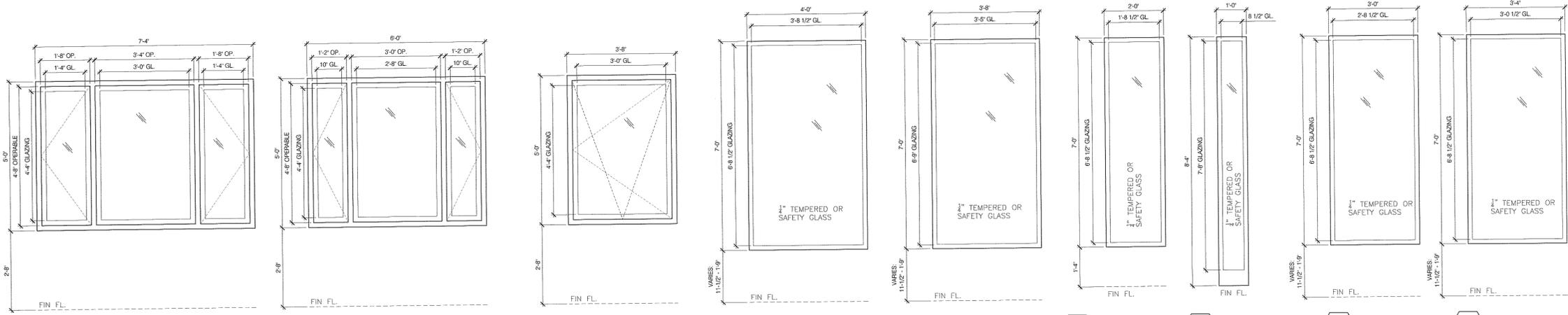
**4 HEAD/JAMB DETAIL AT HWH CLOSET DOOR**  
A-700 SCALE: 3/8"=1'-0"



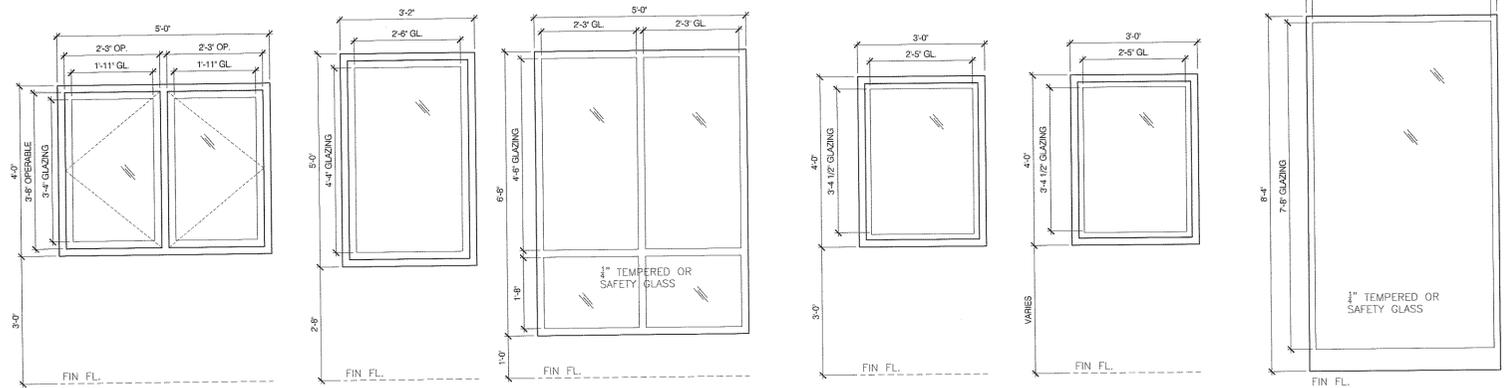
**7 90 MINUTE HEAD/JAMB DETAIL AT APT/CORRIDOR**  
A-700 SCALE: 3/8"=1'-0"

**DOOR SCHEDULE**

DOOR NO.	WIDTH	HEIGHT	THK.	TYPE	MAT'L.	GLAZ AREA	FRAME TYPE	SAD-DLE	HWDE	FIRE RATING	REMARKS	DOOR NO.	WIDTH	HEIGHT	THK.	TYPE	MAT'L.	GLAZ AREA	FRAME TYPE	SAD-DLE	HWDE	FIRE RATING	REMARKS		
C/001	3'-0"	7'-0"	1-3/4"	G	HM	-	HM	AL	7	1-1/2	HR	STORAGE	2-9C/01	3'-0"	7'-0"	1-3/4"	HM	-	HM	AL	8	1-1/2	HR	APARTMENT ENTRY	
C/002	6'-0"	7'-0"	1-3/4"	2/G	HM	-	HM	AL	7*	1-1/2	HR	PR/COMPACTOR	2-9C/02	3'-0"	7'-0"	1-1/2"	A	WD	-	WD	MB	10	-	BATH	
C/003	3'-0"	7'-0"	1-3/4"	G	HM	-	HM	AL	7	1-1/2	HR	LAUNDRY ROOM	2-9C/03	2'-0"	7'-0"	1-1/2"	A	WD	-	WD	-	12	-	CLOS.	
C/004	3'-0"	7'-0"	1-3/4"	G	HM	-	HM	AL	7	1-1/2	HR	PUMP ROOM	2-9C/04	3'-0"	7'-0"	1-1/2"	A	WD	-	WD	-	9	-	BEDROOM	
C/005	3'-0"	7'-0"	1-3/4"	G	HM	-	HM	AL	7	1-1/2	HR	GAS METER	2-9C/05	6'-0"	7'-0"	1-1/2"	C	WD	-	WD	-	11	-	PR/CLOS.	
C/006	3'-0"	7'-0"	1-3/4"	H	HM	0.75F	HM	AL	7	1-1/2	HR	OFFICE/SECURITY	2-9D/01	3'-0"	7'-0"	1-3/4"	F	HM	-	HM	AL	8	1-1/2	HR	APARTMENT ENTRY
C/007	3'-0"	7'-0"	1-3/4"	G	HM	-	HM	AL	7	1-1/2	HR	ELECTRIC RM	2-9D/02	3'-0"	7'-0"	1-1/2"	A	WD	-	WD	MB	10	-	BATH	
C/008	3'-0"	7'-0"	1-3/4"	H	HM	0.75F	HM	AL	6	1-1/2	HR	CORRIDOR PASSAGE	2-9D/03	4'-0"	7'-0"	1-1/2"	A	WD	-	WD	-	11	-	PR/CLOS.	
C/009	3'-0"	7'-0"	1-3/4"	H	HM	0.75F	HM	AL	6	1-1/2	HR	STAIR	2-9D/04	3'-0"	7'-0"	1-1/2"	A	WD	-	WD	-	9	-	BEDROOM	
C/010	3'-0"	7'-0"	1-3/4"	H	HM	0.75F	HM	AL	6	1-1/2	HR	STAIR	2-9D/05	3'-0"	7'-0"	1-1/2"	A	WD	-	WD	-	12	-	CLOS.	
C/011	3'-0"	7'-0"	1-3/4"	H	HM	0.75F	HM	AL	4	1-1/2	HR	EXTERIOR-GARAGE	2-9E/01	3'-0"	7'-0"	1-3/4"	F	HM	-	HM	AL	8	1-1/2	HR	APARTMENT ENTRY
C/012	3'-0"	7'-0"	1-3/4"	G	HM	-	HM	AL	7	1-1/2	HR	UTIL. CLOS.	2-9E/02	3'-0"	7'-0"	1-1/2"	A	WD	-	WD	MB	10	-	BATH	
1/001	6'-0"	7'-0"	1-3/4"	J1	AL	FULL	AL	AL	2	-	-	PR/LOBBY EGRESS	2-9E/03	4'-0"	7'-0"	1-1/2"	A	WD	-	WD	-	11	-	PR/CLOS.	
1/002	6'-0"	7'-0"	1-3/4"	J1	AL	FULL	AL	AL	2	-	-	PR/LOBBY EGRESS	2-9E/04	3'-0"	7'-0"	1-3/4"	A	WD	-	WD	-	9	-	BEDROOM	
1/003	3'-0"	7'-0"	1-3/4"	H	HM	0.75F	HM	AL	6	1-1/2	HR	STAIR	2-9E/05	3'-0"	7'-0"	1-1/2"	A	WD	-	WD	-	12	-	CLOS.	
1/004	3'-0"	7'-0"	1-3/4"	H	HM	0.75F	HM	AL	6	1-1/2	HR	STAIR	2-9F/01	3'-0"	7'-0"	1-3/4"	F	HM	-	HM	AL	8	1-1/2	HR	APARTMENT ENTRY
1/005	3'-0"	7'-0"	1-3/4"	H	HM	0.75F	HM	AL	6	1-1/2	HR	STAIR	2-9F/02	3'-0"	7'-0"	1-1/2"	A	WD	-	WD	MB	10	-	BATH	
1/006	3'-0"	7'-0"	1-3/4"	H	HM	0.75F	HM	AL	6	1-1/2	HR	STAIR	2-9F/03	4'-0"	7'-0"	1-1/2"	A	WD	-	WD	-	11	-	PR/CLOS.	
1/007	3'-0"	7'-0"	1-3/4"	H	HM	0.75F	HM	AL	6	1-1/2	HR	STAIR	2-9F/04	3'-0"	7'-0"	1-1/2"	A	WD	-	WD	-	9	-	BEDROOM	
1/008	3'-0"	7'-0"	1-1/2"	A	WD	-	WD	MB	10	-	-	SINGLE TOILET	2-9F/05	4'-0"	7'-0"	1-1/2"	A	WD	-	WD	-	11	-	PR/CLOS.	
1/009	3'-0"	7'-0"	1-3/4"	H	HM	0.75F	HM	AL	4	1-1/2	HR	EXTERIOR-GARAGE	2-9F/06	4'-0"	7'-0"	1-1/2"	A	WD	-	WD	-	11	-	PR/CLOS.	
1/010	3'-0"	7'-0"	1-3/4"	J3	AL	FULL	AL	AL	5	-	-	EXTERIOR-GARAGE	2G/01	3'-0"	7'-0"	1-3/4"	F	HM	-	HM	AL	8	1-1/2	HR	APARTMENT ENTRY
1/011	3'-0"	7'-0"	1-1/2"	A	WD	-	WD	MB	10	-	-	SINGLE TOILET	2G/02	3'-0"	7'-0"	1-1/2"	A	WD	-	WD	MB	10	-	BATH	
1/012	3'-0"	7'-0"	1-1/2"	A	WD	-	WD	MB	10	-	-	SINGLE TOILET	2G/03	4'-0"	7'-0"	1-1/2"	A	WD	-	WD	-	11	-	PR/CLOS.	
1/013	3'-0"	7'-0"	1-3/4"	H	HM	0.75F	HM	AL	4	1-1/2	HR	EXTERIOR EGRESS	2G/04	4'-0"	7'-0"	1-1/2"	A	WD	-	WD	-	11	-	PR/CLOS.	
1/014	3'-0"	7'-0"	1-3/4"	H	HM	0.75F	HM	AL	4	1-1/2	HR	EXTERIOR EGRESS	2H/01	3'-0"	7'-0"	1-3/4"	F	HM	-	HM	AL	8	1-1/2	HR	APARTMENT ENTRY
1/015	8'-0"	8'-7 1/2"	1-3/4"	J2	AL	FULL	AL	AL	1	-	-	PR/COMMERCIAL	2H/02	3'-0"	7'-0"	1-1/2"	A	WD	-	WD	MB	10	-	BATH	
1/016	8'-0"	8'-0"	1-3/4"	J2	AL	FULL	AL	AL	1	-	-	PR/COMMERCIAL	2H/03	4'-0"	7'-0"	1-1/2"	A	WD	-	WD	-	11	-	PR/CLOS.	
1A/01	3'-0"	7'-0"	1-3/4"	F	HM	-	HM	AL	8	1-1/2	HR	APARTMENT ENTRY	2H/04	3'-0"	7'-0"	1-3/4"	J3	AL	FULL	AL	AL	5	-	EXTERIOR TERRACE	
1A/02	5'-0"	7'-0"	1-1/2"	C	WD	-	WD	-	11	-	-	PR/CLOS.	2J/01	3'-0"	7'-0"	1-3/4"	F	HM	-	HM	AL	8	1-1/2	HR	APARTMENT ENTRY
1A/03	3'-0"	7'-0"	1-1/2"	A	WD	-	WD	-	9	-	-	BEDROOM	2J/02	2'-0"	7'-0"	1-1/2"	A	WD	-	WD	-	12	-	CLOS.	
1A/04	4'-0"	7'-0"	1-1/2"	C	WD	-	WD	-	11	-	-	PR/CLOS.	2J/03	3'-0"	7'-0"	1-1/2"	A	WD	-	WD	MB	10	-	BATH	
1A/05	1'-6"	7'-0"	1-1/2"	C	WD	-	WD	-	15	-	-	CLOS.	2J/04	4'-0"	7'-0"	1-1/2"	A	WD	-	WD	-	11	-	PR/CLOS.	
1A/06	3'-0"	7'-0"	1-1/2"	A	WD	-	WD	-	9	-	-	BEDROOM	2J/05	3'-0"	7'-0"	1-3/4"	J3	AL	FULL	AL	AL	5	-	EXTERIOR TERRACE	
1A/07	4'-0"	7'-0"	1-1/2"	C	WD	-	WD	-	11	-	-	PR/CLOS.	2-9G/01	3'-0"	7'-0"	1-3/4"	F	HM	-	HM	AL	8	1-1/2	HR	APARTMENT ENTRY
1A/08	3'-0"	7'-0"	1-1/2"	A	WD	-	WD	MB	10	-	-	BATH	2-9G/02	3'-0"	7'-0"	1-1/2"	A	WD	-	WD	-	12	-	CLOS.	
2-9B/01	3'-0"	7'-0"	1-3/4"	G	HM	-	HM	-	7	1-1/2	HR	TRASH RM.	2-9G/03	3'-0"	7'-0"	1-1/2"	A	WD	-	WD	-	9	-	BEDROOM	
2-9B/02	3'-0"	7'-0"	1-3/4"	G	HM	-	HM	-	7	1-1/2	HR	UTIL. CLOS.	2-9G/04	4'-0"	7'-0"	1-1/2"	A	WD	-	WD	-	11	-	PR/CLOS.	
2-9B/03	3'-0"	7'-0"	1-3/4"	H	HM	0.75F	HM	-	6	1-1/2	HR	STAIR	2-9G/05	3'-0"	7'-0"	1-1/2"	A	WD	-	WD	MB	10	-	BATH	
2-9B/04	3'-0"	7'-0"	1-3/4"	H	HM	0.75F	HM	-	6	1-1/2	HR	STAIR	2-9G/06	3'-0"	7'-0"	1-1/2"	A	WD	-	WD	-	9	-	BEDROOM	
2-9A/01	3'-0"	7'-0"	1-3/4"	F	HM	-	HM	AL	8	1-1/2	HR	APARTMENT ENTRY	2-9G/07	5'-0"	7'-0"	1-1/2"	A	WD	-	WD	-	11	-	PR/CLOS.	
2-9A/02	3'-0"	7'-0"	1-1/2"	A	WD	-	WD	MB	10	-	-	BATH	2-9H/01	3'-0"	7'-0"	1-3/4"	F	HM	-	HM	AL	8	1-1/2	HR	APARTMENT ENTRY
2-9A/03	4'-0"	7'-0"	1-1/2"	C	WD	-	WD	-	11	-	-	PR/CLOS.	2-9H/02	2'-0"	7'-0"	1-1/2"	A	WD	-	WD	-	12	-	CLOS.	
2-9A/04	3'-0"	7'-0"	1-1/2"	A	WD	-	WD	-	9	-	-	BEDROOM	2-9H/03	4'-0"	7'-0"	1-1/2"	A	WD	-	WD	-	11	-	PR/CLOS.	
2-9A/05	4'-0"	7'-0"	1-1/2"	C	WD	-	WD	-	11	-	-	PR/CLOS.	2-9H/04	3'-0"	7'-0"	1-1/2"	A	WD	-	WD	MB	10	-	BATH	
2-9B/01	3'-0"	7'-0"	1-3/4"	F	HM	-	HM	AL	8	1-1/2	HR	APARTMENT ENTRY	10/001	3'-0"	7'-0"	1-3/4"	E	HM	-	HM	AL	5	1-1/2	HR	EXTERIOR - MECH.
2-9B/02	2'-6"	7'-0"	1-1/2"	A	WD	-	WD	-	12	-	-	CLOS.	10/002</												



**W01** CASEMENT/FIXED/CASEMENT ALUM. (APARTMENTS)  
**W02** CASEMENT/FIXED/CASEMENT ALUM. (APARTMENTS)  
**W03** TILT-TURN ALUM. (APARTMENTS)  
**W04** STOREFRONT ALUM. (COMMERCIAL)  
**W05** STOREFRONT ALUM. (COMMERCIAL)  
**W06** STOREFRONT ALUM. (LOBBY)  
**W07** STOREFRONT ALUM. (LOBBY)  
**W08** STOREFRONT ALUM. (COMMERCIAL)  
**W09** STOREFRONT ALUM. (COMMERCIAL)



**W10** CASEMENT/CASEMENT ALUM. (APARTMENT)  
**W11** FIXED ALUM. (RESIDENTIAL)  
**W12** FIXED ALUM. (END CORRIDOR)  
**W13** FIXED ALUM. (BOILER RM.)  
**W14** FIXED ALUM. (STAIR)  
**W15** STOREFRONT (INTERIOR) ALUM. (LOBBY)

**1 TYPICAL WINDOW TYPES**  
A-701 SCALE: 1/2"=1'-0"

WINDOW SCHEDULE								
WIN. NO.	WIDTH	HEIGHT	TYPE	MATL.	GLAZ. AREA	VENT. AREA	SOUND RATING	REMARKS
W01	7'-4"	5'-0"	CASEMENT/FIXED/CASEMENT	ALUM.	24.6 SF	15.6 SF	COMPLIES	
W02	6'-0"	5'-0"	CASEMENT/FIXED/CASEMENT	ALUM.	18.8 SF	10.9 SF	COMPLIES	
W03	3'-8"	5'-0"	TILT-TURN	ALUM.	13 SF	15.6 SF	COMPLIES	
W04	4'-0"	7'-0"	STOREFRONT	ALUM.	24.9 SF	-	COMPLIES	1/2" TEMPERED OR SAFETY GLASS
W05	3'-8"	7'-0"	STOREFRONT	ALUM.	22.6 SF	-	COMPLIES	1/2" TEMPERED OR SAFETY GLASS
W06	2'-0"	7'-0"	STOREFRONT	ALUM.	11.5 SF	-	COMPLIES	1/2" TEMPERED OR SAFETY GLASS
W07	1'-0"	8'-4"	STOREFRONT	ALUM.	5.4 SF	-	COMPLIES	1/2" TEMPERED OR SAFETY GLASS
W08	3'-0"	7'-0"	STOREFRONT	ALUM.	18.2 SF	-	COMPLIES	1/2" TEMPERED OR SAFETY GLASS
W09	3'-4"	7'-0"	STOREFRONT	ALUM.	20.4 SF	-	COMPLIES	1/2" TEMPERED OR SAFETY GLASS
W10	5'-0"	4'-0"	CASEMENT/CASEMENT	ALUM.	12.8 SF	16.5 SF	COMPLIES	
W11	3'-2"	5'-0"	FIXED	ALUM.	10.8 SF	-	COMPLIES	
W12	5'-0"	6'-8"	FIXED	ALUM.	27.8 SF	-	COMPLIES	1/2" TEMPERED OR SAFETY GLASS
W13	3'-0"	4'-0"	FIXED	ALUM.	8.3 SF	-	COMPLIES	
W14	3'-0"	4'-0"	FIXED	ALUM.	8.3 SF	-	COMPLIES	
W15	4'-6"	8'-4"	STOREFRONT	ALUM.	32.3 SF	-	COMPLIES	1/2" TEMPERED OR SAFETY GLASS

- CONSTRUCTION LEGEND**
- NEW EXTERIOR BRICK VENEER WALL: 4" BRICK, 2" AIR SPACE, 1/2" DENSGLASS BOARD, 5" STUD WALL WITH R-19 BATT INSULATION & INTERIOR 5/8" GYPSUM, 3 HR FIRE RATING (UL DESIGN V414)
  - 6" C.M.U. WALL 2 HR FIRE RATING (UL DESIGN 006)
  - CAST IN PLACE CONCRETE WALL/COLUMN
  - INTERIOR PARTITION (SEE SHEET A-900 FOR DETAILS & RATING)
  - SMOKE/CO COMBO DETECTOR
  - ILLUMINATED EXIT SIGN, PROVIDE EGRESS HARDWARE AT THESE LOCATIONS
  - MECHANICAL VENTILATION FAN (SEE MEP DRAWINGS)

**ARCHITECT:**  
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**DEVELOPMENT COMPANY:**  
 DURATECH CORPORATION

**REVISIONS AND SUBMISSIONS**

#	REVISIONS	DATE	#	REVISIONS - DOB	DATE
1	DOB AMENDMENT	01/27/12			

**TITLE:**  
 WINDOW TYPES  
 HEAD, JAMBS, SILLS

**LOCATION:**  
 52-01 QUEENS BOULEVARD  
 QUEENS, NY 11377

**NOTICE**  
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**BIS #402639971**

AMENDED APPLICATION  
 Kai-K Wong  
 JAN 27 2012  
 EXAMINED FOR ZONING EGRESS AND FIRE PREVENTION ONLY AS PER LDC 275

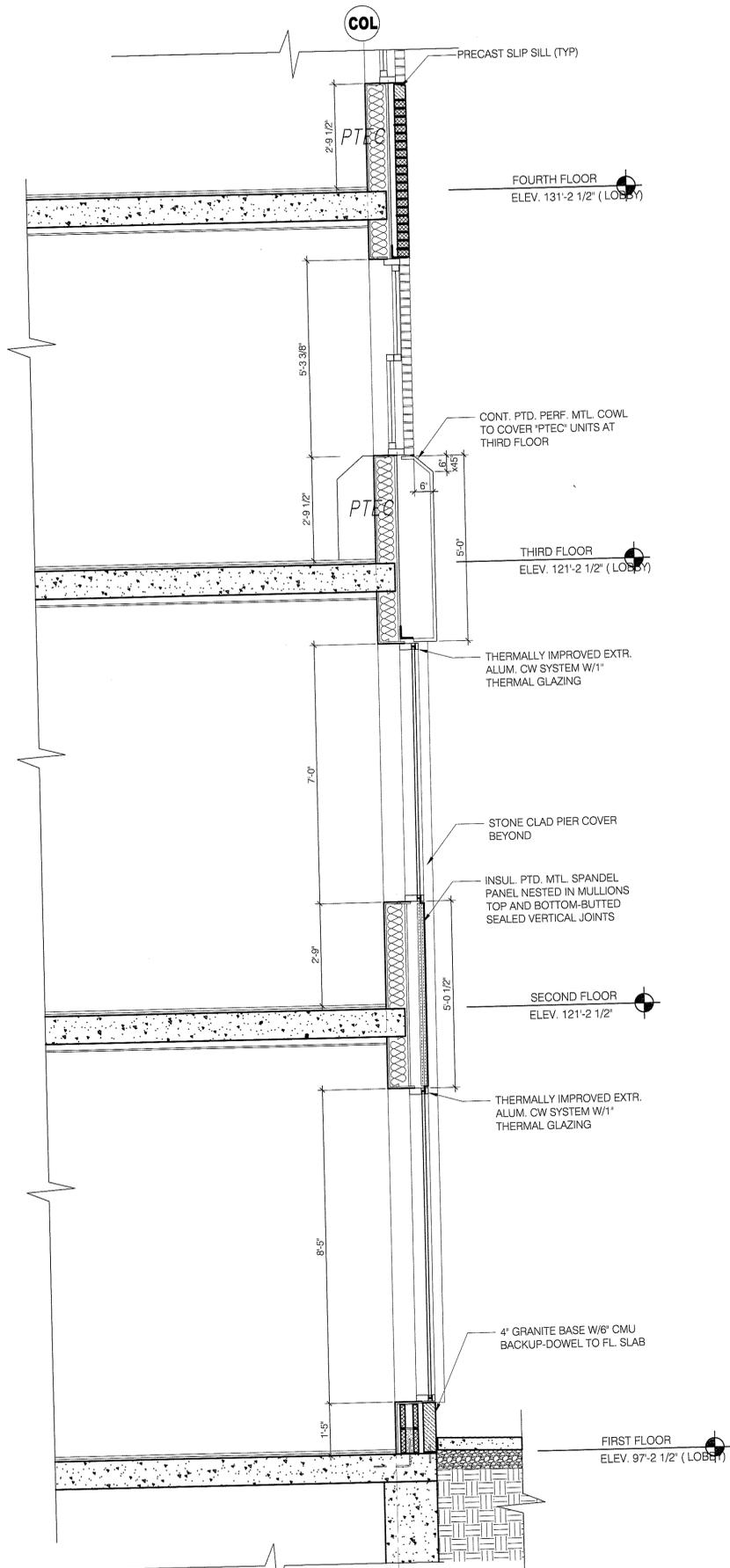
Signature \_\_\_\_\_ Date \_\_\_\_\_

DATE: 07/07/2009

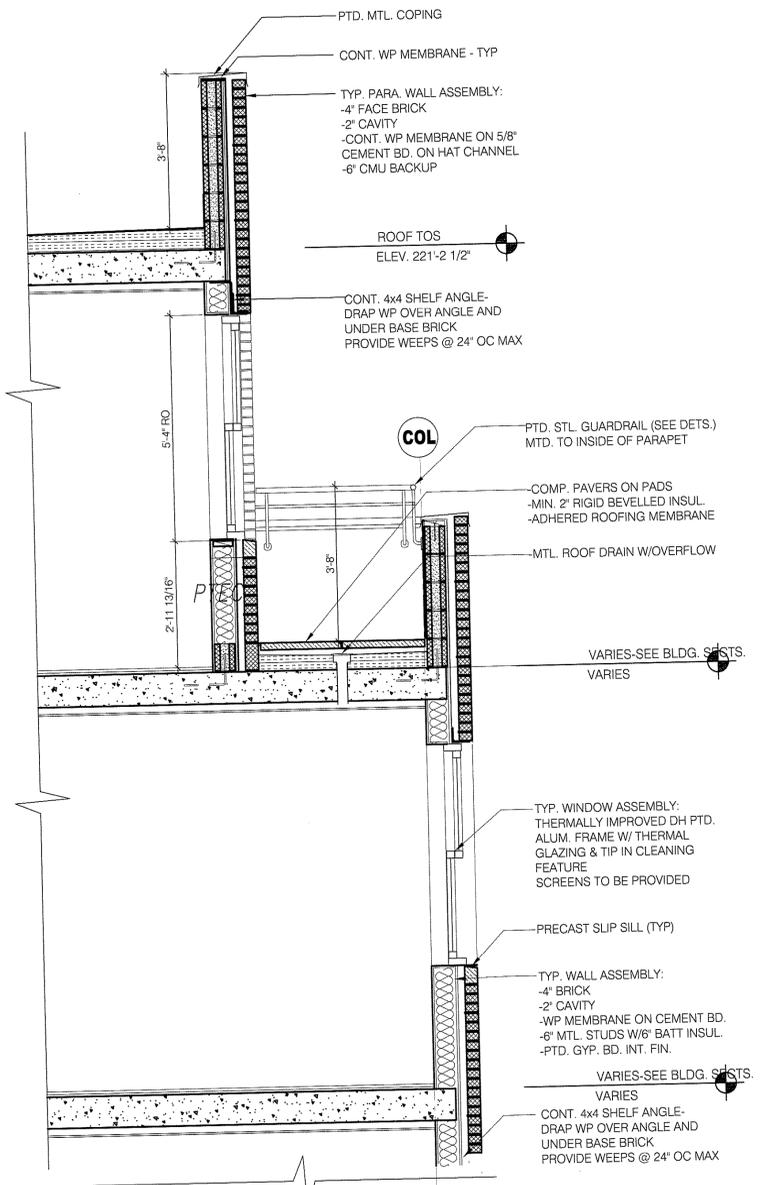
SCALE: AS NOTED

DRAWING No. **A-701.00**

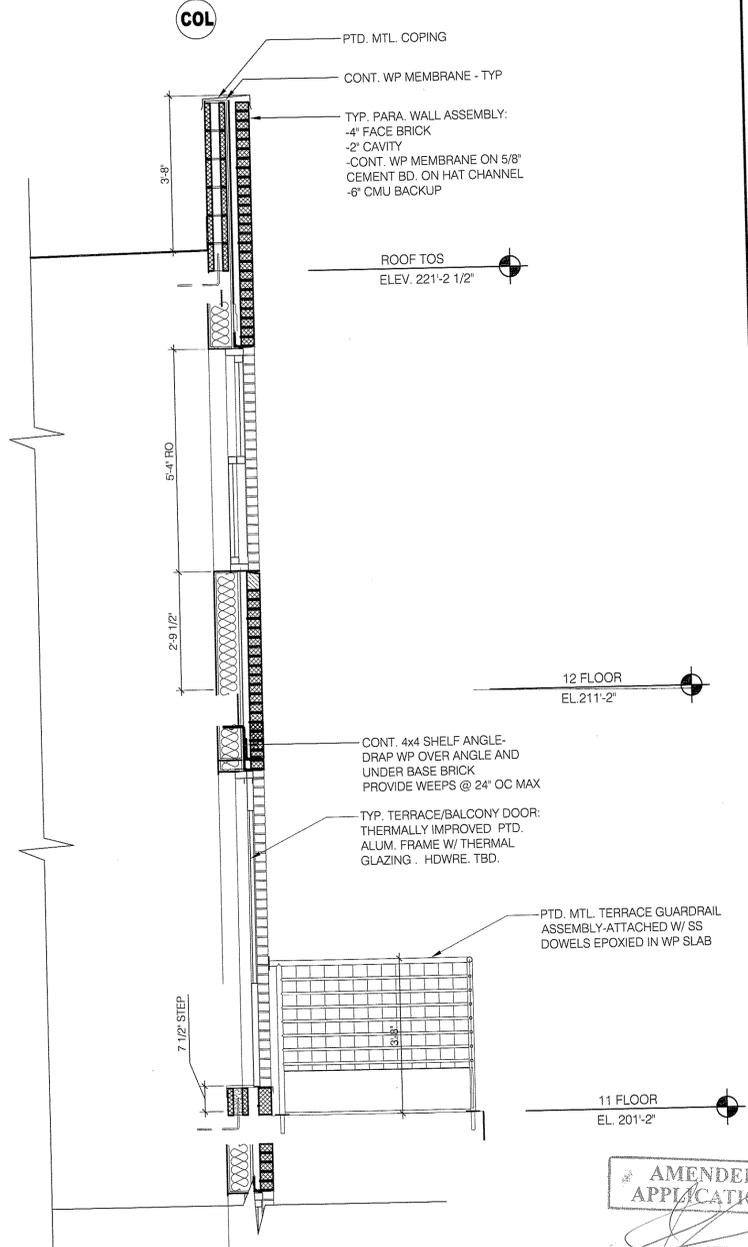
DOB SHEET 22 of 27



1 BASE WALL SECTION  
SCALE: 1/2" = 1'-0"



2 UPPER WALL SECTION TERRACE  
SCALE: 1/2" = 1'-0"



3 UPPER WALL SECTION @ TERRACE  
SCALE: 1/2" = 1'-0"

CONSTRUCTION LEGEND

	NEW EXTERIOR BRICK VENEER WALL: 4" BRICK, 2" AIR SPACE, 1/2" DENSGLASS BOARD, 5" STUD WALL WITH R-19 BATT INSULATION & INTERIOR 5/8" GYPSUM, 3 HR FIRE RATING (UL DESIGN V414)
	6" C.M.U. WALL 2 HR FIRE RATING (UL DESIGN 906)
	CAST IN PLACE CONCRETE WALL/COLUMN
	INTERIOR PARTITION (SEE SHEET A-800 FOR DETAILS & RATING)
	SMOKE DETECTOR
	CARBON MONOXIDE DETECTOR
	ILLUMINATED EXIT SIGN, PROVIDE EGRESS HARDWARE AT THESE LOCATIONS

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DEVELOPMENT COMPANY:  
DURATECH CORPORATION

REVISIONS AND SUBMISSIONS

#	REVISIONS	DATE	#	REVISIONS - DOB	DATE
0.1	INTERNAL CODE REVIEW	09/09/09	1	D.O.B. REVIEW	01/14/10
0.2	STRUCTURAL REVIEW	09/09/09	2	D.O.B. RECON	03/10/10
0.3	CLIENT REVIEW	09/16/09	3	ZONING REVIEW	04/14/10
0.4	REVISED CLIENT REVIEW	09/25/09	4	DOB AMENDMENT	05/06/10
0.5	REVISED CLIENT REVIEW	10/09/09			
0.6	MEP-STRUCTURAL	10/09/09			
0.7	ISSUE FOR BANK REVIEW	11/03/09			
0.8	REVISED CLIENT REVIEW	01/28/10			
0.9	REVISED CLIENT REVIEW	05/04/10			

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TITLE:  
**SECTION AT QUEENS BOULEVARD**

LOCATION:  
**52-01 QUEENS BOULEVARD  
QUEENS, NY 11377**

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AMENDED APPLICATION

KAI-KI WONG

JUL 13 2009

EXAMINED FOR ZONING, EGRESS AND FIRE PREVENTION ONLY, AS PER DIR. NO. 276

BIS #402639971



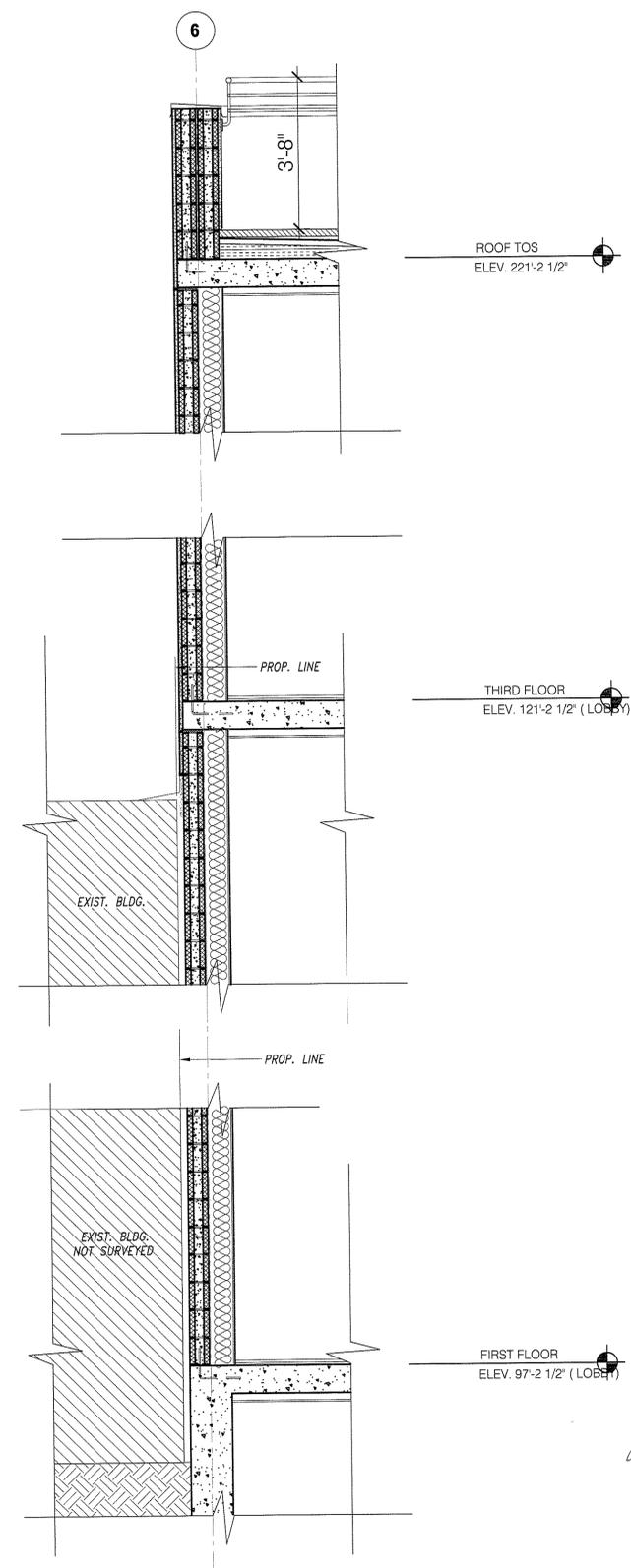
Signature: \_\_\_\_\_ Date: \_\_\_\_\_

DATE: 07/07/2009

SCALE: AS NOTED

DRAWING No. A-800.00

DOB SHEET 24 of 26



1 SECTION AT EAST PROP. LINE  
 A-801 SCALE: 1/2"=1'-0"

CONSTRUCTION LEGEND

	NEW EXTERIOR BRICK VENER WALL: 4" BRICK, 2" AIR SPACE, 1/2" DENSGLOSS BOARD, 6" STUD WALL WITH R-19 BAT INSULATION & INTERIOR 5/8" GYPSUM, 3 HR FIRE RATING (UL DESIGN V414)
	6" C.M.U. WALL 2 HR FIRE RATING (UL DESIGN 906)
	CAST IN PLACE CONCRETE WALL/COLUMN
	INTERIOR PARTITION (SEE SHEET A-800 FOR DETAILS & RATING)
	SMOKE DETECTOR
	CARBON MONOXIDE DETECTOR
	ILLUMINATED EXIT SIGN, PROVIDE EGRESS HARDWARE AT THESE LOCATIONS

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DEVELOPMENT COMPANY:  
 DURATECH CORPORATION

REVISIONS AND SUBMISSIONS

#	REVISIONS	DATE	#	REVISIONS - DCB	DATE
0.1	INTERNAL CODE REVIEW	09/09/09	1	D.O.B. REVIEW	01/14/10
0.2	STRUCTURAL REVIEW	09/09/09	2	D.O.B. RECON	03/10/10
0.3	CLIENT REVIEW	09/16/09	3	ZONING REVIEW	04/14/10
0.4	REVISED CLIENT REVIEW	09/25/09	4	DCB AMENDMENT	05/06/10
0.5	REVISED CLIENT REVIEW	10/09/09			
0.6	MEP- STRUCTURAL	10/09/09			
0.7	ISSUE FOR BANK REVIEW	11/03/09			
0.8	REVISED CLIENT REVIEW	01/28/10			
0.9	REVISED CLIENT REVIEW	05/04/10			

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TITLE:  
**WALL SECTIONS**

LOCATION:  
**52-01 QUEENS BOULEVARD  
 QUEENS, NY 11377**

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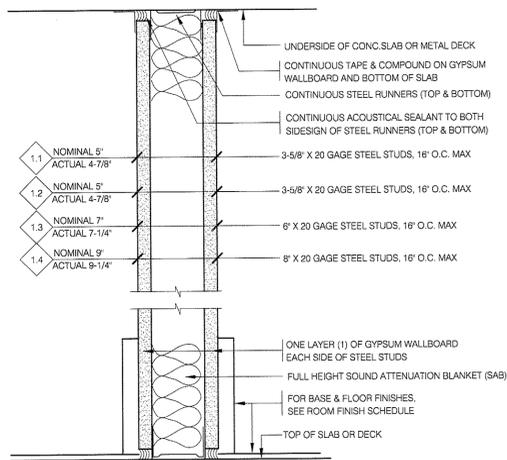
**BIS #402639971**

REGISTERED ARCHITECT  
 ALEXANDER HONG  
 19848  
 STATE OF NEW YORK

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

DATE: 07/07/2009  
 SCALE: AS NOTED  
 DRAWING No. **A-801.00**  
 DOB SHEET 25 of 26

AMENDED APPLICATION  
 KALKI WONG  
 JUL 13 2009  
 EXAMINED FOR ZONING, EGRESS AND FIRE PREVENTION ONLY, AS PER DR. NO. 275



**1.1 TYPICAL INTERIOR PARTITION**

WITH 3-5/8" STEEL STUDS & 5/8" GWB  
 FIRE RATING = NON RATED  
 APPROX. WEIGHT = 6 PSF  
 MAXIMUM HEIGHT = 9'-0"  
 STC RATING W/ 1-1/2" SAB = 45 EST. (OSU T-3362)



**1.2 TYPICAL INTERIOR PARTITION**

WITH 3-5/8" STEEL STUDS & 5/8" GWB  
 FIRE RATING = 1 HR EST. (GA FILE NO. WP 1070)  
 APPROX. WEIGHT = 6 PSF  
 MAXIMUM HEIGHT = 16'-0"  
 STC RATING W/2" MINERAL FIBER SAB = 48 (SA-800422)



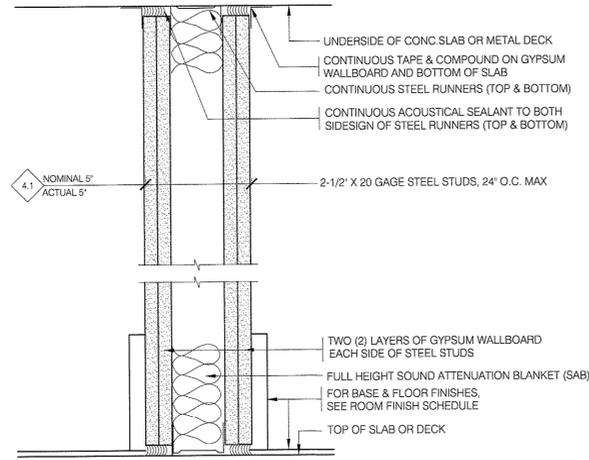
**1.3 TYPICAL INTERIOR PARTITION**

WITH 6" STEEL STUDS & 5/8" GWB  
 FIRE RATING = 1 HR EST. (GA FILE NO. WP 1070)  
 APPROX. WEIGHT = 7 PSF  
 MAXIMUM HEIGHT = 20'-0"  
 STC RATING W/2" MINERAL FIBER SAB = 48 (SA-800422)



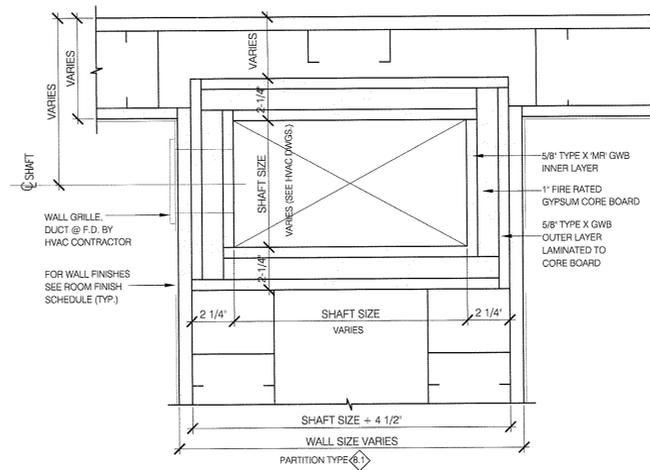
**1.4 TYPICAL INTERIOR PARTITION**

WITH 8" STEEL STUDS & 5/8" GWB  
 FIRE RATING = 1 HR EST. (GA FILE NO. WP 1070)  
 APPROX. WEIGHT = 7 PSF  
 MAXIMUM HEIGHT = 20'-0"  
 STC RATING W/2" MINERAL FIBER SAB = 48 (SA-800422)



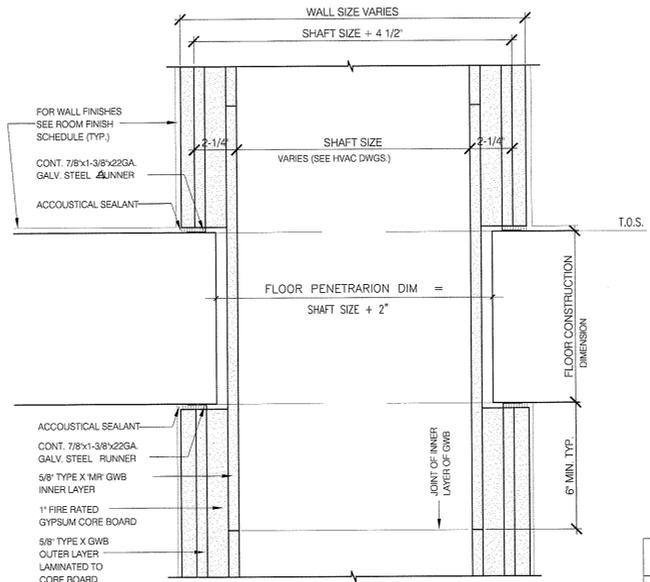
**4.1 TYPICAL INTERIOR PARTITION**

WITH 2-1/2" STEEL STUDS & 5/8" GWB: GA FILE NO. WP 1615  
 FIRE RATING = 2 HR. (U.L. DESIGN U412)  
 APPROX. WEIGHT = 9 PSF  
 MAXIMUM HEIGHT = 11'-3"  
 STC RATING W/ 1-1/2" MINERAL FIBER SAB = 54 (CK-654-40)  
 STC RATING W/O SAB = 45-49 (NGC 2250, 1-3-68)



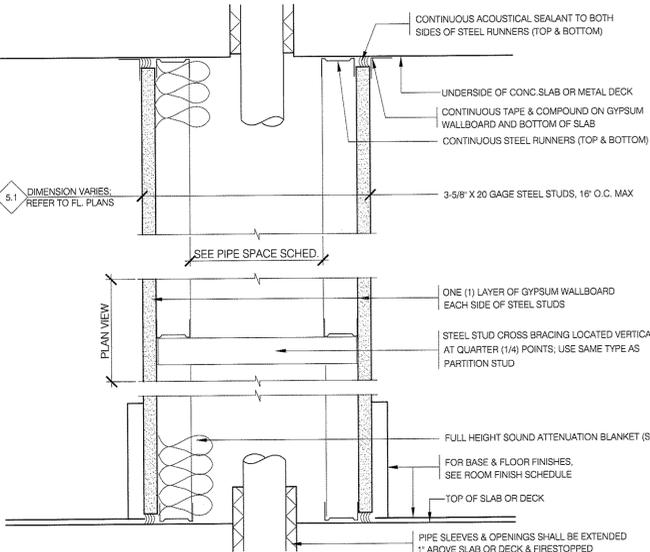
**8.1 TYPICAL SHAFT SECTION**

ALL SHAFTS TO BE 2 HR RATED



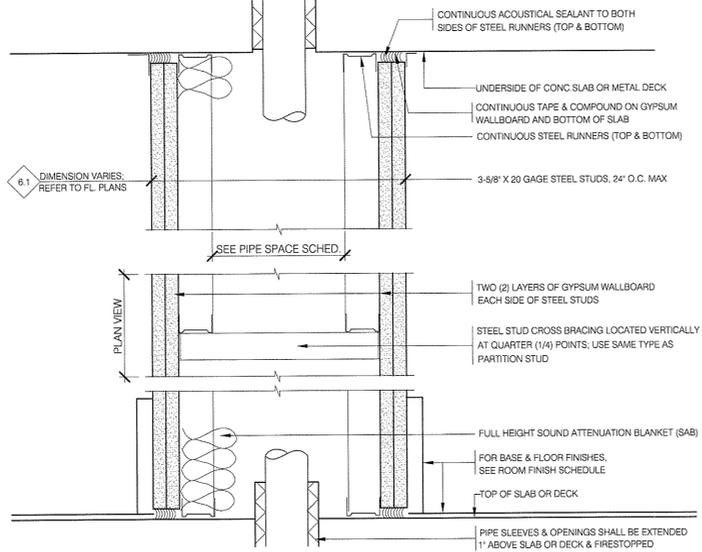
**8.1 TYPICAL SHAFT SECTION**

ALL SHAFTS TO BE 2 HR RATED



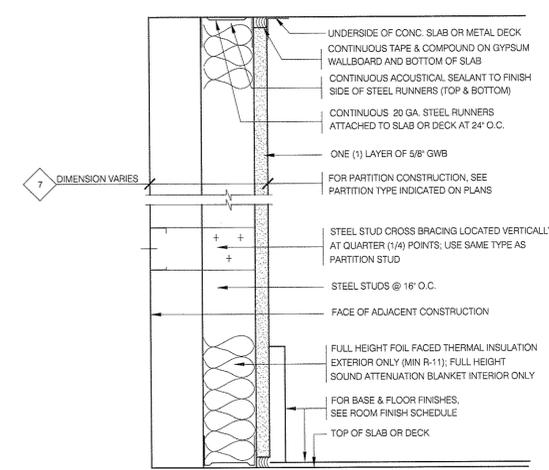
**5.1 TYPICAL DOUBLE STUD PARTITION**

WITH 3-5/8" STEEL STUDS & 5/8" GWB  
 FIRE RATING = 1 HR EST. (GA FILE NO. WP 1070)  
 APPROX. WEIGHT = 6 PSF  
 MAXIMUM HEIGHT = 22'-0"  
 STC RATING W/2" MINERAL FIBER SAB = 48 (SA-800422)



**6.1 TYPICAL PLUMBING CHASE PARTITION**

WITH 3-5/8" STEEL STUDS & 5/8" GWB  
 FIRE RATING = 2 HR EST. (U.L. DESIGN U412)  
 APPROX. WEIGHT = 13 PSF  
 MAXIMUM HEIGHT = 19'-3"  
 STC RATING W/1-1/2" MINERAL FIBER SAB = 55 (SA-865907)



**7.1 DRYWALL FURRING**

WITH 1-5/8" STEEL STUDS & 5/8" GWB  
 FIRE RATING = NON RATED  
 MAXIMUM HEIGHT = 8'-0"  
 STC RATING W/ 1-1/2" SAB = 53  
 STC RATING W/O SAB = 45

**7.2 DRYWALL FURRING**

WITH 2-1/2" STEEL STUDS & 5/8" GWB  
 FIRE RATING = NON RATED  
 MAXIMUM HEIGHT = 10'-3"  
 STC RATING W/ 2-1/2" SAB = 53  
 STC RATING W/O SAB = 45

**7.3 DRYWALL FURRING**

WITH 3-5/8" STEEL STUDS & 5/8" GWB  
 FIRE RATING = NON RATED  
 MAXIMUM HEIGHT = 13'-0"  
 STC RATING W/O SAB = 45  
 FOR APPLIED TILE SEE FIN. SCH.

**7.4 DRYWALL FURRING ON MASONRY WALL**

WITH 3-5/8" STEEL STUDS & 5/8" GWB  
 FIRE RATING = 3 HR  
 MAXIMUM HEIGHT = 13'-0"  
 STC RATING W/ 3-1/2" SAB = 45  
 STC RATING W/O SAB = 45  
 FOR APPLIED TILE SEE FIN. SCH.  
 MASONRY WALLS TO BE 8"

**MAXIMUM HEIGHTS FOR STUD PARTITIONS**

NOTES:  
 1) FOR ELEVATOR SHAFT ENCLOSURES RECHECK FOR 7.5 LBS./Q. FT.  
 2) HEIGHTS FOR 5 LBS./SQ. FT. AIR PRESSURE LOAD MAXIMUM.

1 HOUR PARTITIONS	
2 1/2" STUD (25 GA. 2'-0" O.C.) 1 BOARD EACH SIDE MAX. 10'-9"	4" STUD (25 GA. 2'-0" O.C.) 1 BOARD EACH SIDE MAX. 14'-9"
2 1/2" STUD (25 GA. 16" O.C.) 1 BOARD EACH SIDE MAX. 12'-6"	4" STUD (25 GA. 16" O.C.) 1 BOARD EACH SIDE MAX. 16'-9"
3 5/8" STUD (25 GA. 2'-0" O.C.) 1 BOARD EACH SIDE MAX. 14'-0"	6" STUD (25 GA. 2'-0" O.C.) 1 BOARD EACH SIDE MAX. 16'-6"
3 5/8" STUD (25 GA. 16" O.C.) 1 BOARD EACH SIDE MAX. 16'-0"	6" STUD (25 GA. 16" O.C.) 1 BOARD EACH SIDE MAX. 19'-9"
2 HOUR PARTITIONS (CAVITY SHAFTWALL)	
2 1/2" CH STUD (25 GA. 2'-0" O.C.) 2 BOARDS ONE SIDE MAX. 13'-9"	4" CH STUD (20 GA. 2'-0" O.C.) 2 BOARDS ONE SIDE MAX. 18'-3"
2 1/2" CH STUD (22 GA. 2'-0" O.C.) 2 BOARDS ONE SIDE MAX. 15'-0"	6" E STUD (25 GA. 2'-0" O.C.) 2 BOARDS ONE SIDE MAX. 23'-6"
4" CH STUD (25 GA. 2'-0" O.C.) 2 BOARDS ONE SIDE MAX. 16'-3"	6" E STUD (25 GA. 2'-0" O.C.) 2 BOARDS ONE SIDE MAX. 28'-0"
CHASE WALL PARTITIONS (APT. BLDG.)	
1 5/8" STUD (25 GA. 2'-0" O.C.) 1 BOARD EACH SIDE MAX. 11'-9"	2 1/2" STUD (25 GA. 2'-0" O.C.) 1 BOARD EACH SIDE MAX. 15'-6"
1 5/8" STUD (25 GA. 2'-0" O.C.) 2 BOARDS EACH SIDE MAX. 12'-9"	2 1/2" STUD (25 GA. 2'-0" O.C.) 2 BOARDS EACH SIDE MAX. 16'-9"
1 5/8" STUD (25 GA. 16" O.C.) 1 BOARD EACH SIDE MAX. 13'-3"	2 1/2" STUD (25 GA. 16" O.C.) 1 BOARD EACH SIDE MAX. 17'-6"
1 5/8" STUD (25 GA. 16" O.C.) 2 BOARDS EACH SIDE MAX. 14'-6"	2 1/2" STUD (25 GA. 16" O.C.) 2 BOARDS EACH SIDE MAX. 19'-0"
CHASE WALL PARTITIONS (OFFICE BLDG.)	
1 5/8" STUD (25 GA. 2'-0" O.C.) 1 BOARD EACH SIDE MAX. 11'-9"	2 1/2" STUD (25 GA. 2'-0" O.C.) 1 BOARD EACH SIDE MAX. 15'-6"
1 5/8" STUD (25 GA. 2'-0" O.C.) 2 BOARDS EACH SIDE MAX. 12'-9"	2 1/2" STUD (25 GA. 2'-0" O.C.) 2 BOARDS EACH SIDE MAX. 16'-9"
1 5/8" STUD (25 GA. 16" O.C.) 1 BOARD EACH SIDE MAX. 13'-3"	2 1/2" STUD (25 GA. 16" O.C.) 1 BOARD EACH SIDE MAX. 17'-6"
1 5/8" STUD (25 GA. 16" O.C.) 2 BOARDS EACH SIDE MAX. 14'-6"	2 1/2" STUD (25 GA. 16" O.C.) 2 BOARDS EACH SIDE MAX. 19'-0"
GENERAL FRAMING NOTES	
1. PARTITION FRAMING SHALL BE CONSTRUCTED PER ABOVE PARTITION SCHEDULE OR AS NOTED ON THE PARTITION DETAILS, DWG. A-900, WHICHEVER REQUIRES THICKER STUDS & CLOSER STUD SPACING.	
2. ALL TRACK SHALL, AT A MIN., BE THE SAME GAUGE AS THE WALL STUDS CONNECTED TO IT UNLESS NOTED OTHERWISE.	
3. SCREW SPACING SHALL BE AS REQUIRED BY THE UL DESIGN, OR IF NOT OF A UL DESIGN OR NOT LISTED IN THE UL DESIGN, AS REQUIRED BY THE LATEST ADDITION OF THE USG GYPSUM CONSTRUCTION HANDBOOK.	

**PARTITION NOTES:**

- THE GC SHALL VERIFY ALL DIMENSIONS PRIOR TO THE START OF CONSTRUCTION. VERIFY ALL DISCREPANCIES WITH THE ARCHITECT BEFORE PROCEEDING.
- THE SUB-CONTRACTORS SHALL AVOID PENETRATING A RATED WALL ASSEMBLY WHERE EVER POSSIBLE.
- SEAL ALL FLOOR AND CEILING SLAB PENETRATIONS INSIDE ALL PARTITION TYPES, WITH FIRE STOPPING ASSEMBLIES APPROVED BY THE MEA/BSA.
- SEAL ALL PENETRATIONS THROUGH THE FLOOR OR CEILING SLABS WITH FIRE STOPPING ASSEMBLIES APPROVED BY THE MEA/BSA.
- ALL PENETRATIONS (PLUMBING/ SPRINKLER/ ELECTRICAL/ MECH./ ETC.) THRU A FIRE RATED PARTITION ASSEMBLY SHALL BE PROTECTED WITH AN MEA/BSA APPROVED ASSEMBLY AND SHALL MAINTAIN THE ASSEMBLY RATING OF THE PARTITION BEING PENETRATED.
- ALL DUCT/GRILLE/OVER PENETRATIONS THRU A RATED ASSEMBLY SHALL BE PROTECTED BY A FIRE RATED DAMPER AT THE POINT OF PENETRATION.
- ALL ACCESS DOORS INSTALLED IN A FIRE RATED PARTITION AND/OR FLOOR OR CEILING ASSEMBLY SHALL BEAR AN MEA/BSA APPROVAL AND BE FIRE RATED TO MATCH THE ASSEMBLY THEY ARE INSTALLED IN.
- THE CG SHALL BE SOLELY RESPONSIBLE TO COORDINATE THE SIZE AND LOCATION OF ALL SHAFTS WITH THE REQUIREMENTS OF THE MECHANICAL/ PLUMBING/ SPRINKLER SYSTEMS REQUIREMENTS.
- USE WR GYP. BD. AT ALL WET LOCATIONS, WHEREVER A RATED WALL ASSEMBLY OCCURS AT A WET LOCATION. THE WR GYP. BD. SHALL BE APPLIED AS AN ADDITIONAL LAYER OF GYP. BD. OVER THE REQUIRED LAYERS FIRE RATED GYP. BD.
- SEE STRUCTURAL, MECHANICAL, PLUMBING, ELECTRICAL, & SPRINKLER DRAWINGS FOR ADDL. INFO.

**CONSTRUCTION LEGEND**

	NEW EXTERIOR BRICK VENEER WALL - 4" BRICK, 2" AIR SPACE, 1/2" DENSGLASS BOARD, 6" STUD WALL WITH R-19 BAT INSULATION & INTERIOR 5/8" GYPSUM, 3 HR FIRE RATING (U.L. DESIGN V414)
	6" C.M.U. WALL 2 HR FIRE RATING (UL DESIGN 906)
	CAST IN PLACE CONCRETE WALL/COLUMN
	INTERIOR PARTITION (SEE SHEET A-900 FOR DETAILS & RATING)
	SMOKE DETECTOR
	CARBON MONOXIDE DETECTOR
	ILLUMINATED EXIT SIGN, PROVIDE EGRESS HARDWARE AT THESE LOCATIONS

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**DEVELOPMENT COMPANY:**  
 DURATECH CORPORATION

**REVISIONS AND SUBMISSIONS**

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0.5	REVISED CLIENT REVIEW	10/09/09			
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0.8	REVISED CLIENT REVIEW	01/28/10			
0.9	REVISED CLIENT REVIEW	05/04/10			

FOR PLING ONLY - NOT FOR CONSTRUCTION USE

**TITLE:**  
 PARTITION SCHEDULE

**LOCATION:**  
 52-01 QUEENS BOULEVARD  
 QUEENS, NY 11377

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**BIS #402639971**

**REGISTERED ARCHITECT**  
 TODD A. ERNST  
 STATE OF NEW YORK

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

DATE: 07/07/2009

SCALE: AS NOTED

DRAWING NO: A-900.00

25 of 25



COMcheck Software Version 3.7.0  
Envelope Compliance Certificate

2007 New York Energy Conservation Construction Code

Section 1: Project Information

Project Type: New Construction  
Project Title: 52-01 Queens Boulevard  
Construction Site: 52-01 Queens Boulevard  
Queens, NY 11311  
Owner/Agent: Designer/Contractor:

Section 2: General Information

Building Location (for weather data): Queens, New York  
Climate Zone: 10b  
Heating Degree Days (base 65 degrees F): 4910  
Cooling Degree Days (base 65 degrees F): 982  
Vertical Glazing / Wall Area Pat.: 10%

Building Type: Multifamily  
Floor Area: 61067

Section 3: Requirements Checklist

Envelope PASSED: Design 27% better than code.

Climate-Specific Requirements:

Component Name/Description	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor
Basement Wall 1: Solid Concrete or Masonry > 8" Furring None, Wall Ht 12.0, Depth B.G. 12.0	5290	—	19.0	0.043	0.122
Door 1: Solid (<= 50% glazing)	20	—	—	0.157	0.157
Floor 1: Slab-On-Grade (Unheated, Vertical 4 ft)	10200	—	19.0	—	—
Floor 2: Other Floor (b)	6500	—	—	0.035	0.064
Floor 3: Other Floor (b)	6000	—	—	0.035	0.064
Floor 4: Other Floor (b)	6000	—	—	0.035	0.064
Floor 5: Other Floor (b)	6000	—	—	0.035	0.064
Floor 6: Other Floor (b)	6000	—	—	0.035	0.064
Floor 7: Other Floor (b)	6000	—	—	0.035	0.064
Floor 8: Other Floor (b)	6000	—	—	0.035	0.064
Floor 9: Other Floor (b)	6000	—	—	0.035	0.064
Floor 10: Other Floor (b)	3400	—	—	0.035	0.064
Floor 11: Other Floor (b)	3400	—	—	0.035	0.064
Floor 12: Other Floor (b)	3400	—	—	0.035	0.064
Floor 13: Other Floor (b)	2865	—	—	0.035	0.064
Roof 1: Structural Slab	2665	—	30.0	0.052	0.062
Skylight 1: Metal Frame with Thermal Break Single Pane, Clear, SHGC 0.20	48	—	—	0.500	0.063
Exterior Wall 1: Metal Frame, 16" c.c	39630	30.0	19.0	0.036	0.101
Window 1: Metal Frame with Thermal Break Triple Pane, Clear, SHGC 0.20	4000	—	—	0.400	0.635
Door 2: Solid (<= 50% glazing)	405	—	—	0.200	0.157
Interior Wall 1: Metal Frame, 16" c.c	69000	19.0	0.0	0.110	0.157

Project Title: 52-01 Queens Boulevard  
Data filename: C:\Program Files\Check\COMcheck\52-01 Queens Boulevard 07-14-10.cck  
Report date: 07/13/10  
Page 1 of 3

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.  
(b) "Other" components require supporting documentation for proposed U-factors.

Air Leakage, Component Certification, and Vapor Retarder Requirements:

- 1. All joints and penetrations are caulked, gasketed, weather-stripped, or otherwise sealed.
- 2. Windows, doors, and skylights certified as meeting leakage requirements.
- 3. Component R-values & U-factors labeled as certified.
- 4. Insulation installed according to manufacturer's instructions, in substantial contact with the surface being insulated and in a manner that achieves the rated R-value without compressing the insulation.
- 5. Fireplaces installed with tight fitting non-combustible fireplace doors.
- 6. Stair, elevator shaft vents, and other components integral to the building envelope are equipped with motorized dampers.
- 7. Cargo doors and loading dock doors are weather sealed.
- 8. Recessed lighting fixtures are: (i) Type IC rated and sealed or gasketed; or (ii) installed inside an appropriate air-tight assembly with a 0.5 inch clearance from combustible materials and with 3 inch clearance from insulation material.
- 9. Vapor retarder installed.

Section 4: Compliance Statement

Compliance Statement: The proposed envelope design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed envelope system has been designed to meet the 2007 New York Energy Conservation Construction Code requirements in COMcheck Version 3.7.0 and to comply with the mandatory requirements in the Requirements Checklist.

When a Registered Design Professional has stamped and signed this page, they are attesting to the best of their knowledge, belief, and professional judgment, that plans or specifications are in compliance with the Code.

Name: Title Signature Date

Project Title: 52-01 Queens Boulevard  
Data filename: C:\Program Files\Check\COMcheck\52-01 Queens Boulevard 07-14-10.cck  
Report date: 07/13/10  
Page 2 of 3



COMcheck Software Version 3.7.0  
Interior Lighting and Power Compliance Certificate

2007 New York Energy Conservation Construction Code

Section 1: Project Information

Project Type: New Construction  
Project Title: 52-01 Queens Boulevard  
Construction Site: 52-01 Queens Boulevard  
Queens, NY 11311  
Owner/Agent: Designer/Contractor:

Section 2: General Information

Building Use Description by: Multifamily  
Floor Area: 61067

Section 3: Requirements Checklist

Interior Lighting:

- 1. Total proposed watts must be less than or equal to total allowed watts.  
Allowed Watts: 42747 Proposed Watts: 17290 Compiles: YES
- 2. Exit signs 5 Watts or less per sign.

Exterior Lighting:

- 3. Efficacy greater than 45 lumens/W.

Controls, Switching, and Wiring:

- 4. Independent controls for each space (switch/occupancy sensor).  
Exceptions:  
Areas designated as security or emergency areas that must be continuously illuminated.  
Lighting in stairways or corridors that are elements of the means of egress.
- 5. Master switch at entry to hotel/motel guest room.
- 6. Individual dwelling units separately metered.
- 7. Each space provided with a manual control to provide uniform light reduction by at least 50%.  
Exceptions:  
Only one luminaire in space.  
An occupant-sensing device controls the area.  
The area is a corridor, storeroom, restroom, public lobby or guest room.  
Areas that use less than 0.6 Watts/sq.ft.
- 8. Automatic lighting shutoff control in buildings larger than 5,000 sq.ft.  
Exceptions:  
Areas with only one luminaires, corridors, storerooms, restrooms, or public lobbies.
- 9. Photocell/astrometrical time switch on exterior lights.  
Exceptions:

Project Title: 52-01 Queens Boulevard  
Data filename: C:\Program Files\Check\COMcheck\52-01 Queens Boulevard 07-14-10.cck  
Report date: 07/13/10  
Page 3 of 9

CONSTRUCTION LEGEND

- NEW EXTERIOR BRICK VENEER WALL: 4" BRICK, 2" AIR SPACE, 1/2" DENSE GLASS BOARD, 6" STUD WALL WITH R-19 BAT INSULATION & INTERIOR 5/8" G/PLUM, 3 HR FIRE RATING (UL DESIGN V414)
- 6" C.M.U. WALL, 2 HR FIRE RATING (UL DESIGN 906)
- CAST IN PLACE CONCRETE WALL/COLUMN
- INTERIOR PARTITION (SEE SHEET A-900 FOR DETAILS & RATING)
- SMOKE/CO COMBO DETECTOR
- ILLUMINATED EXIT SIGN, PROVIDE EGRESS HARDWARE AT THESE LOCATIONS

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DEVELOPMENT COMPANY:  
DURATECH CORPORATION

REVISIONS

#	REVISIONS	DATE
1	DOB AMENDMENT	07/13/10

ENERGY ANALYSIS

52-01 QUEENS BOULEVARD  
QUEENS, NY 11377

NOTICE

It is a violation of New York State law to alter plans, specifications or reports to which the seal of an architect has been applied. It is a violation of the law for any person, unless acting under the direction of a licensed architect, to alter an item in any way. If the item bearing the seal of an architect is altered, the altering architect shall affix to his item the seal and the notation "altered by" followed by his signature and the date of such alteration, and a specific description of the alteration.

BIS #402639971



Signature: Date:

DATE: 07/07/2009

SCALE: AS NOTED

DRAWING NO. EN-001.00

- 10. Tardem wired one-lamp and three-lamp ballasted luminaires (No single-lamp ballasts).  
Exceptions:  
Electronic high-frequency ballasts; Luminaires on emergency circuits or with no available pair.
- 11. Transformers meet minimum efficiencies listed in Table 905.6.1 or 905.6.2.

Section 4: Compliance Statement

Compliance Statement: The proposed lighting design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed lighting system has been designed to meet the 2007 New York Energy Conservation Construction Code requirements in COMcheck Version 3.7.0 and to comply with the mandatory requirements in the Requirements Checklist.

Name: Title Signature Date

Project Title: 52-01 Queens Boulevard  
Data filename: C:\Program Files\Check\COMcheck\52-01 Queens Boulevard 07-14-10.cck  
Report date: 07/13/10  
Page 4 of 5



COMcheck Software Version 3.7.0  
Interior Lighting Application Worksheet

2007 New York Energy Conservation Construction Code

Section 1: Allowed Lighting Power Calculation

A	B	C	D
Floor Area	Allowed Watts / ft <sup>2</sup>	Allowed Watts	
61067	0.7	42747	
Total Allowed Watts =		42747	

Section 2: Proposed Lighting Power Calculation

A	B	C	D	E
Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	Lamps/ Fixture	# of Fixtures	Watt	(C X D X E)
Compact Fluorescent 1: 1 / Cwac 2-pin 22W / Electronic	1	288	60	17280
Total Proposed Watts =				17280

Section 3: Compliance Calculation

If the Total Allowed Watts minus the Total Proposed Watts is greater than or equal to zero, the building complies.  
Total Allowed Watts = 42747  
Total Proposed Watts = 17280  
Project Compliance = 25467

Interior Lighting PASSED: Design 60% better than code.

Project Title: 52-01 Queens Boulevard  
Data filename: C:\Program Files\Check\COMcheck\52-01 Queens Boulevard 07-14-10.cck  
Report date: 07/13/10  
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COMcheck Software Version 3.7.0  
Mechanical Compliance Certificate

2007 New York Energy Conservation Construction Code

Section 1: Project Information

Project Type: New Construction  
Project Title: 52-01 Queens Boulevard  
Construction Site: 52-01 Queens Boulevard  
Queens, NY 11311  
Owner/Agent: Designer/Contractor:

Section 2: General Information

Building Location (for weather data): Queens, New York  
Climate Zone: 10b  
Heating Degree Days (base 65 degrees F): 4910  
Cooling Degree Days (base 65 degrees F): 982

Section 3: Mechanical Systems List

- Quantity System Type & Description
- HVAC System 1: Cooling: Packaged Terminal Unit, Capacity 9 kBtu/h, Efficiency: 14.00 EER, Air-Cooled Condenser / Single Zone
  - Plant 1: Heating: Hot Water Boiler, Capacity 1250 kBtu/h, Gas, Efficiency: 85.00 % E1 with Waterloop Heat Pump
  - Water Heater 3: Service Water Heater w/ Circulation Pump, Efficiency: 85.00 EF

Section 4: Requirements Checklist

Requirements Specific To: HVAC System 1:

- 1. Equipment minimum efficiency: Packaged Terminal Unit: 10.6 EER

Requirements Specific To: Plant 1:

- 1. Equipment minimum efficiency: Boiler Thermal Efficiency 70% E1
- 2. Newly purchased heating equipment meets the efficiency requirements - used equipment must meet 30% E1 @ maximum capacity
- 3. Long temperature controlled with 20 degrees F deadband where neither cooling tower/fill/ cooler nor boiler can operate
- 4. Two-position valve on each heat pump having total heat pump system power >10hp
- 5. Systems with multiple boilers have automatic controls capable of sequencing boiler operation
- 6. Hydronic heating systems comprised of a single boiler and >500 kBtu/h input design capacity include either a multistaged or modulating burner

Requirements Specific To: Water Heater 3:

- 1. 1-in. pipe insulation on circulation systems
- 2. Automatic on/off control required for circulating systems
- 3. Gas Storage: Water Heater efficiency: 0.6 EF

Generic Requirements: Must be met by all systems to which the requirement is applicable:

- 1. Load calculations per ASHRAE Fundamentals
- 2. Plant equipment and system capacity no greater than needed to meet loads
- Exception: Standby equipment automatically off when primary system is operating
- Exception: Multiple units controlled to sequence operation as a function of load

Project Title: 52-01 Queens Boulevard  
Data filename: C:\Program Files\Check\COMcheck\52-01 Queens Boulevard 07-14-10.cck  
Report date: 07/13/10  
Page 6 of 9

AMENDED APPLICATION

KAI-KI WONG

JUL 15 2009

EXAMINED FOR PROFESSIONAL ENGINEERING PRESENTATION ONLY, AS PER O.R. NO. 275

- 3. Minimum one temperature control device per system
- 4. Minimum one humidity control device per installed humidification/dehumidification system
- 5. Automatic shut-off dampers on exhaust systems and supply systems with airflow >3,000 cfm
- 6. Outside-air source for ventilator: system capable of reducing OSA to required minimum
- 7. Hot water pipe insulation: 1 in. for pipes <= 1.5 in. and 2 in. for pipes > 1.5 in. Chilled water/refrigerant/brine pipe insulation: 1 in. for pipes <= 1.5 in. and 1.5 in. for pipes > 1.5 in. Steam pipe insulation: 1.5 in. for pipes <= 1.5 in. and 3 in. for pipes > 1.5 in.
  - Exception: Piping within HVAC equipment.
  - Exception: Fluid temperatures between 55 and 105 degrees F.
  - Exception: Fluid not heated or cooled with renewable energy.
  - Exception: Runouts < 4 ft in length.
- 8. Operation and maintenance manual provided to building owner
- 9. Newly purchased service water heating equipment meets the efficiency requirements
- 10. Water heater temperature controls: 110 degrees F for dwelling units or 90 degrees F for other occupancies
- 11. Hot water distribution systems >= 500 kWh/yr must have one of the following: a) controls that reset supply water temperature by 25% of supply/return delta T c) mechanical or electrical adjustable-speed pump drive(s) d) two-way valves at all heating coils d) multiple-stage pumps e) other system controls that reduce pump flow by at least 50% based on load - calculations required
- 12. Stair and elevator shaft vents are equipped with motorized dampers

**Section 5: Compliance Statement**

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2007 New York Energy Conservation Construction Code requirements in COMcheck version 3.7.0 and to comply with the mandatory requirements in the Requirements Checklist.

Name: [Signature] Title: [Signature] Signature: [Signature] Date: [Signature]

**COMcheck Software Version 3.7.0**  
**Mechanical Requirements Description**

**2007 New York Energy Conservation Construction Code**

The following list provides more detailed descriptions of the requirements in Section 4 of the Mechanical Compliance Certificate.

**Requirements Specific To: HVAC System 1 :**

1. The specified heating and/or cooling equipment is covered by 2007 New York Energy Conservation Construction Code and must meet the following minimum efficiency: Package Terminal Unit: 10.8 EER

**Requirements Specific To: Plant 1 :**

1. The specified heating and/or cooling equipment is covered by the 2007 New York Energy Conservation Construction Code and must meet the following minimum efficiency: Boiler Thermal Efficiency: 75% E
2. The specified heating equipment is covered by Federal minimum efficiency requirements. New equipment of this type can be assumed to meet or exceed 2007 New York Energy Conservation Construction Code requirements for equipment efficiency. Used equipment must meet: 60% E<sub>1</sub> @ maximum capacity.
3. Low temperature control with 50 degrees F deadband where neither cooling tower/fill/cool nor boiler can operate.
4. Two-position valves must be provided on each heat pump where the total heat pump system power is greater than 10 hp.
5. Systems with multiple boilers have automatic controls capable of sequencing the operation of the boilers.
6. Hydraulic heating systems comprised of a single boiler and >500 kWh/yr input design capacity include either a multistaged or modulating burner.

**Requirements Specific To: Water Heater 3 :**

1. Piping for the specified circulating service hot water system must be insulated with a minimum of 1-in. insulation having a conductivity no > 0.28 Btu-in/(h-ft<sup>2</sup>-degrees F).
2. Circulating service hot water systems must have a time switch control that can automatically turn off the system during unoccupied hours.
3. Service water heating equipment used solely for heating potable water, pool heaters, and hot water storage tanks must meet the following minimum efficiency: Gas Storage Water Heater efficiency: 0.8 EF

**Generic Requirements: Must be met by all systems to which the requirement is applicable:**

1. Design heating and cooling loads for the building must be determined using procedures in the ASHRAE Handbook of Fundamentals or an approved equivalent calculation procedure.
2. All equipment and systems must be sized to be no greater than needed to meet calculated loads. A single piece of equipment providing both heating and cooling must satisfy this provision for one function with the capacity for the other function as small as possible, within available equipment options.
  - Exception: The equipment and/or system capacity may be greater than calculated loads for standby purposes. Standby equipment must be automatically controlled to be off when the primary equipment and/or system is operating.
  - Exception: Multiple units of the same equipment type whose combined capacities exceed the calculated load are allowed if they are automatically closed while the equipment is not operating.
3. Each heating or cooling system serving a single zone must have its own temperature control device.
4. Each humidification system must have its own humidity control device.
5. Outdoor-air supply systems with design airflow rates >3,000 cfm of outdoor air and all exhaust systems must have dampers that are automatically closed while the equipment is not operating.
6. The system must supply outside ventilation air as required by Chapter 4 of the Mechanical Code for New York State. If the ventilation system is designed to supply outdoor-air quantities exceeding minimum required levels, the system must be capable of reducing outdoor-air flow to the minimum required levels.
7. All pipes serving space-conditioning systems must be insulated as follows: Hot water piping for heating systems: 1 in. for pipes <= 1 1/2-in. nominal diameter, 2 in. for pipes > 1 1/2-in. nominal diameter. Chilled water, refrigerant, and brine piping systems: 1 in. insulation for pipes <= 1 1/2-in. nominal diameter, 1 1/2 in. insulation for pipes > 1 1/2-in. nominal diameter. Steam piping: 1 1/2 in. insulation for pipes <= 1 1/2-in. nominal diameter, 3 in. insulation for pipes > 1 1/2-in. nominal diameter.
  - Exception: Pipe insulation is not required for factory-installed piping within HVAC equipment.
  - Exception: Pipe insulation is not required for piping that conveys fluids having a design operating temperature range between 55 degrees F and 105 degrees F.

- Exception: Pipe insulation is not required for piping that conveys fluids that have not been heated or cooled through the use of fossil fuels or electric power.
- Exception: Pipe insulation is not required for runout piping not exceeding 4 ft in length and 1 in. in diameter between the control valve and HVAC coil.
- 8. Operation and maintenance documentation must be provided to the owner that includes at least the following information: a) equipment capacity (input and output) and required maintenance actions b) equipment operation and maintenance manuals c) HVAC system control maintenance and calibration information, including wiring diagrams, schematics and control sequence descriptions: cleared or field-determined set points must be permanently recorded on control drawings, at control devices, or, for digital control systems, in programming comments d) complete narrative of how each system is intended to operate.
- 9. Service water heating equipment must meet minimum Federal efficiency requirements included in the National Appliance Energy Conservation Act and the Energy Policy Act of 1992, which meet or exceed 2007 New York Energy Conservation Construction Code. New service water heating equipment can be assumed to meet these requirements.
- 10. Water heating equipment must be provided with controls that allow the user to set the water temperature to 110 degrees F for dwelling units and 90 degrees F for other occupancies. Controls must limit output temperatures of lavatories in public facility restrooms to 110 degrees F.
- 11. Hot water space heating systems with a capacity exceeding 300 kWh/yr supplying heated water to comfort conditioning systems must include controls that automatically reset supply water temperatures by representative building loads (including return water temperature) or by outside air temperature.
  - Exception: Where the supply temperature reset controls cannot be implemented without causing improper operation of heating, cooling, humidification, or dehumidification systems.
  - Exception: Hydraulic systems that use variable flow to reduce pumping energy.
- 12. Stair and elevator shaft vents must be equipped with motorized dampers capable of being automatically closed during normal building operation and interlocked to open as required by fire and smoke detection systems. All gravity outdoor air supply and exhaust hoods, vents, and ventilators must be equipped with motorized dampers that will automatically shut when the spaces served are not in use.
  - Exception: Gravity (non-motorized) dampers are acceptable in buildings less than three stories in height above grade.
  - Exception: Ventilation systems serving unconditioned spaces.

**CONSTRUCTION LEGEND**

- NEW EXTERIOR BRICK VENEER WALL: 4" BRICK, 2" AIR SPACE, 1/2" DENSE GLASS BOARD, 6" STUD WALL WITH R-19 BATT INSULATION & INTERIOR 5/8" GYPSUM, 3 HR FIRE RATING (UL DESIGN V414)
- 8" CMU WALL: 2 HR FIRE RATING (UL DESIGN 900)
- CAST IN PLACE CONCRETE WALL/COLUMN
- INTERIOR PARTITION (SEE SHEET A-900 FOR DETAILS & RATING)
- SMOKE/CO COMBO DETECTOR
- ILLUMINATED EXIT SIGN, PROVIDE EGRESS HARDWARE AT THESE LOCATIONS

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**DEVELOPMENT COMPANY:**  
DURATECH CORPORATION

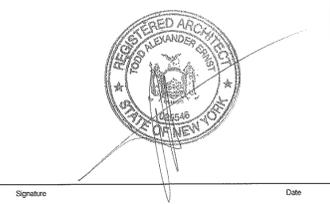
REVISIONS	
#	REVISIONS DATE
1	DOB AMENDMENT 07/13/10

TITLE:  
**ENERGY ANALYSIS**

LOCATION:  
**52-01 QUEENS BOULEVARD  
QUEENS, NY 11377**

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**BIS #402639971**



Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
DATE: 07/07/2009  
SCALE: AS NOTED  
DRAWING No. EN-002.00

**AMENDED APPLICATION**

**KAI-KI WONG**

JUL 13 2010  
EXAMINED FOR ZONING, EGRESS AND FIRE PREVENTION ONLY, AS PER D.T.R. NO. 275

**GENERAL NOTES**

- ALL WORK SHALL COMPLY WITH THE CITY OF NEW YORK BUILDING CODES, SANITARY LAWS, THE CITY OF NEW YORK FIRE CODE, THE STATE OF NEW YORK REGULATIONS, THE REGULATIONS OF THE NATIONAL BOARD OF FIRE UNDERWRITERS, AND ALL FEDERAL, STATE AND MUNICIPAL AUTHORITIES HAVING JURISDICTION OVER THE WORK. IN ADDITION TO ALL RULES AND REGULATIONS OF THE PARTICULAR BUILDING IN WHICH THE WORK IS LOCATED.
- CONTRACTOR SHALL CHECK AND VERIFY ALL CONDITIONS AND DIMENSIONS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO START OF WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CHANGE OR DEVIATION FROM THE APPROVED PLANS.
- THE CONTRACTOR SHALL CAREFULLY EXAMINE THE PREMISES BEFORE SUBMITTING HIS BID. NO ALLOWANCE WILL BE MADE FOR HIM DUE TO LACK OF FULL KNOWLEDGE OF ALL FORESEEABLE CONDITIONS.
- NO WORK IS TO START UNLESS THE CONTRACTOR OBTAINS "PERMIT TO BUILD" FROM THE NEW YORK CITY DEPARTMENT OF BUILDINGS, PLUMBING, MECHANICAL, AND ELECTRICAL CONTRACTORS ARE RESPONSIBLE FOR SECURING THEIR RESPECTIVE PERMITS.
- UPON COMPLETION THE CONTRACTOR IS TO OBTAIN ALL APPROVALS AS REQUIRED BY THE DEPARTMENT OF BUILDINGS.
- DRAWINGS ARE NOT TO BE SCALED, DIMENSIONS GOVERN, LARGE SCALE DETAILS SHALL GOVERN OVER SMALL SCALE PLANS. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO CONSTRUCTION. A COPY OF THE APPROVED DEPARTMENT OF BUILDINGS ARCHITECTURAL DRAWINGS WILL BE KEPT AND MAINTAINED AT THE JOB SITE FOR REVIEW BY OWNER, ARCHITECT, AND BUILDING MANAGEMENT.
- CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED DEPARTMENT OF BUILDINGS PERMITS PRIOR TO START OF WORK. ALL PERMITS WILL BE PROPERLY DISPLAYED ON THE JOB SITE AS REQUIRED.
- CONTRACTOR SHALL DO ALL SHORING OR BRACING AS REQUIRED FOR PROPER AND SAFE EXECUTION OF THE WORK. ALL WORK SHALL CONFORM TO NEW YORK CITY BUILDING CODES, STATE LABOR LAWS, RULES, AND REGULATIONS.
- CONTRACTOR SHALL MAKE SAFE ALL CORRIDORS, FLOORS, WALLS, AND ADJACENT PROPERTY AS JOB SITE CONDITIONS REQUIRE.
- THE WORK DESCRIBED IN THESE DOCUMENTS IS LIMITED SOLELY TO THE WORK DESCRIBED IN THE PROJECT APPLICATION SHEET. NO OTHER WORK IS TO BE CONSIDERED APPROVED FOR CONSTRUCTION UNLESS SPECIFICALLY INDICATED WILL BE CONSIDERED AS PART OF THIS FILING WITH THE NEW YORK CITY DEPARTMENT OF BUILDINGS. NO PREEXISTING CONSTRUCTION WORK, CONDITIONS OR DEPARTMENT OF BUILDINGS VIOLATIONS ARE THE RESPONSIBILITY OF THE ARCHITECT.
- NO MATERIAL SUBSTITUTIONS SHALL BE MADE WITHOUT THE CONSENT OF THE OWNER AND ARCHITECT. SPECIFICATIONS AND SAMPLES MUST BE SUBMITTED FOR ALL PROPOSED MATERIAL OR METHOD SUBSTITUTION.
- LABOR AND MATERIAL ON THIS PROJECT SHALL BE GUARANTEED FOR A MINIMUM OF ONE (1) YEAR PERIOD FROM DATE OF FINAL PAYMENT. CONTRACTOR TO SUPPLY WRITTEN WARRANTY WITH FINAL NOTICE.
- THE OWNER, ARCHITECT, AND DEPARTMENT OF BUILDINGS SHALL HAVE ACCESS TO THE PREMISES AT ALL TIMES FOR THE PURPOSES OF REVIEW.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF ALL WORK DONE ON THE JOB SITE. PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR WILL PROVIDE A COMPLETE PROJECT SCHEDULE FOR REVIEW BY OWNER AND ARCHITECT.
- ALL MATERIALS, ASSEMBLIES, FORMS, AND METHODS OF CONSTRUCTION AND EQUIPMENT USED ON THIS PROJECT SHALL MEET THE FOLLOWING REQUIREMENTS:
  - A) IT SHALL HAVE BEEN ACCEPTED PRIOR TO THE EFFECTIVE DATE OF THE CODE BY THE BOARD OF STANDARDS AND APPEALS, OR
  - B) IT SHALL HAVE BEEN ACCEPTED FOR USE UNDER THE PRESCRIBED CODE TEST METHODS BY THE COMMISSIONER, OR
  - C) IT SHALL HAVE BEEN APPROVED BY THE BOARD OF STANDARDS AND APPEALS(27-131)
- FIREPROOF DOORS TO BEAR LABEL OF BOARD OF STANDARDS AND APPEALS.
- ALL INTERIOR WOOD TO BE USED ONLY AS PERMITTED IN SECTION C26-502.6
- ALL INTERIOR FINISH MATERIAL TO BE INSTALLED AS PER C26-504.10
- ALL PENETRATIONS OF RATED CONSTRUCTION SHALL COMPLY WITH SECTION C26-504.5.B.C.
- ALL FIREPROOF WOOD SHALL COMPLY WITH SECTION C26-502.6 OF THE NEW YORK CITY BUILDING CODE.
- ALL MATERIALS OR ASSEMBLIES REQUIRED TO HAVE A FIRE RESISTANCE RATING SHALL COMPLY WITH ONE OF THE FOLLOWING:
  - A) IT SHALL CONFORM WITH THE FNBI "FIRE RESISTANCE RATINGS--DCC 1964" OR(B) IT SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ASTM E-119-1961, "STANDARD METHODS OF FIRE TESTS OF BUILDING CONSTRUCTION AND MATERIAL" AND ACCEPTED BY THE COMMISSIONER.
- NO CUTTING, CHANNELING, OR ALTERATION OF THE BUILDING STRUCTURE WILL BE PERMITTED DURING THE COURSE OF THE CONSTRUCTION PROCESS.
- ALL ELECTRICAL WORK MUST BE PERFORMED BY A LICENSED ELECTRICIAN WHO WILL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS, CERTIFICATIONS, APPROVALS, AND SIGN OFFS AS REQUIRED.
- ALL ELECTRICAL WORK PERFORMED MUST BE IN COMPLIANCE WITH THE NEW CODE.
- CONTRACTOR TO PROVIDE FIRE EXTINGUISHERS AS REQUIRED SEC. 27-848.126
- A LICENSED PLUMBER WILL BE REQUIRED TO PERFORM ALL PLUMBING WORK AND WILL ALSO BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS AND APPROVALS REQUIRED CERTIFICATIONS IF REQUIRED.

**SITE SAFETY NOTES**

- THE CONTRACTOR IS RESPONSIBLE FOR SAFETY ON THE JOB SITE AND SHALL ADHERE TO ALL APPLICABLE CITY, STATE, AND OSHA CODES
- CONTRACTOR SHALL COMPLY WITH NEW YORK CITY DEPARTMENT OF BUILDINGS RULES AND REGULATIONS PERTAINING TO SAFETY NETTING AS REQUIRED BY LOCAL LAW 61 OF 1987.
  - 1.0 APPLICABILITY- SAFETY NETTING SHALL BE PROVIDED ON THE SIDES OF A STRUCTURE MORE THAN (8) STORIES OR SEVENTY-FIVE FEET IN HEIGHT ABOVE THE ADJOINING GROUND OR ROOF LEVEL, WHICHEVER IS APPLICABLE, WHEN THERE IS EXPOSURE TO THE PUBLIC OR ADJACENT PROPERTY.
  - 1.2 WHEN DEMOLISHING THE EXTERIOR WALLS OR ROOF STRUCTURE IN SUCH CASE:
  - 1.2.1 HORIZONTAL SAFETY NETTING SHALL BE PROVIDED PURSUANT TO SECTION (C26-1901.6) 27-1022(A)(1) AND RULE 5.3.2.
  - 1.3 WHEN EXTERIOR WALL ARE BEING CONSTRUCTED, IN SUCH CASE:
  - 1.3.1 HORIZONTAL SAFETY NETTING SHALL BE PROVIDED PURSUANT TO SECTION (C26-1901.6)27-1022(A)(2)AND RULE 5.3.3
- CONTRACTOR SHALL COMPLY WITH NEW YORK CITY DEPARTMENT OF BUILDINGS REGULATION (C26-92.0)26-252(A) SIDEWALK SHEDS, FENCES,RAILINGS, ETC.

**SMOKE DETECTOR NOTES**

- SMOKE DETECTORS SHALL BE INSTALLED AS REQUIRED BY LOCAL LAW 62/81.
- APPROVED TYPE SMOKE DETECTORS MUST BE INSTALLED IN ANY SPACE WITH A FUNCTIONAL WOOD BURNING PLACE AS PER SECT. 27-848.12A
- SMOKE DETECTORS SHALL BE EITHER IONIZATION CHAMBER OR PHOTO-ELECTRIC TYPE TO COMPLY WITH RS 17-11.
- UNITS TO BE APPROVED BY THE BOARD OF STANDARDS AND APPEALS PURSUANT TO THE RULES AND REGULATIONS PROMULGATED BY THE COMMISSIONER OR LISTED BY AN ACCEPTABLE TESTING LABORATORY SUCH AS:
  - A) UNDERWRITERS LABS, NORTH BROOK, ILL. MEA LAB = 1-69-L; B) CANADIAN STANDARD ASSOC. ONTARIO, CANADA-MEA LAB. = 25-69-L; C) UNDERWRITERS LAB. OF CANADA ONTARIO, CANADA - MEA LAB. = 81-80-L.

**DEPT. TRANSPORTATION SIDEWALK NOTES**

NEW YORK CITY DEPARTMENT OF TRANSPORTATION HIGHWAY RULES AS OF 12/3/04, CHAPTER 2 (SECTION 2-09) SIDEWALK, CURB AND ROADWAY WORK

**(4) GENERAL SIDEWALK REQUIREMENTS.**

(I) EXCEPT AS OTHERWISE AUTHORIZED, ALL SIDEWALKS SHALL BE CONCRETE. SIDEWALKS SHALL CONSIST OF A SINGLE COURSE OF CONCRETE, 4" IN THICKNESS, LAID UPON A FOUNDATION 6" IN THICKNESS. IN DRIVEWAYS AND CORNER QUADRANTS THE CONCRETE SLAB SHALL BE 7" IN THICKNESS.

(II) THE FOUNDATION MATERIAL SHALL CONSIST OF CLEAN 3/4" BROKEN STONE, RECYCLED CONCRETE, GRAVEL OR CLEAN GRANULAR MATERIALS MEETING THE STANDARD SPECIFICATIONS. THE FOUNDATION MATERIAL SHALL BE TAMPED AND COMPACTED ACCORDING TO THE SPECIFICATIONS.

(III) THE SIDEWALK SHALL BE CONSTRUCTED OF NEW YORK CITY MIX DESIGN NUMBER B3200 CONCRETE MIX AS PER THE SPECIFICATIONS. THE CONCRETE SHALL BE BOUGHT FROM A CONCRETE PLANT APPROVED BY THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION. ANY PERMITEE PLACING 150 SQUARE FEET OR LESS OF SIDEWALK MAY REQUEST APPROVAL TO USE A PORTABLE MIXER FROM THE DEPARTMENT.

(V) EXPANSION JOINTS ARE TYPICALLY PLACED AT 20' INTERVALS AND AT THE PROPERTY OR LOT LINE. EXPANSION JOINTS SHALL BE PLACED BETWEEN CURB AND SIDEWALK. EXPANSION JOINTS SHALL BE PLACED BETWEEN CONCRETE OF DIFFERENT THICKNESSES OR TO MATCH EXISTING EXPANSION JOINTS. EVERY EFFORT SHALL BE MADE TO ISOLATE SIDEWALK HARDWARE OR OTHER FIXED OBJECTS IN THE SIDEWALK SUCH AS FIRE HYDRANTS AND ELECTRICAL BOXES WITH EXPANSION MATERIAL. EXPANSION JOINT FILLER MATERIAL SHALL BE PLACED TO FULL DEPTH OF SIDEWALK. ALL EXPANSION JOINTS SHALL BE RECESSED 1/2" BELOW FINISHED SIDEWALK SURFACE AND SEALED WITH DEPARTMENT SPECIFIED SEALER AS SOON AS PRACTICAL. THE SEALER SHOULD BE APPLIED CAREFULLY TO AVOID OVERSPILLING ONTO SIDEWALK SURFACE AREA. THE JOINTS ARE TO BE FLUSH WITH THE FINISHED SURFACE. JOINTS SHALL NOT BE SEALED DURING FREEZING TEMPERATURES.

(VI) THE CONCRETE SHALL BE POURED AND FINISHED IN ACCORDANCE WITH THE SPECIFICATIONS.

(VII) FLAGS SHALL BE 5X 5" WHERE FEASIBLE. THE FOLLOWING METHODS OF SCORING SHALL BE EMPLOYED UNLESS OTHERWISE APPROVED BY THE COMMISSIONER: THE FRONTAGE OF EACH BUILDING SHALL BE DIVIDED BY FIVE. IF IT IS EXACTLY DIVISIBLE, ALL FLAGS SHALL BE 5" WIDE; IF NOT, THE FLAGS SHALL BE PLUS OR MINUS IN AN AMOUNT WHICH WILL MAKE THEM AS NEAR TO 5" AS POSSIBLE. CROSS FLAG SCORING SHALL BE AT 90 DEGREES TO THE BUILDING LINE AND CURB. THE FLAG MARKINGS ALONG THE SIDEWALK BETWEEN THE CURB AND PROPERTY LINE SHALL BE PARALLEL WITH THE PROPERTY LINE AND CURB AND BE UNIFORMLY 3" APART COMMENCING AT THE PROPERTY LINE, WITH THE ODD FLAG WIDTH, IF ANY, NEAREST THE CURB.

(VIII) ALL FLAGS CONTAINING SUBSTANTIAL DEFECTS SHALL BE FULLY REPLACED. PATCHING OF INDIVIDUAL FLAGS IS NOT PERMITTED.

(X) WHEN AN EXISTING CONCRETE SIDEWALK IS TO BE REPLACED AND THE FOUNDATION MATERIAL MEETS SPECIFICATIONS, THE FOUNDATION MATERIAL CAN BE RETAINED AND GRADED TO THE REQUIRED SUBGRADE. ANY FOUNDATION MATERIAL NOT MEETING SPECIFICATION SHALL BE REMOVED.

(X) SIDEWALK GRADES. UNLESS THE DEPARTMENT GRANTS A WAIVER OF GRADE, PERMANENT SIDEWALKS SHALL BE LAID TO THE LEGAL CURB GRADES.

(XI) TRANSVERSE SLOPE: SIDEWALKS SHALL BE LAID TO PITCH FROM THE BUILDING LINE TOWARD THE CURB EXCEPT IN SPECIAL CASES AS NOTED. THE MINIMUM SLOPE, CALCULATED ON A LINE PERPENDICULAR TO THE CURB, SHALL BE 1" IN 5", AND THE MAXIMUM SHALL BE 3" IN 5". MINIMUM SLOPES SHALL BE USED WHEREVER POSSIBLE. NOTE: THE MAXIMUM TRANSVERSE SLOPE PERMITTED FOR VAULT LIGHTS, COVERS, GRATINGS AND OTHER SIDEWALK STRUCTURES IS 1 3/4" IN 5'.

(XII) LONGITUDINAL SLOPE: THE LONGITUDINAL SLOPE OF THE SIDEWALK SHALL BE UNIFORM AND PARALLEL TO THE CURB AT THE CURB'S PROPER GRADE.

(XIII) CORNER TREATMENT: THE TWO SLOPE LINES MEETING AT THE INTERSECTION OF THE TWO BUILDING LINES SHALL DROP FROM A COMMON POINT AT THE BUILDING CORNER TOWARD THEIR RESPECTIVE CURBS AT A RATE WITHIN THE LIMITS PRESCRIBED BY THESE REGULATIONS. IF THIS IS NOT POSSIBLE, THE APPLICANT SHALL SUBMIT SKETCHES OR DRAWINGS, IN DUPLICATE, SHOWING THE METHOD OF TREATMENT PROPOSED, TO THE COMMISSIONER FOR APPROVAL.

(XIV) PEDESTRIAN RAMPS: ANY PERSON CONSTRUCTING, RECONSTRUCTING OR REPAIRING A CORNER SHALL INSTALL PEDESTRIAN RAMPS IN ACCORDANCE WITH THE SPECIFICATIONS AND IN ACCORDANCE WITH THE LATEST REVISION OF STANDARD DRAWING H-1011.

(XV) ADJOINING EXISTING AND NEW SIDEWALKS. JUNCTIONS AND TRANSITIONS BETWEEN NEW SIDEWALK AND EXISTING WALK SHALL CONFORM TO THE SPECIFICATIONS.

**( CONTINUED) DEPT. TRANSPORTATION SIDEWALK NOTES**

**(XVI) DISTINCTIVE SIDEWALK.**

(A) A SIDEWALK OF A DISTINCTIVE DESIGN OR MATERIAL MAY BE PERMITTED AND SHALL HARMONIZE WITH THE ARCHITECTURE OF THE ABUTTING BUILDING AND/OR AREA. THE PROPERTY OWNER OR DESIGNATED REPRESENTATIVE SHALL SUBMIT TO THE DEPARTMENT FOR APPROVAL. DETAILED PLANS, APPLICABLE FEE, THE DISTINCTIVE SIDEWALK IMPROVEMENT MAINTENANCE AGREEMENT (DSIMA) AND MATERIAL SAMPLES OF THE PROPOSED SIDEWALK.

(B) THE DISTINCTIVE SIDEWALK SHALL BE REPAIRED IN KIND OR BE REPLACED IN ITS ENTIRETY WITH CONCRETE. CHANGES TO EXISTING MATERIALS REQUIRE A NEW DSIMA.

(C) THE DISTINCTIVE SIDEWALK SHALL BE APPROVED BY THE ART COMMISSION PRIOR TO INSTALLATION.

**(XVII) SIDEWALK HARDWARE AND STRUCTURES:**

(A) CELLAR DOORS, GRATINGS, UNDERGROUND STREET ACCESS COVERS OR OTHER SIMILAR ITEMS SHALL NOT BE PLACED IN THE SIDEWALK UNLESS THEY ARE OF A TYPE APPROVED BY THE DEPARTMENT OF BUILDINGS.

(B) ANY ABANDONED STRUCTURES SHALL BE REMOVED AND REPLACED WITH CONCRETE SIDEWALK.

(C) WHERE THE EXISTING SIDEWALK IS THE STRUCTURAL ROOF OF A VAULT OR OTHER OPENING, A PLAN APPROVED BY THE DEPARTMENT OF BUILDINGS, ALONG WITH VAULT PLANS AS REQUIRED BY SECTION 2-13 OF THESE RULES, SHALL BE FILED FOR THE RESTORATION OF THE SIDEWALK.

(D) IF A SIDEWALK IMPROVEMENT IS IN THE VICINITY OF SUBWAY GRATINGS OR OVER A SUBWAY STRUCTURE, THE PERMITEE SHALL OBTAIN THE APPROVAL OF THE NEW YORK CITY TRANSIT AUTHORITY PRIOR TO THE COMMENCEMENT OF ANY WORK.

(XX) NO PERSON SHALL DEFACE ANY SIDEWALK BY PAINTING, PRINTING OR WRITING NAMES OR ADVERTISEMENTS, PLACING OTHER INSERTS, ATTACHING, IN ANY MANNER, ANY ADVERTISEMENT OR OTHER PRINTED MATTER, OR BY DRAWING, PAINTING OR DISCOLORING SUCH SIDEWALK, EXCEPT AS REQUIRED BY STATE OF NEW YORK INDUSTRIAL CODE RULE 9.3 RELATING TO CONSTRUCTION, EXCAVATION AND DEMOLITION OPERATIONS AT OR NEAR UNDERGROUND FACILITIES.

**(XX) TREE PITS AND TREES:**

(A) NO TREES SHALL BE PLANTED IN THE SIDEWALK AREA UNLESS A STREET OPENING PERMIT IS ISSUED BY THE DEPARTMENT. NO SUCH PERMIT SHALL BE ISSUED BY THE DEPARTMENT UNLESS THE PRIOR WRITTEN CONSENT OF THE DEPARTMENT OF PARKS AND RECREATION AUTHORIZING THE TREE PLANTING IS FURNISHED. TREE PITS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SPECIFICATIONS.

(B) THE SOIL LEVEL IN THE COMPLETED TREE PITS, INCLUDING ANY PAVED SURFACE, SHALL BE FLUSH WITH THE SIDEWALK AREA AND THE MAXIMUM DIMENSIONS OF THE TREE PIT SHALL BE 5' X 5'.

(C) NO TREES WITHIN THE SIDEWALK AREA SHALL BE DISTURBED OR REMOVED WITHOUT THE PERMISSION OF THE DEPARTMENT OF PARKS AND RECREATION.

(D) NO TREES OR TREE PITS SHALL BE INSTALLED IN HISTORIC DISTRICTS WITHOUT A REPORT FROM THE LANDMARKS PRESERVATION COMMISSION.

**(E) SUBSTANTIAL DEFECTS.**

ANY OF THE FOLLOWING CONDITIONS SHALL BE CONSIDERED A SUBSTANTIAL DEFECT.

(I) ONE OR MORE FLAGS MISSING OR SIDEWALK NEVER BUILT.

(II) ONE OR MORE FLAG(S) CRACKED TO SUCH AN EXTENT THAT ONE OR MORE PIECES OF THE FLAG(S) MAY BE LOOSEMED OR READILY REMOVED.

(III) AN UNDERMINED FLAG BELOW WHICH THERE IS A VISIBLE VOID OR A LOOSE FLAG THAT ROCKS OR SEESAWS.

(IV) A TRIP HAZARD WHERE THE VERTICAL DIFFERENTIAL BETWEEN ADJACENT FLAGS IS GREATER THAN OR EQUAL TO 1/2" OR WHERE A FLAG CONTAINS ONE OR MORE SURFACE DEFECTS OF ONE INCH OR GREATER IN ALL HORIZONTAL DIRECTIONS AND IS 1/2" OR MORE IN DEPTH.

(V) IMPROPER SLOPE, WHICH SHALL MEAN (I) A FLAG THAT DOES NOT DRAIN TOWARD THE CURB AND RETAINS WATER, (II) FLAG(S) THAT SHALL BE REPLACED TO PROVIDE FOR ADEQUATE DRAINAGE OR (III) A CROSS SLOPE EXCEEDING ESTABLISHED STANDARDS.

(VI) HARDWARE DEFECTS, WHICH SHALL MEAN

(-I) HARDWARE OR OTHER APPURTENANCES NOT FLUSH WITHIN 1/2" OF THE SIDEWALK SURFACE OR (-II) CELLAR DOORS THAT DEFLECT GREATER THAN 1" WHEN WALKED ON, ARE NOT SKID RESISTANT OR ARE OTHERWISE IN A DANGEROUS OR UNSAFE CONDITION.

(VII) A DEFECT INVOLVING STRUCTURAL INTEGRITY, WHICH SHALL MEAN A FLAG THAT HAS A COMMON JOINT, WHICH IS NOT AN EXPANSION JOINT, WITH A DEFECTIVE FLAG AND HAS A CRACK THAT MEETS THE COMMON JOINT AND ONE OTHER JOINT.

(VIII) NON-COMPLIANCE WITH DEPARTMENT SPECIFICATIONS FOR SIDEWALK CONSTRUCTION.

(IX) PATCHWORK, WHICH SHALL MEAN (I) LESS THAN FULL-DEPTH REPAIRS TO ALL OR PART OF THE SURFACE AREA OF BROKEN, CRACKED OR CHIPPED FLAG(S) OR (II) FLAG(S) PARTIALLY OR WHOLLY CONSTRUCTED WITH ASPHALT OR OTHER UNAPPROVED NON-CONCRETE MATERIAL, EXCEPT THAT PATCHWORK RESULTING FROM THE INSTALLATION OF CANOPY POLES, METERS, LIGHT POLES, SIGNS AND BUS STOP SHELTERS SHALL NOT BE SUBJECT TO THIS PROVISION UNLESS THE PATCHWORK CONSTITUTES A SUBSTANTIAL DEFECT AS SET FORTH IN SUBPARAGRAPHS (I) THROUGH (VIII) OF THIS PARAGRAPH.

(G) CURB (CONCRETE, STEEL FACED, STONE).

(1) GENERAL PERMIT CONDITIONS

(II) THE PERMITEE SHALL COMPLETE ALL CURB CONSTRUCTION OR INSTALLATION BEFORE COMMENCING ANY ROADWAY PAVING OPERATION OR SIDEWALK CONSTRUCTION, UNLESS OTHERWISE PERMITTED BY THE DEPARTMENT. (III) ALL CURBS MORE THAN 20 FEET IN LENGTH SHALL BE BUILT ACCORDING TO SPECIFICATIONS. A STREET OPENING PERMIT IS REQUIRED.

(III) CURBS LESS THAN 20 FEET IN LENGTH SHALL BE BUILT IN ACCORDANCE WITH STANDARD DETAIL H-1054. NO STREET OPENING PERMIT IS REQUIRED IF DONE IN CONJUNCTION WITH A SIDEWALK REPAIR PERMIT.

(IV) PERMITS FOR THE CONSTRUCTION OR INSTALLATION OF DROP CURBS AND CONCRETE DRIVEWAYS SHALL NOT BE ISSUED UNLESS AUTHORIZED BY A PERMIT FROM THE DEPARTMENT OF BUILDINGS.

(V) ALL CURBS SHALL BE BUILT ACCORDING TO SPECIFICATIONS.

(2) RECESS IN VAULT FOR CURBS WHERE A VAULT EXTENDS TO THE CURB LINE. THE PERMITEE SHALL PROVIDE A RECESS FOR ITS ENTIRE LENGTH IN WHICH THE CURB MAY BE SET OR RESET. SEE THE STANDARD DRAWING ON FILE WITH THE DEPARTMENT.

(3) PERMIT REQUIREMENTS

ALL PERMITS ARE SUBJECT TO APPLICABLE PROVISIONS CONTAINED IN SECTION 2-02 OF THESE RULES.

(4) NO PERSON SHALL DEFACE ANY CURB BY PAINTING, PRINTING OR WRITING NAMES OR ADVERTISEMENTS, PLACING OTHER INSERTS, ATTACHING, IN ANY MANNER, ANY ADVERTISEMENT OR OTHER PRINTED MATTER, OR BY DRAWING, PAINTING OR DISCOLORING SUCH CURB.

(5) GENERAL PROVISIONS FOR CONSTRUCTION CONCRETE CURBS SHALL BE 6 INCHES WIDE AT THE TOP, 8 INCHES WIDE AT THE BOTTOM AND 18 INCHES DEEP, OR EQUAL TO THE STANDARDS, MEASURED ON THE BACK. ALL CONSTRUCTION IS TO BE AT LEGAL LINE AND GRADE, OR AT ANY OTHER LINE AND GRADE APPROVED BY A DEPARTMENT ENGINEER, AND ACCORDING TO THE SPECIFICATIONS. PENETRATION OF BROKEN STONE BASE WILL NOT BE ALLOWED UNLESS THE OUTSIDE TEMPERATURE IS 50 DEGREES FAHRENHEIT OR ABOVE.

**CONSTRUCTION LEGEND**

- NEW EXTERIOR BRICK VENER WALL: 4" BRICK, 2" AIR SPACE, 1/2" DENSGLOSS BOARD, 6" STUD WALL WITH R-19 BAT INSULATION & INTERIOR 5/8" GYPSUM. 3 HR FIRE RATING (UL DESIGN V414)
- 6" C.M.U WALL 2 HR FIRE RATING (UL DESIGN 906)
- CAST IN PLACE CONCRETE WALL/COLUMN
- INTERIOR PARTITION (SEE SHEET A-900 FOR DETAILS & RATING)
- SMOKE DETECTOR
- CARBON MONOXIDE DETECTOR
- ILLUMINATED EXIT SIGN. PROVIDE EGRESS HARDWARE AT THESE LOCATIONS

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**DEVELOPMENT COMPANY:**

DURATECH CORPORATION

REVISIONS AND SUBMISSIONS					
#	REVISIONS	DATE	#	REVISIONS - DOB	DATE
0.1	INTERNAL CODE REVIEW	09/09/09	1	D.O.B REVIEW	01/14/10
0.2	STRUCTURAL REVIEW	09/09/09	2	D.O.B RECON	03/10/10
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0.5	REVISED CLIENT REVIEW	10/09/09			
0.6	MEP STRUCTURAL	10/09/09			
0.7	ISSUE FOR BANK REVIEW	11/03/09			
0.8	REVISED CLIENT REVIEW	01/28/10			
0.9	REVISED CLIENT REVIEW	05/04/10			

FOR FILING ONLY - NOT FOR CONSTRUCTION USE

**GENERAL NOTES BUILDING NOTES**

LOCATION:  
**52-01 QUEENS BOULEVARD  
QUEENS, NY 11377**

**NOTICE**

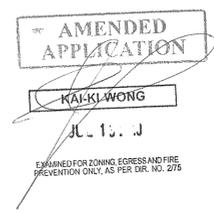
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**BIS #402639971**



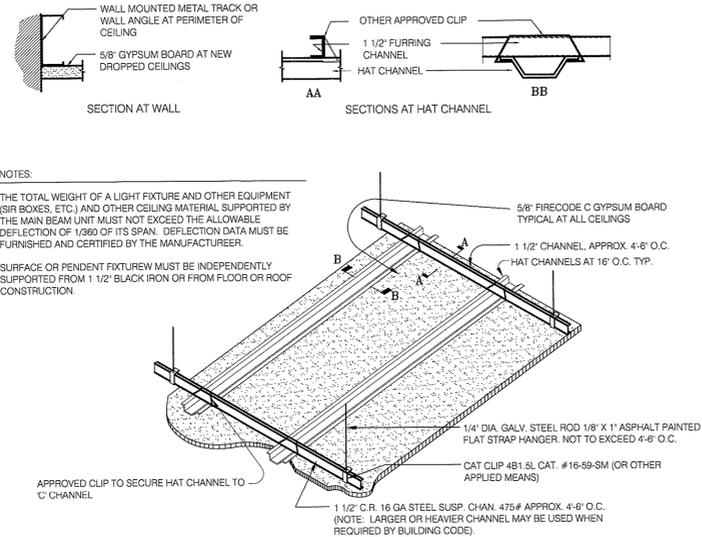
Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
DATE: **07/07/2009**  
SCALE: **AS NOTED**  
DRAWING No:

**N-001.00**  
4 of 25

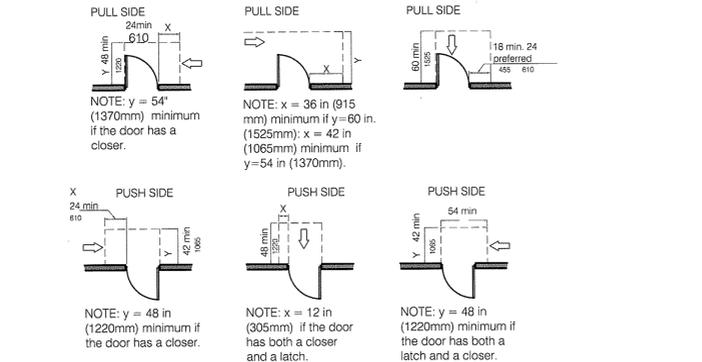


**STANDARD ABBREVIATIONS:**

ACT	Acoustic Ceiling Tile	IN	Inches
ALT	Alternate	INCL	Included/Including
APPROX.	Approximate	ID	Inside Diameter
ARCH.	Architectural	INSUL	Insulation
@	At	JT	Joint
%	Percent	LAV.	Lavatory
#	Number or Pounds	LT.	Light
&	And	LBS.	Pounds
ADDL	Additional	MAS	Masonry
ADJ	Adjacent	MAX	Maximum
ALLUM.	Above Finish Floor	MECH	Mechanical
ALUM.	Aluminum	MFR	Manufacturer
BD.	Board	MFRD	Manufacturer
BET.	Between	MIN.	Minimum
BLDG.	Building	MISC	Miscellaneous
BLK.	Block	MO	Masonry Opening
BLKG.	Blocking	MTL	Metal
BM.	Beam	N	North
BOT.	Bottom	NDL	No Dollar Limit
B.O.	Bottom of Masonry Unit	NIC	Not in Contract
CMU	Concrete Masonry Unit	NO.	Number
C.J.	Control Joint	NOM	Nominal
CL or C	Centerline	NTS	Not to Scale
CLG.	Ceiling	o.c.	On Center
COL.	Column	OD	Outside Diameter
CONC.	Concrete	OPEN'G	Opening
CONST.	Construction	OPEN'GS	Openings
CONT.	Continuous	OPG	Opening
CPT	Carpet	OPP	Opposite
CT	Ceramic Tile	OVHD	Overhead
DEG	Degree	PLAM	Plastic Laminate
DEMO	Demolition	PLAS.	Plaster
DET	Detail	PLYWD	Plywood
DIA	Diameter	PNT	Paint
DM	Dimension	PR	Primer
DIN	Down	Q.T.	Quarry Tile
DR	Door	R.	Riser
DWG	Drawing	R.D.	Riser Drain
E	Each	REF.	Refer to
EA.	Each	REF.	Refer to
E.I.F.S.	Exterior Insulation & Finish System	REIN.	Reinforcing
E.J.	Expansion Joint	REINF.	Reinforcing
EL.	Elevation	REQD	Required
ELEC	Electric	RM.	Room
ELEV.	Elevator	RO	Rough Opening
EMER.	Emergency	S	South
ENCL.	Enclosure	SCHED.	Schedule
EP	Electric Panel	SECT.	Section
EQ.	Equal	sf	Square Foot/Feet
EQUIP.	Equipment	SHT.	Sheet
EXIST'G	Existing	SCWD	Solid Core Wood Door
EXP. JT.	Expansion Joint	SM.	Similar
EXT	Exterior	SPEC	Specification
F.A.	Fire Alarm	SQ	Square
F.D.	Floor Drain	S.S.	Stainless Steel
F.E.C.	Fire Extinguisher Cabinet	STD.	Standard
FBO	Furnished by Others	STL	Steel
FDN	Foundation	STOR.	Storage
F.H.C.	Fire Hose Cabinet	STRUCT.	Structure
FIN	Finish	STRUCT. ENG.	Structural Engineer
FLUOR.	Fluorescent	SUSP.	Suspended
FF	Finish Floor	T&G	Tongue and Groove
FL	Floor	THK.	Thick
FO	Finished Opening	T.O.	Top of
F.O.B.	Face of Brick	TR	Tread
F.O.C.	Face of Concrete	TYP	Typical
FOIC	Furnished by Owner	UNON	Unless Otherwise Noted
FT	Foot / Feet	U/S	Underside
FTG	Footing	UL	Underwriters Laboratory Inc
ga.	Gauge	USG	United States Gypsum Company
GALV.	Galvanized	VB	Vapor Barrier
G.C.	General Contractor	V.C.T.	Vinyl Composition Tile
GL	Glass	VERT.	Vertical
GYP. BD.	Gypsum Board	VIF	Verify in Field
H.C.	Hollow Core	W	West
H/C	Handicapped	With	With
HDWD.	Hard Wood	W.C.	Water Closet
HDWR	Hardware	W/O	Without
HM	Hollow Metal	WD.	Wood
HORIZ	Horizontal	WDW	Window
HR	Hour	WIC	Walk-in Closet
HT.	Height	WWF	Welded Wire Fabric
HVAC	Heating, Ventilation & Air Conditioning	YR.	Year



**1 SUSPENDED CEILING DETAILS**  
N-002 N.T.S.

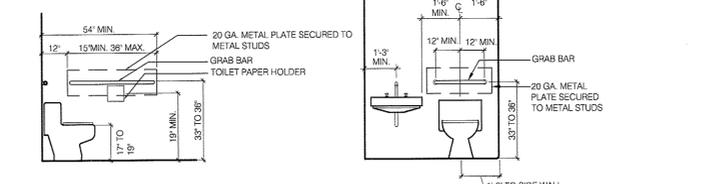


**2 ACCESSIBILITY DOOR CLEARANCES**  
N-002

NOTE: MIN. CLEARANCES SHALL BE PROVIDED PER ANSI 4.13.6  
1. SEE TYPICAL DOOR TYPES ON DRAWING A-701 FOR MORE DETAIL INFO.

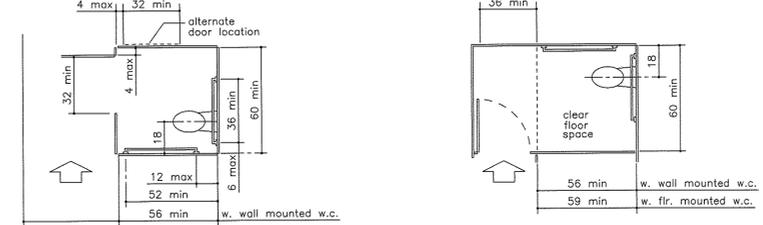
**H.C. ACCESSIBILITY NOTES**

- THE SCOPE OF WORK UNDER THIS APPLICATION SHALL NOT AFFECT NOR RESTRICT COMPLIANCE WITH THE RULES AND REGULATION SET FORTH UNDER LOCAL LAW 58 OF 1987 EFFECTIVE SEPTEMBER 1, 1987.
- A CLEAR UNOBSTRUCTED INTERIOR ACCESSIBLE ROUTE SHALL BE PROVIDED PER SECTION 27-292.5(C) INCLUDING BUT NOT LIMITED TO ACCOMMODATING TOILETS, KITCHENS.
- TOILETS SHALL BE EQUIPPED WITH A MINIMUM, IN ADDITION TO THE REQUIRED FIXTURES, ONE WATER CLOSET AND ONE LAVATORY ACCESSIBLE TO PERSONS HAVING PHYSICAL DISABILITIES SURROUNDING PARTITIONS SHALL BE ADEQUATELY REINFORCED TO ACCOMMODATE GRAB BARS.

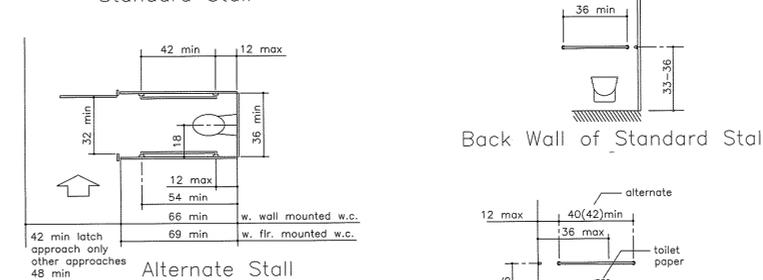


**4 WATER CLOSET ACCESSIBILITY DIAGRAM**  
N-002

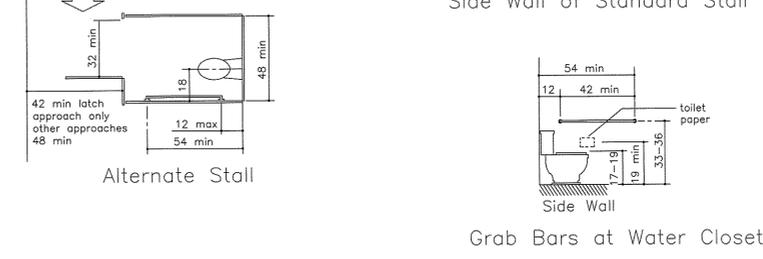
(PER LOCAL LAW 58/87) & ANSI A117.1



**Standard Stall**



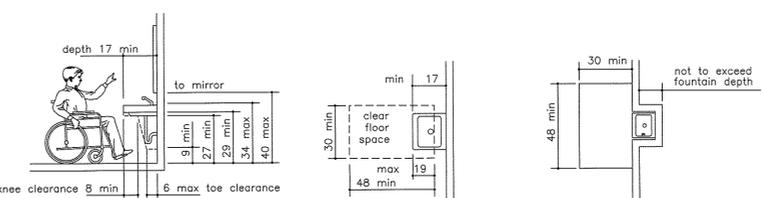
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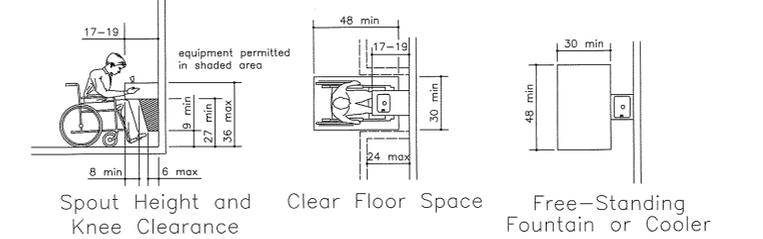
**Standard Stall**



**Standard Stall**



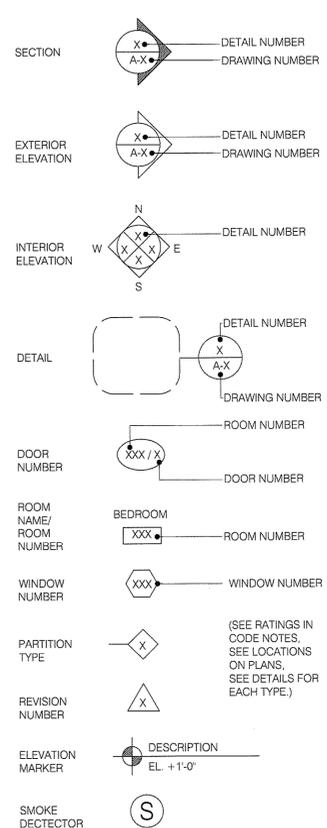
**Standard Stall**



**3 HANDICAPPED ACCESSIBILITY STANDARDS**  
N-002

NOTE: MIN. CLEARANCES SHALL BE PROVIDED PER ANSI A117.1-1980 & PER ADAAG 1990

**STANDARD SYMBOLS:**



**CONSTRUCTION LEGEND**



**REVISIONS AND SUBMISSIONS**

#	REVISIONS	DATE	#	REVISIONS - DOB	DATE
0.1	INTERNAL CODE REVIEW	09/08/09	1	D.O.B. REVIEW	01/14/10
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0.4	REVISED CLIENT REVIEW	09/25/09	4	DOB AMENDMENT	05/06/10
0.5	REVISED CLIENT REVIEW	10/09/09			
0.6	MEP-STRUCTURAL	10/09/09			
0.7	ISSUE FOR BANK REVIEW	11/03/09			
0.8	REVISED CLIENT REVIEW	01/28/10			
0.9	REVISED CLIENT REVIEW	05/04/10			

**TYPICAL DETAILS ACCESSIBILITY & CODE CLEARANCES**

LOCATION:  
**52-01 QUEENS BOULEVARD**  
**QUEENS, NY 11377**

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**BIS #402639971**

Signature: **KAI-KI WONG**  
Date: **07/07/2009**

SCALE: **AS NOTED**  
DRAWING No. **N-002.00**





CONSTRUCTION LEGEND

-  NEW EXTERIOR BRICK VENEER WALL - #1 BRICK, 2" AIR SPACE, 1 1/2" DENSIGLASS BOARD, 6" STUD WALL WITH R-19 BATT INSULATION & INTERIOR 5/8" GYPSUM, 3 HR FIRE RATING (UL DESIGN V414)
-  6" C.M.U. WALL - 2 HR FIRE RATING (UL DESIGN 906)
-  CAST IN PLACE CONCRETE WALL/COLUMN
-  INTERIOR PARTITION (SEE SHEET A-900 FOR DETAILS & RATING)
-  SMOKE/CO COMBO DETECTOR
-  ILLUMINATED EXIT SIGN, PROVIDE EGRESS HARDWARE AT THESE LOCATIONS
-  MECHANICAL VENTILATION FAN (SEE MEP DRAWINGS)

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DEVELOPMENT COMPANY:  
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REVISIONS AND SUBMISSIONS

#	REVISIONS	DATE	#	REVISIONS - DOB	DATE
0.1	INTERNAL CODE REVIEW	09/08/09	1	DOB REVIEW	01/14/10
0.2	STRUCTURAL REVIEW	09/09/09	2	DOB RECON	03/10/10
0.3	CLIENT REVIEW	09/16/09	3	ZONING REVIEW	04/14/10
0.4	REVISED CLIENT REVIEW	09/25/09	4	DOB AMENDMENT	05/06/10
0.5	REVISED CLIENT REVIEW	10/08/09	5	DOB AMENDMENT	01/17/12
0.6	MEP- STRUCTURAL	10/08/09			
0.7	ISSUE FOR BANK REVIEW	11/03/09			
0.8	REVISED CLIENT REVIEW	01/28/10			
0.9	REVISED CLIENT REVIEW	05/04/10			
1.0	REVISED CLIENT REVIEW	12/07/11			
1.1	REVISED CLIENT REVIEW	12/16/11			
1.2	REVISED CLIENT REVIEW	12/28/11			

TITLE:  
**ZONING SHEET**

LOCATION:  
**52-01 QUEENS BOULEVARD  
 QUEENS, NY 11377**

NOTICE

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**BIS #402639971**

AMENDED APPLICATION

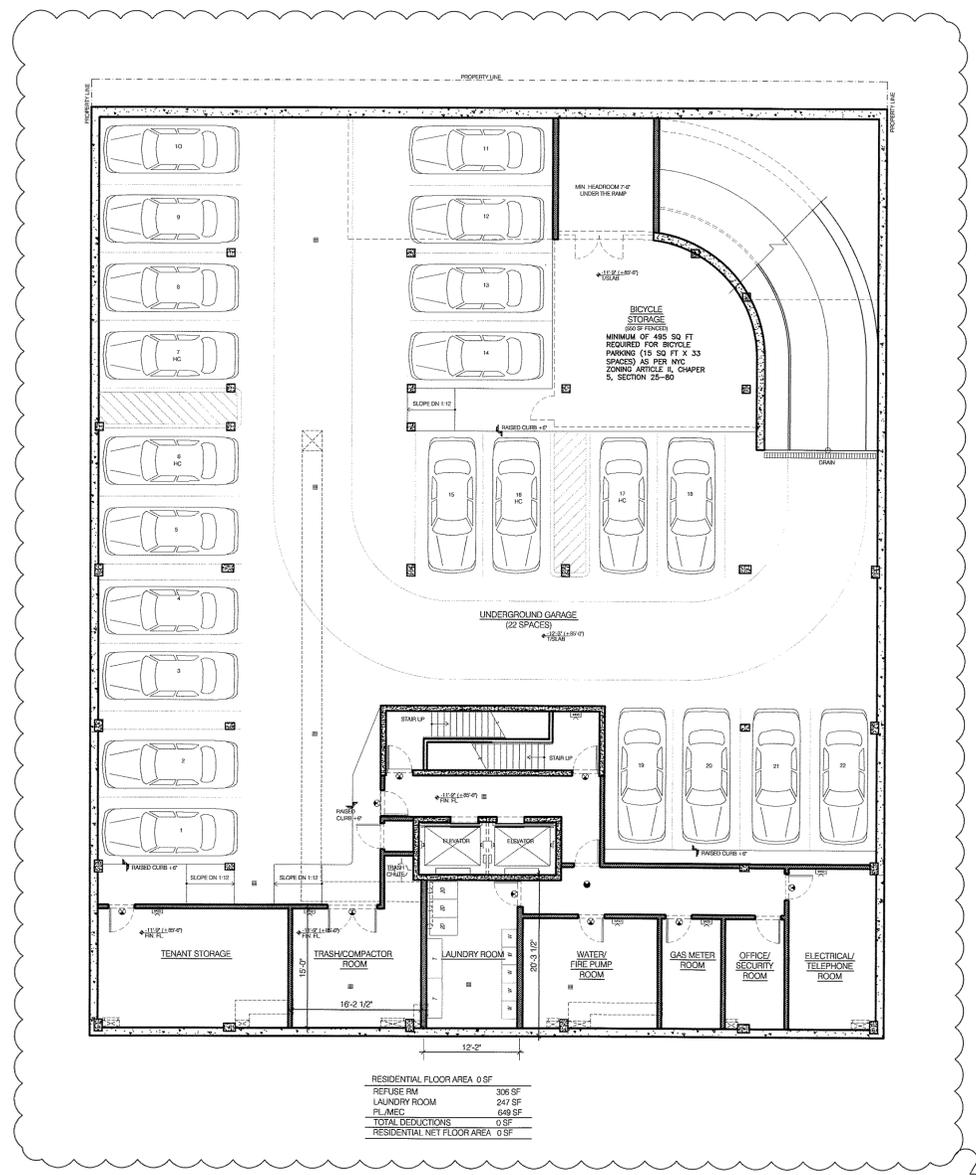


Kai-Ki Wong  
 Signature

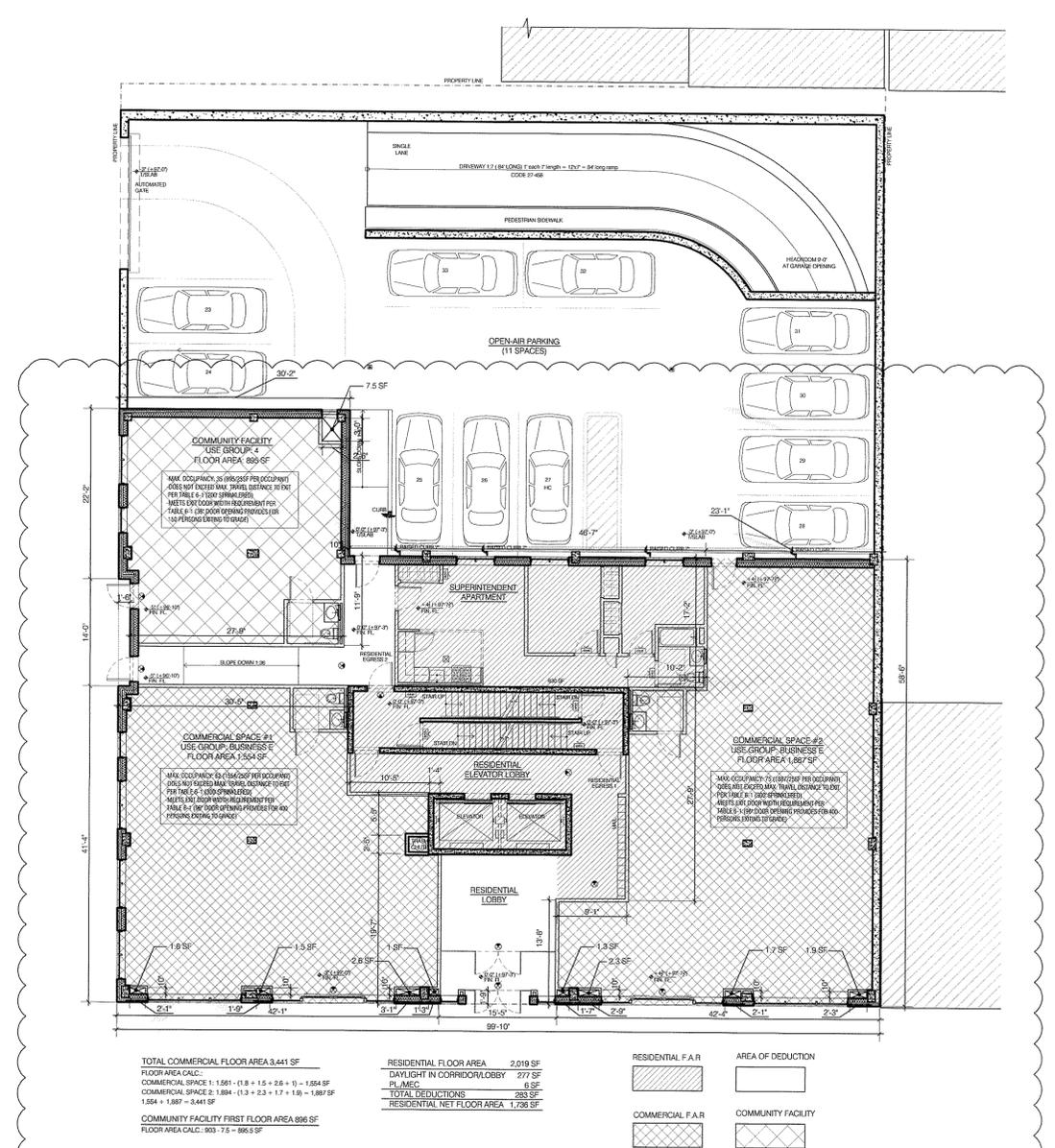
JAN 27 2012  
 DATE

EXAMINATOR ZONING EGRESS AND FIRE  
 PROVISION ONLY, AS PER DWR 275

DATE:	07/07/2009
SCALE:	AS NOTED
DRAWING No.	<b>ZO-002.00</b>
DOB SHEET 2 of 27	

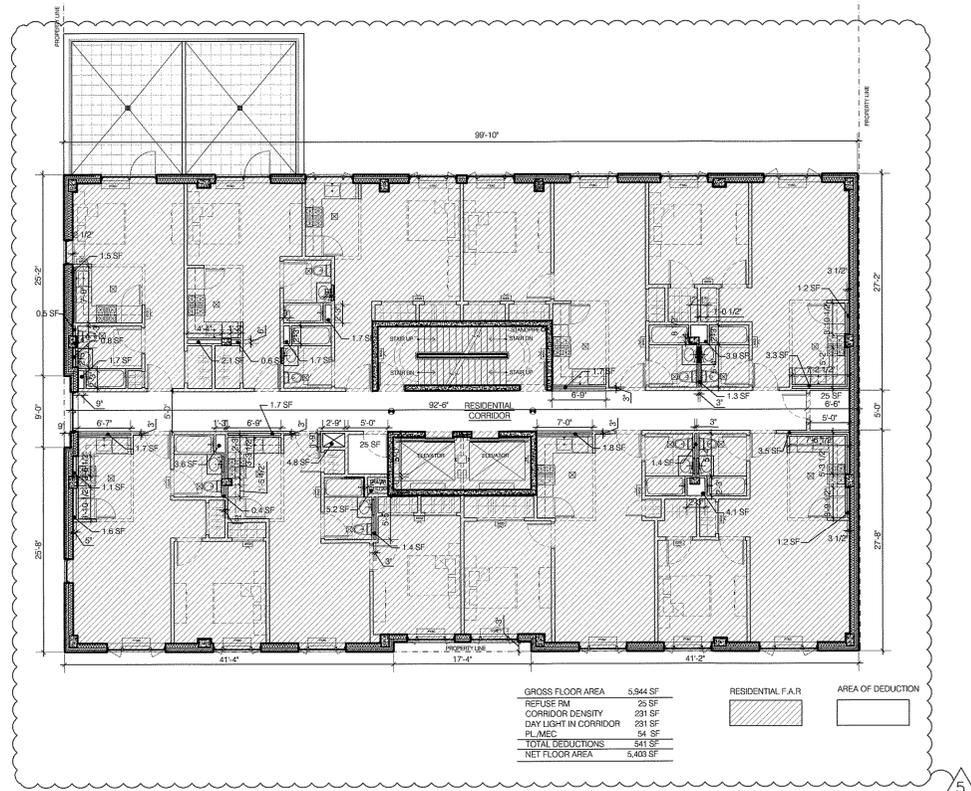


**1 CELLAR LEVEL**  
 ZO-002 SCALE: 3/32"=1'-0"

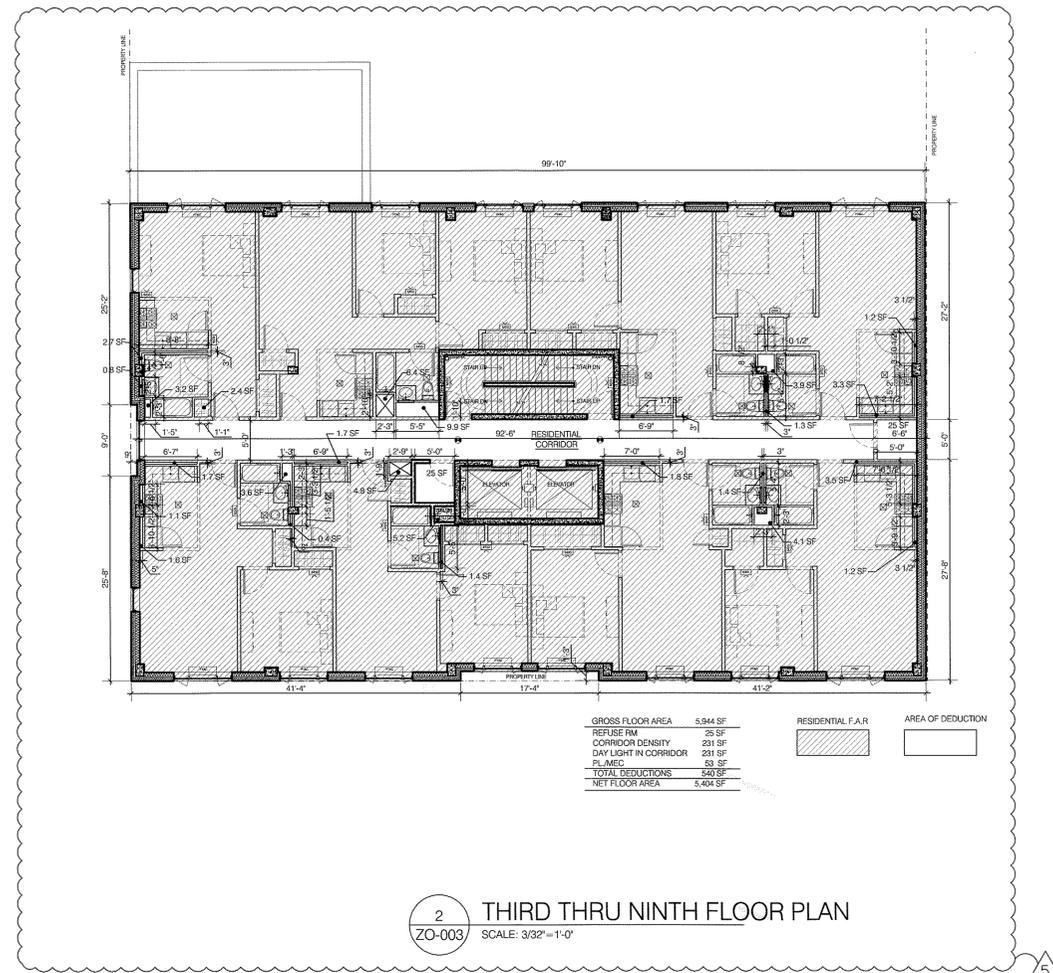


**2 FIRST FLOOR PLAN**  
 ZO-002 SCALE: 3/32"=1'-0"

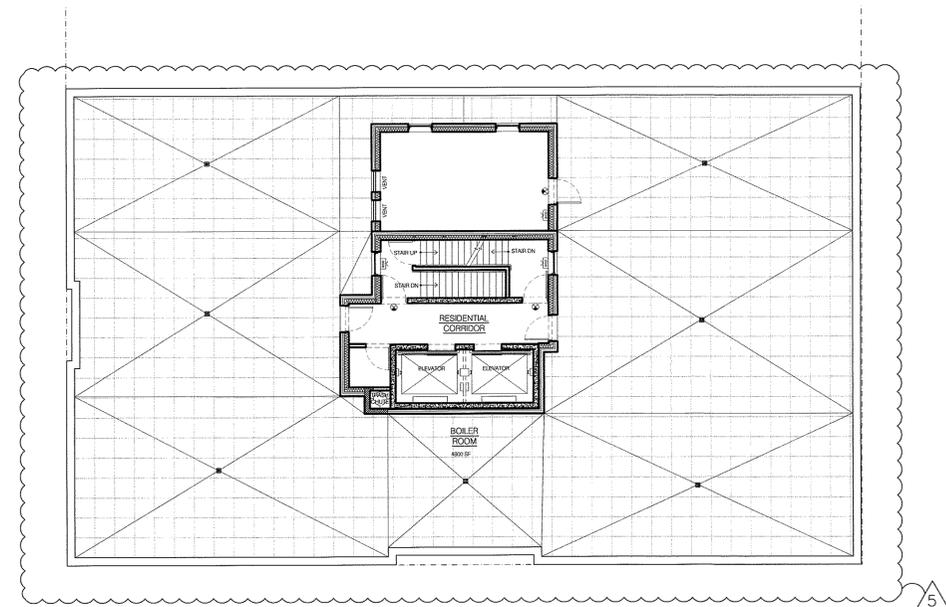




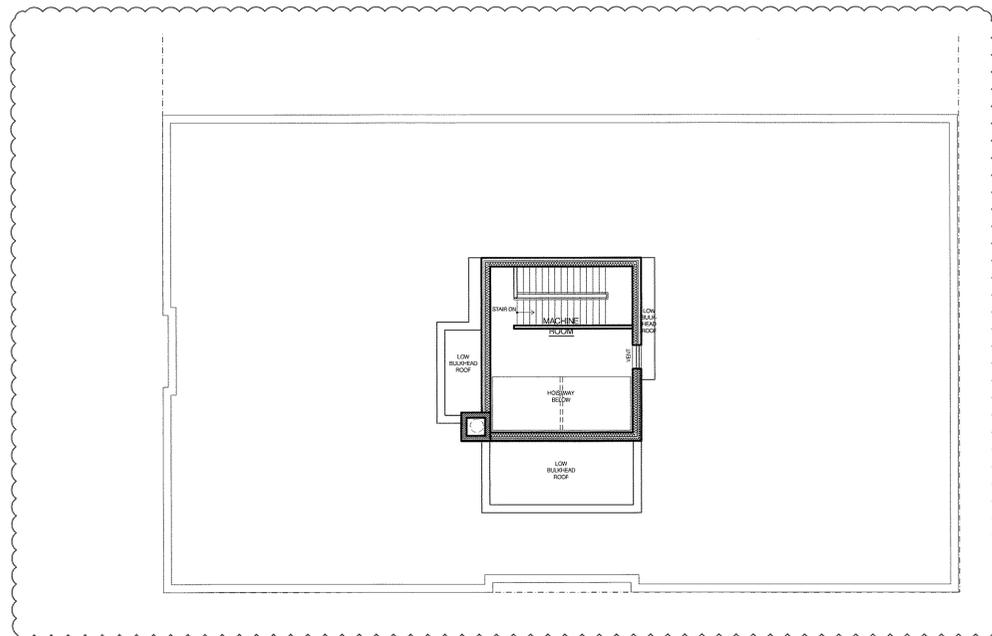
1 SECOND FLOOR PLAN  
ZO-003 SCALE: 3/32"=1'-0"



2 THIRD THRU NINTH FLOOR PLAN  
ZO-003 SCALE: 3/32"=1'-0"



3 ROOF AND LOWER BULKHEAD FLOOR PLAN  
ZO-003 SCALE: 3/32"=1'-0"



4 UPPER BULKHEAD FLOOR PLAN  
ZO-003 SCALE: 3/32"=1'-0"

CONSTRUCTION LEGEND

- NEW EXTERIOR BRICK VENEER WALL - 4" BRICK, 2" AIR SPACE, 1/2" DENSGLASS BOARD, 6" STUD WALL WITH R-19 BATT INSULATION & INTERIOR 5/8" GYPSUM, 3 HR FIRE RATING (UL DESIGN V414)
- 6" C.M.U. WALL - 2 HR FIRE RATING (UL DESIGN 900)
- CAST IN PLACE CONCRETE WALL/COLUMN
- INTERIOR PARTITION (SEE SHEET A-900 FOR DETAILS & RATING)
- SMOKE/CO COMBO DETECTOR
- ILLUMINATED EXIT SIGN, PROVIDE EGRESS HARDWARE AT THESE LOCATIONS
- MECHANICAL VENTILATION FAN (SEE MEP DRAWINGS)

ARCHITECT:  
ERNST ARCHITECT, PLLC  
177 WEST BROADWAY, THIRD FLOOR  
NEW YORK, NY 10013  
©2009 TODD A. ERNST P.A.  
TEL (212) 343-3102  
FAX (212) 343-3109  
ernst\_arch@earthlink.net

STRUCTURAL & MEP ENGINEER:  
SHARON ENGINEERING, PC.  
34-27 STEINWAY, STREET SUITE 201  
LONG ISLAND CITY, NY 11101  
TEL (718) 752-1500  
FAX (718) 752-9404  
RSHARON@SHARONENGINEERING.COM

DEVELOPMENT COMPANY:  
DURATECH CORPORATION

REVISIONS AND SUBMISSIONS

#	REVISIONS	DATE	#	REVISIONS - DOB	DATE
0.1	INTERNAL CODE REVIEW	09/08/09	1	DOB REVIEW	01/14/10
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1.2	REVISED CLIENT REVIEW	12/28/11			

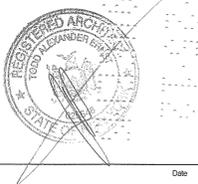
TITLE:  
**ZONING SHEET**

LOCATION:  
**52-01 QUEENS BOULEVARD  
QUEENS, NY 11377**

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**BIS #402639971**

AMENDED APPLICATION  
Karl-R Wong  
JAN 27 2012  
EXAMINED FOR ZONING ADDRESS AND F.A.R. PREVENTION ONLY AS PER D.C.R. 2707



Signature: \_\_\_\_\_ Date: \_\_\_\_\_

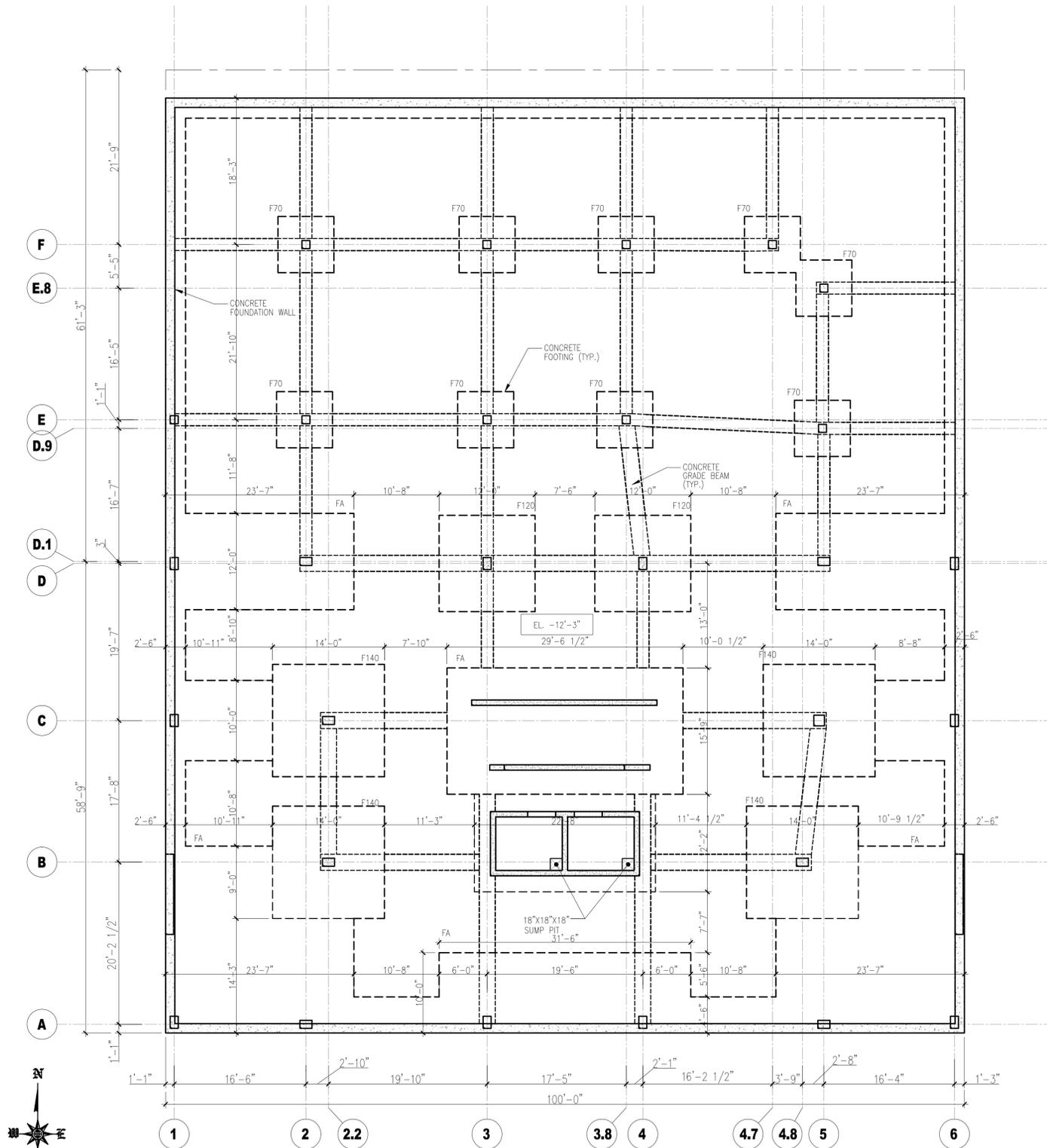
DATE: 07/07/2009

SCALE: AS NOTED

DRAWING No: **ZO-003.00**

DOB SHEET 3 of 27





**FOUNDATION PLAN** SCALE: 1/8" = 1'-0"

**FOUNDATION NOTES:**

1. ALL FOOTINGS SHALL BEAR ON UNDISTURBED SOIL OF MIN. 3.0 TONS PER SQ. FT. BEARING CAPACITY. IF SOIL OF THIS CAPACITY IS NOT FOUND AT THE ELEVATIONS INDICATED, THE FOOTINGS SHALL BE LOWERED AT THE DIRECTION OF SOILS ENGINEER.
2. [ EL. X'-XX" ] DENOTES TOP OF SLAB ELEVATION
3. [ - - - ] DENOTES BOTTOM OF FOOTING ELEVATION
4. F70 DENOTES REINFORCED CONCRETE FOOTING
5. GB-01 DENOTES REINFORCED CONCRETE GRADE BEAM

FOOTING SCHEDULE			
MARK	SIZE	THICK.	REINFORCING EACH WAY U.O.N.)
F70	7'-0" x 7'-0"	1'-6"	8#5 TOP 8#7 BOTTOM
F120	12'-0" x 12'-0"	2'-6"	13#7 TOP 13#8 BOTTOM
F140	14'-0" x 14'-0"	2'-9"	15#8 TOP 15#9 BOTTOM
FA	AS PER PLAN	2'-6"	#8@12" O.C. TOP #8@12" O.C. BOTTOM

CONSTRUCTION LEGEND

	NEW EXTERIOR BRICK VENEER WALL: 4" BRICK, 2" AIR SPACE, 1/2" DENSEGLASS BOARD, 6" STUD WALL WITH R-19 BATT INSULATION & INTERIOR 5/8" GYPSUM. 3 HR FIRE RATING (UL DESIGN V414)
	6" CMU WALL 2 HR FIRE RATING (UL DESIGN 906)
	CAST IN PLACE CONCRETE WALL/COLUMN
	INTERIOR PARTITION (SEE SHEET A-900 FOR DETAILS & RATING)
	SMOKE/CO COMBO DETECTOR
	ILLUMINATED EXIT SIGN, PROVIDE EGRESS HARDWARE AT THESE LOCATIONS

**ARCHITECT:**  
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**DEVELOPMENT COMPANY:**  
 DURATECH CORPORATION

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1.1	REVISED CLIENT REVIEW	12/16/11			
1.2	REVISED CLIENT REVIEW	12/28/11			

TITLE:  
**FOUNDATION PLAN**

LOCATION:  
**52-01 QUEENS BOULEVARD  
 QUEENS, NY 11377**

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**BIS #402639971**

Signature \_\_\_\_\_ Date \_\_\_\_\_

DATE: **07/07/2009**

SCALE: **AS NOTED**

DRAWING No. **FO-100.00**  
 3 OF 3

## **APPENDIX 6**

### **DESIGN DIAGRAMS AND SPECIFICATIONS FOR VAPOR BARRIER**

# VAPORBLOCK® PLUS™ VBP20

Under-Slab Vapor / Gas Barrier



## Product Description

VaporBlock® Plus™ 20 is a seven-layer co-extruded barrier made from state-of-the-art polyethylene and EVOH resins to provide unmatched impact strength as well as superior resistance to gas and moisture transmission. VaporBlock® Plus™ 20 is a highly resilient underslab / vertical wall barrier designed to restrict naturally occurring gases such as radon and/or methane from migrating through the ground and concrete slab. VaporBlock® Plus™ 20 is more than 100 times less permeable than typical high-performance polyethylene vapor retarders against Methane, Radon and other harmful VOCs.

VaporBlock® Plus™ 20 is one of the most effective underslab gas barriers in the building industry today far exceeding ASTM E-1745 (Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs) Class A, B and C requirements. Available in a 20 (Class A) mil thicknesses designed to meet the most stringent requirements. VaporBlock® Plus™ 20 is produced within the strict guidelines of our ISO 9001:2008 Certified Management System.

## Product Use

VaporBlock® Plus™ 20 resists gas and moisture migration into the building envelop when properly installed to provide protection from toxic/harmful chemicals. It can be installed as part of a passive or active control system extending across the entire building including floors, walls and crawl spaces. When installed as a passive system it is recommended to also include a ventilated system with sump(s) that could be converted to an active control system with properly designed ventilation fans.

VaporBlock® Plus™ 20 works to protect your flooring and other moisture-sensitive furnishings in the building's interior from moisture and water vapor migration, greatly reducing condensation, mold and degradation.

## Size & Packaging

VaporBlock® Plus™ 20 is available in 10' x 150' rolls to maximize coverage. All rolls are folded on heavy-duty cores for ease in handling and installation. Other custom sizes with factory welded seams are available based on minimum volume requirements. Installation instructions and ASTM E-1745 classifications accompany each roll.



Under-Slab Vapor/Gas Retarder

## Product

## Part #

VaporBlock Plus 20 ..... VBP 20

## APPLICATIONS

Radon Barrier	Under-Slab Vapor Retarder
Methane Barrier	Foundation Wall Vapor Retarder
VOC Barrier	

**VaporBlock® Plus™**  
UNDERSLAB VAPOR RETARDER / GAS BARRIER

# VAPORBLOCK® PLUS™ VBP20

Under-Slab Vapor / Gas Barrier

		VAPORBLOCK PLUS 20	
PROPERTIES	TEST METHOD	IMPERIAL	METRIC
APPEARANCE		White/Gold	
THICKNESS, NOMINAL		20 mil	0.51 mm
WEIGHT		102 lbs/MSF	498 g/m <sup>2</sup>
CLASSIFICATION	ASTM E 1745	CLASS A, B & C	
TENSILE STRENGTH LBF/IN (N/CM) AVERAGE MD & TD (NEW MATERIAL)	ASTM E 154 Section 9 (D-882)	58 lbf	102 N
IMPACT RESISTANCE	ASTM D 1709	2600 g	
MAXIMUM USE TEMPERATURE		180° F	82° C
MINIMUM USE TEMPERATURE		-70° F	-57° C
PERMEANCE (NEW MATERIAL)	ASTM E 154 Section 7  ASTM E 96 Procedure B	0.0051 Perms grains/(ft <sup>2</sup> ·hr·in·Hg)	0.0034 Perms g/(24hr·m <sup>2</sup> ·mm Hg)
RADON DIFFUSION COEFFICIENT	K124/02/95	< 1.1 x 10 <sup>-13</sup> m <sup>2</sup> /s	
METHANE PERMEANCE	ASTM D 1434	< 1.7 x 10 <sup>-10</sup> m <sup>2</sup> /d·atm 0.32 GTR (Gas Transmission Rate) ml/m <sup>2</sup> ·D·ATM	

## VaporBlock® Plus™ Placement

All instructions on architectural or structural drawings should be reviewed and followed.

Detailed installation instructions accompany each roll of VaporBlock® Plus™ and can also be located on our website.

ASTM E-1643 also provides general installation information for vapor retarders.



VaporBlock® Plus™ is a seven-layer co-extruded barrier made using high quality virgin-grade polyethylene and EVOH resins to provide unmatched impact strength as well as superior resistance to gas and moisture transmission.

Note: To the best of our knowledge, unless otherwise stated, these are typical property values and are intended as guides only, not as specification limits. Chemical resistance as well as other performance criteria is not implied or given and actual testing must be performed for applicability in specific applications and/or conditions. RAVEN INDUSTRIES MAKES NO WARRANTIES AS TO THE FITNESS FOR A SPECIFIC USE OR MERCHANTABILITY OF PRODUCTS REFERRED TO, no guarantee of satisfactory results from reliance upon contained information or recommendations and disclaims all liability for resulting loss or damage.



### Engineered Films Division

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Sioux Falls, SD 57117-5107  
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Toll Free: 800-635-3456  
Email: [efdsales@ravenind.com](mailto:efdsales@ravenind.com)  
[www.ravenefd.com](http://www.ravenefd.com)

10/10 EFD 1125

# UNDERSLAB VAPOR / GAS BARRIERS INSTALLATION GUIDELINES

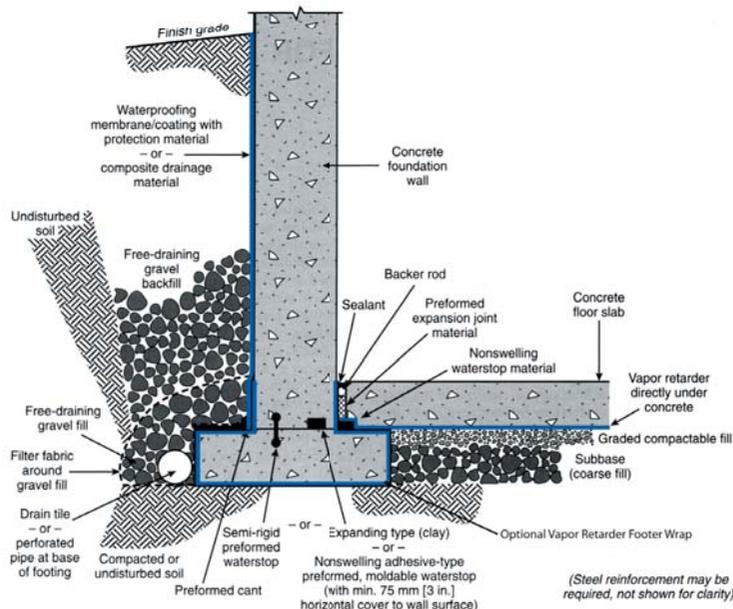
Visit our website for current technical data sheets as well as detailed installation guidelines at [www.vaporblock.com](http://www.vaporblock.com) and click on the appropriate link under the left menu.

Note: Please refer to ASTM E 1643 (Standard Practice for Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs) and the

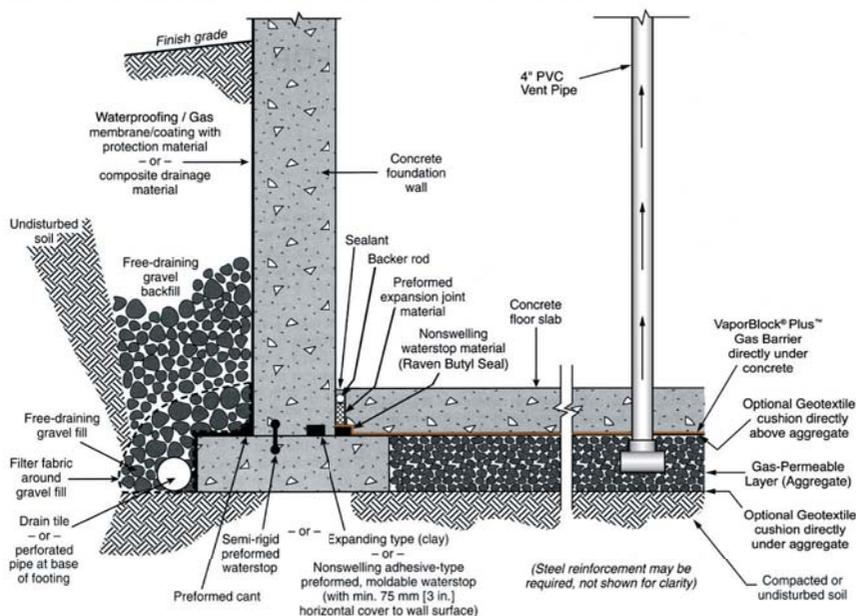
appendixes that accompany this standard to provide additional installation information.

Please follow all architectural drawings/instructions and conform to all applicable local, state and federal regulations and laws pertaining to residential and commercial building construction.

## UNDERSLAB VAPOR RETARDER/BARRIER



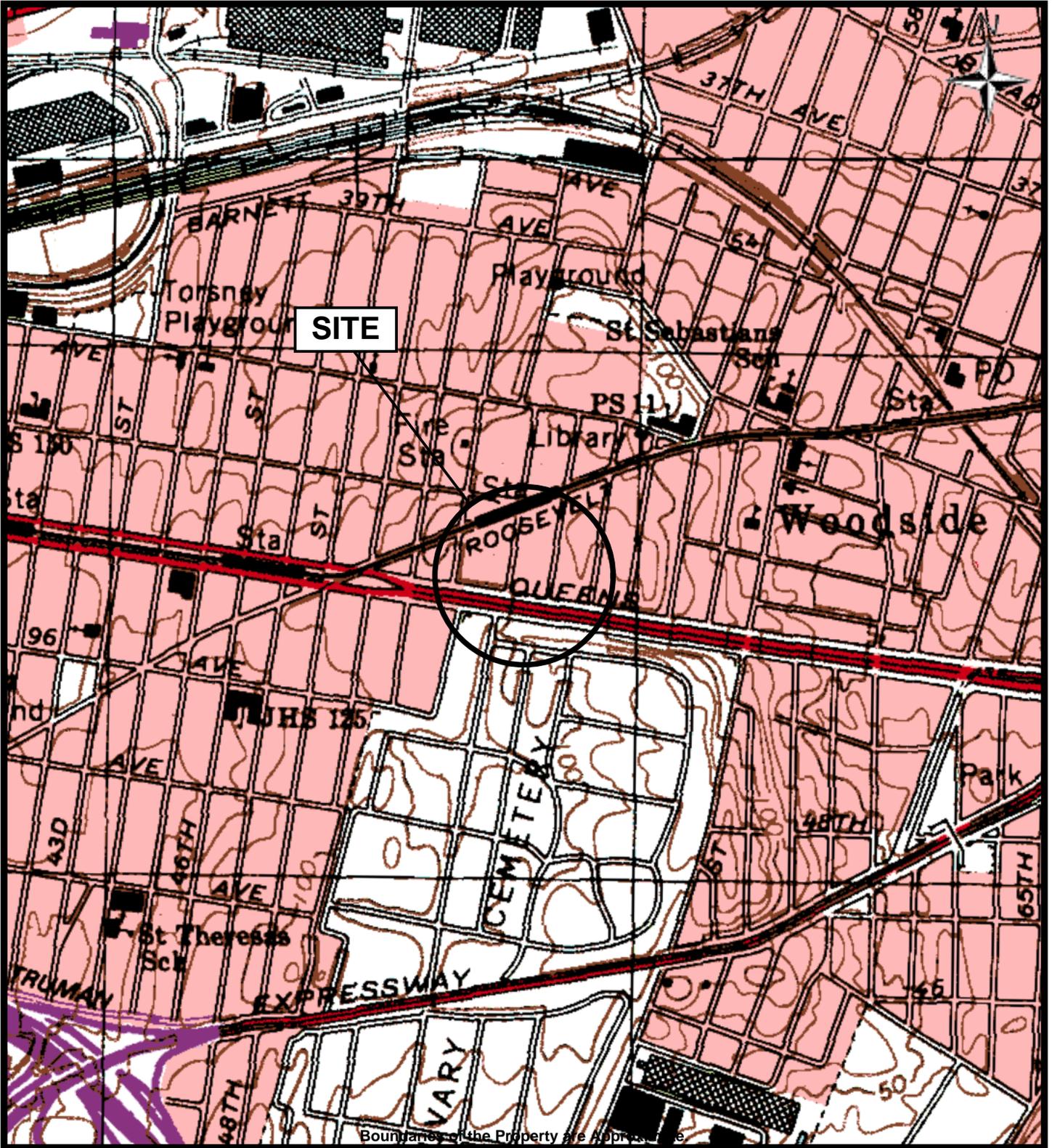
## UNDERSLAB MOISTURE AND GAS BARRIER



Illustrations should be used for general information only. Original diagrams on this page were reprinted with permission by the Portland Cement Association.

Reference: Kanare, Howard M., Concrete Floors and Moisture, EB119, Portland Cement Association, Skokie, Illinois, and National Ready Mixed Concrete Association, Silver Spring, Maryland, USA, 2008, 176 pages.

## **FIGURES**



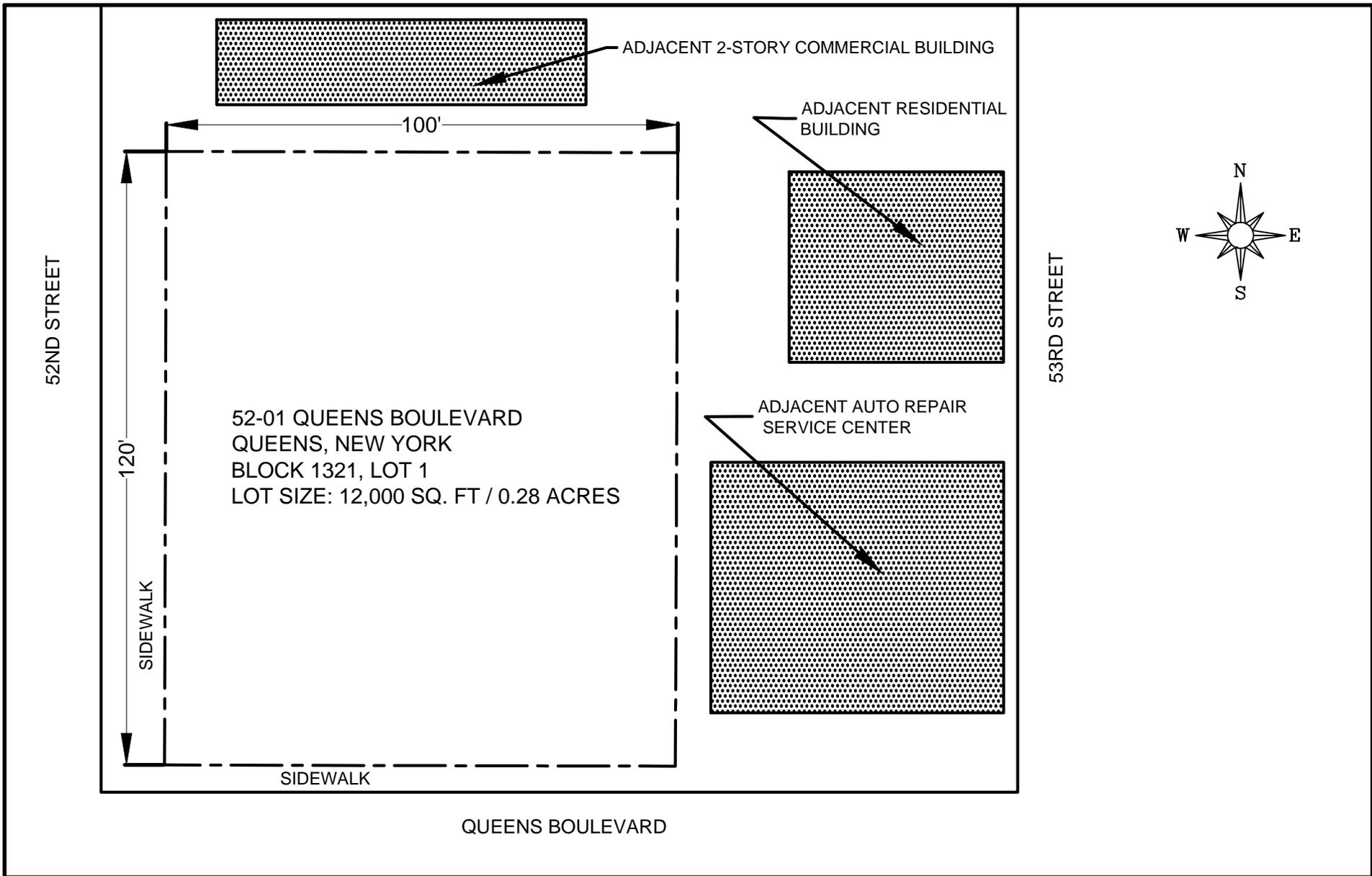
Boundaries of the Property are Approximate

**SITE LOCATION MAP**  
Remedial Investigation Report  
52-01 Queens Boulevard  
Woodside, Queens, NY 11377



PREPARED FOR: 52-01, LLC  
PROJ. MGR: William Silveri  
DRAWN BY: William Silveri

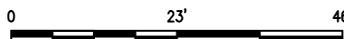
DATE: 06/18/2012  
PROJ. #: 12-0031



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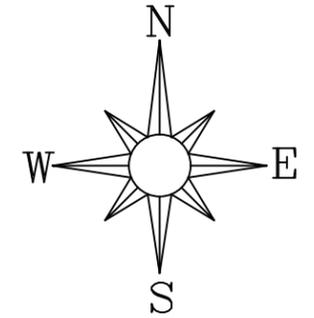
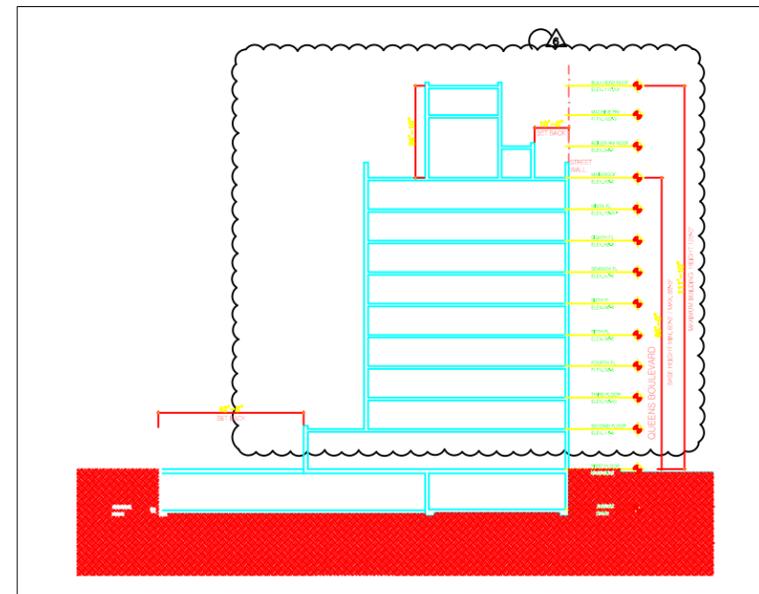
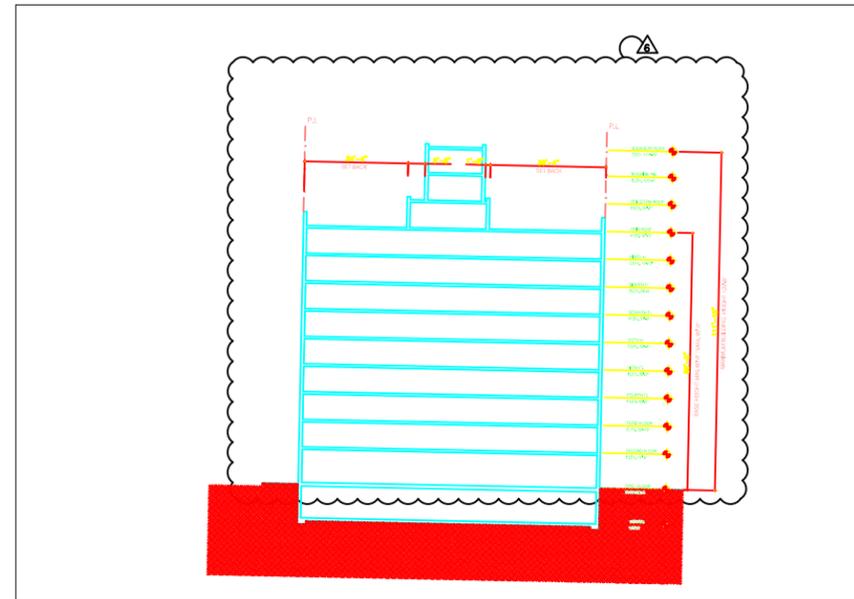
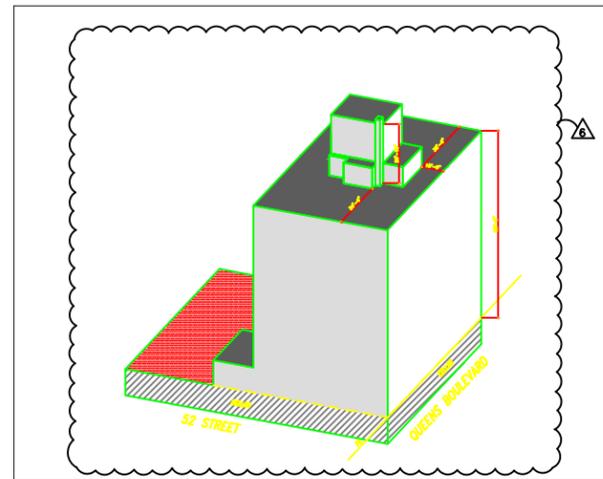
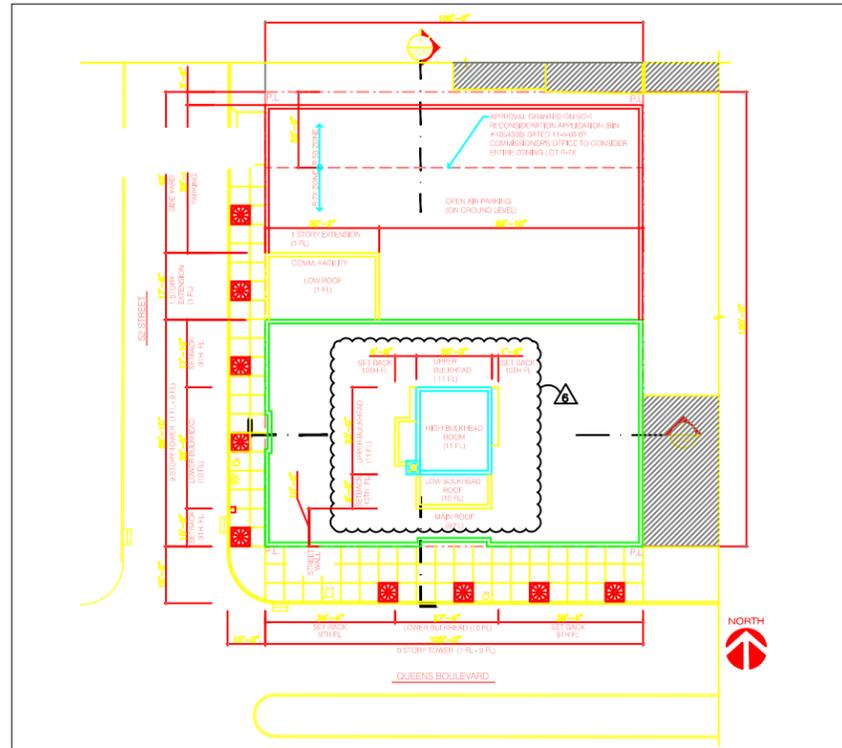
----- PROPERTY BOUNDARY

SCALE:



DATE: MAY 2, 2012
Drawn by: BASIM ALTEMIMI
Checked by: WILLIAM SILVERI
Drawing Scale:
Project No.: 12-0013

Site map: 52-01 QUEENS BOULEVARD QUEENS, NEW YORK 11377
Figure: 2 Title: SITE PLAN



**NOTES:**

BASE MAP FOR FIGURE BASED ON DRAWING PREPARED BY ERNST ARCHITECT, PLLC DATED JULY 7, 2009

Scale:

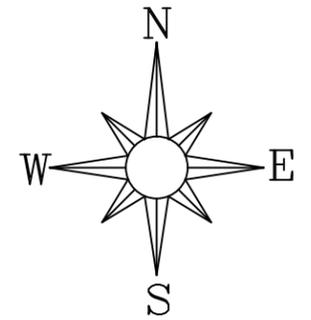
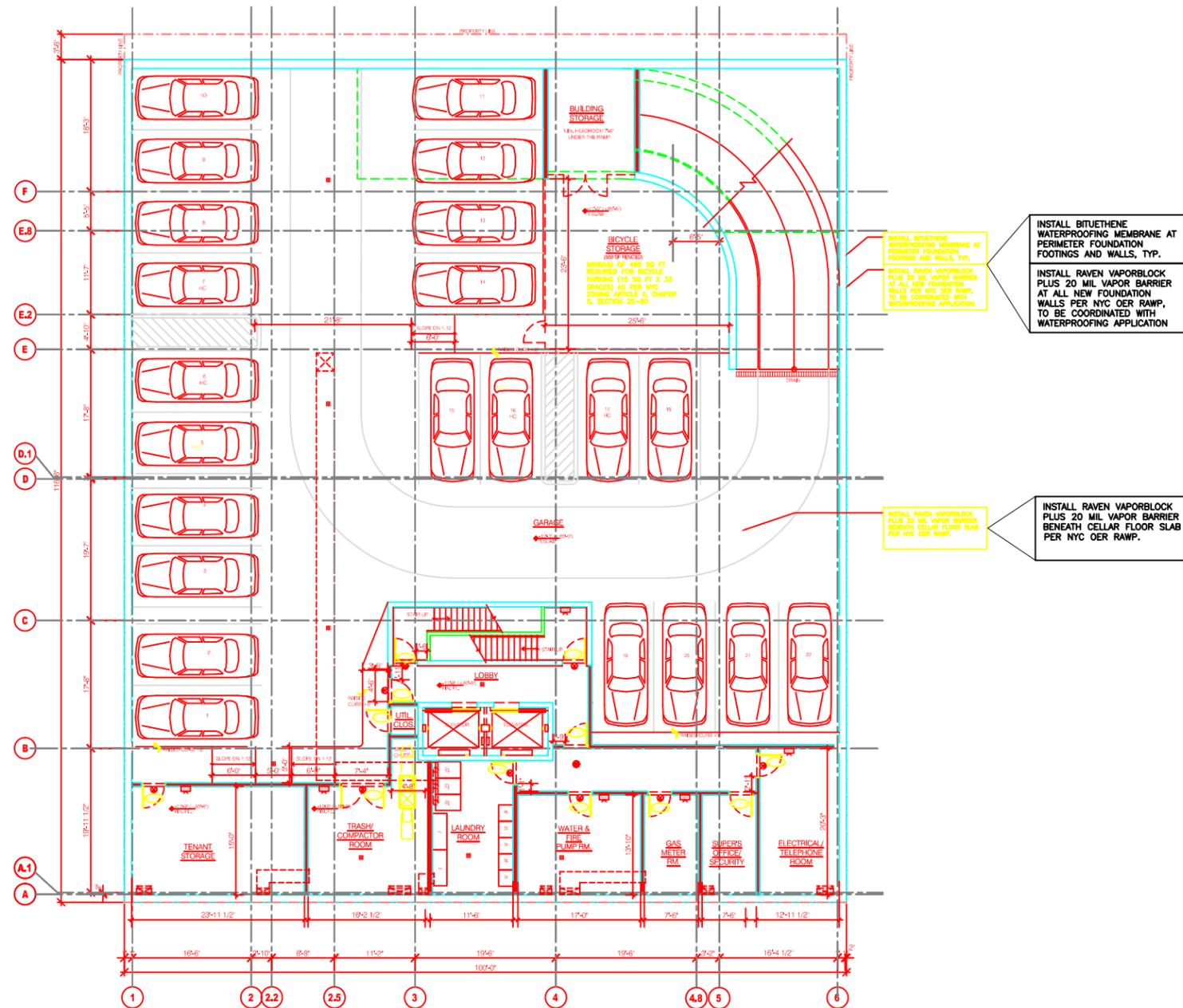
SCALE: AS NOTED



**ATHENICA ENVIRONMENTAL SERVICES, INC.**

Environmental Consultants  
45-09 Greenpoint Avenue, Long Island City, N.Y. 11104

Date:	APRIL 23, 2012	Site map: 52-01 QUEENS BOULEVARD QUEENS, NEW YORK 11377
Drawn by:	BASIM ALTEMIMI	
Checked by:	WILLIAM SILVERI	Figure: FIGURE 3 Title: PROPOSED SITE DEVELOPMENT
Drawing Scale:		
Project No.:	12-0013	
Sheets in contract :		

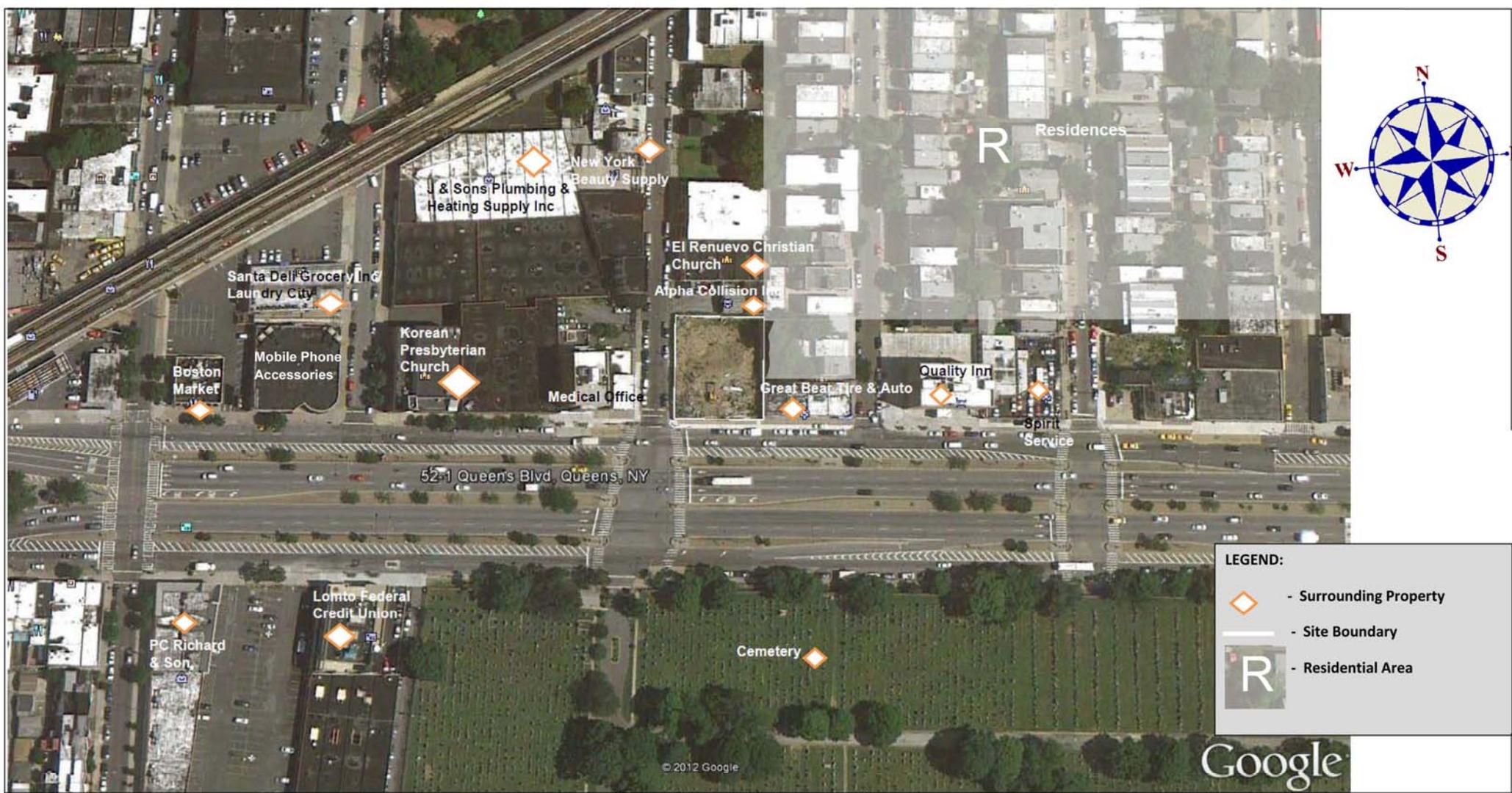


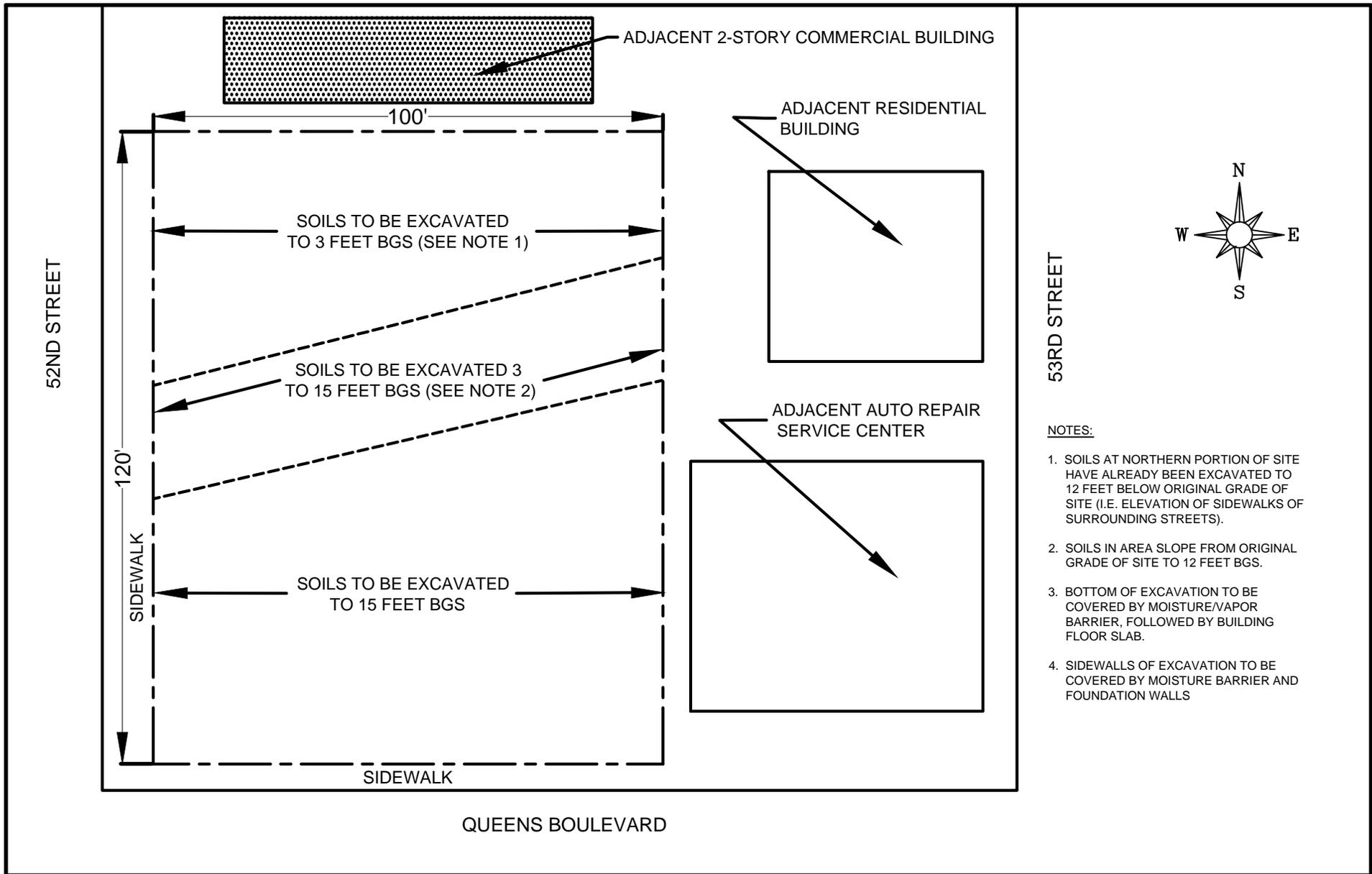
**NOTES:**  
 BASE MAP FOR FIGURE BASED ON DRAWING PREPARED BY ERNST ARCHITECT, PLLC DATED JULY 7, 2009

Scale:  
 SCALE: AS NOTED



Date:	MAY 2, 2012	Site map: 52-01 QUEENS BOULEVARD QUEENS, NEW YORK 11377
Drawn by:	SHANA HOLBERTON	
Checked by:	WILLIAM SILVERI	Figure: FIGURE 4 Title: PROPOSED USE OF BASEMENT OF NEW BUILDING
Drawing Scale:		
Project No.:	12-0013	
Sheets in contract :		





NOTES:

1. SOILS AT NORTHERN PORTION OF SITE HAVE ALREADY BEEN EXCAVATED TO 12 FEET BELOW ORIGINAL GRADE OF SITE (I.E. ELEVATION OF SIDEWALKS OF SURROUNDING STREETS).
2. SOILS IN AREA SLOPE FROM ORIGINAL GRADE OF SITE TO 12 FEET BGS.
3. BOTTOM OF EXCAVATION TO BE COVERED BY MOISTURE/VAPOR BARRIER, FOLLOWED BY BUILDING FLOOR SLAB.
4. SIDEWALLS OF EXCAVATION TO BE COVERED BY MOISTURE BARRIER AND FOUNDATION WALLS

Legend:

----- PROPERTY BOUNDARY

SCALE:

0 23' 46'

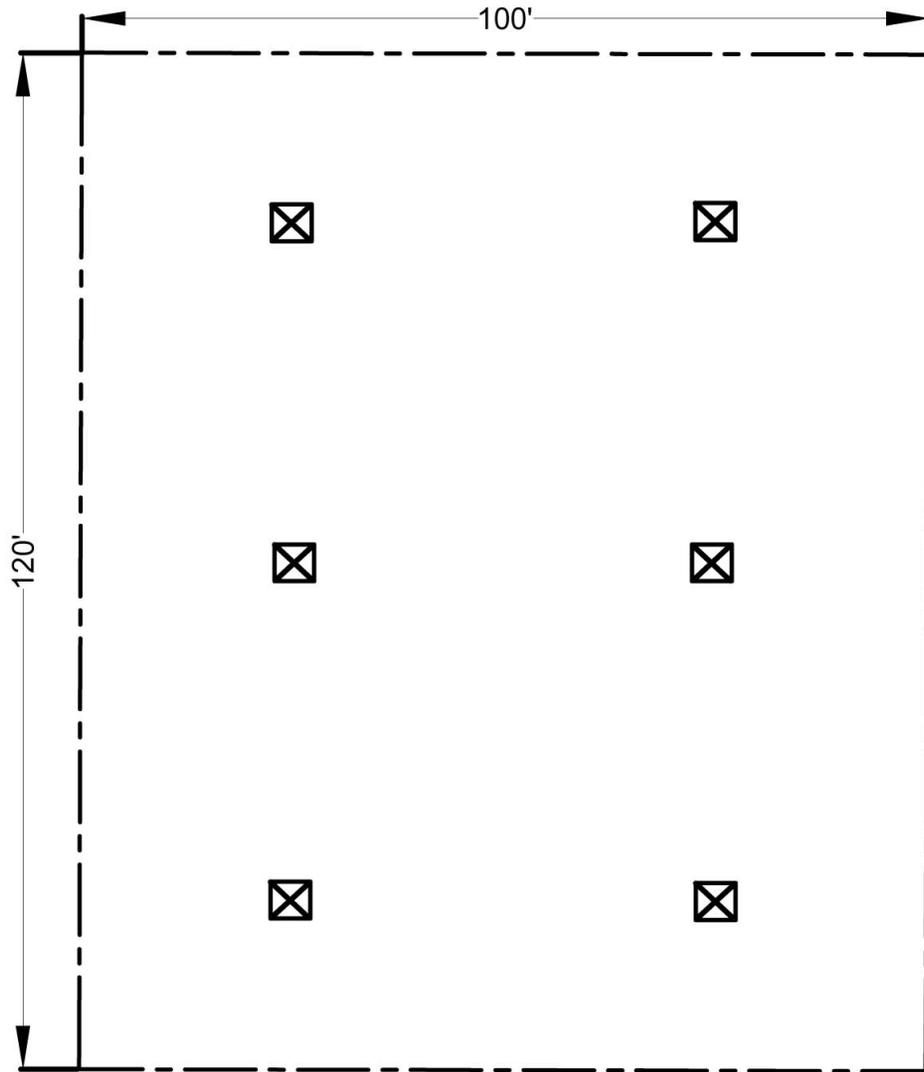


DATE: MAY 2, 2012
Drawn by: SHANA HOLBERTON
Checked by: WILLIAM SILVERI
Drawing Scale:
Project No.: 12-0013

Site map: 52-01 QUEENS BOULEVARD QUEENS, NEW YORK 11377
Figure: 6 Title: PLANNED EXCAVATION

52ND STREET

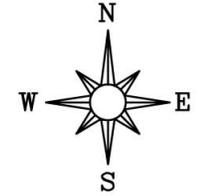
SIDEWALK



SIDEWALK

QUEENS BOULEVARD

53RD STREET



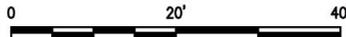
Legend:

--- PROPERTY BOUNDARY



PROPOSED BOTTOM ENDPOINT SAMPLE LOCATION

SCALE:



DATE: MAY 2, 2012

Drawn by: SHANA HOLBERTON

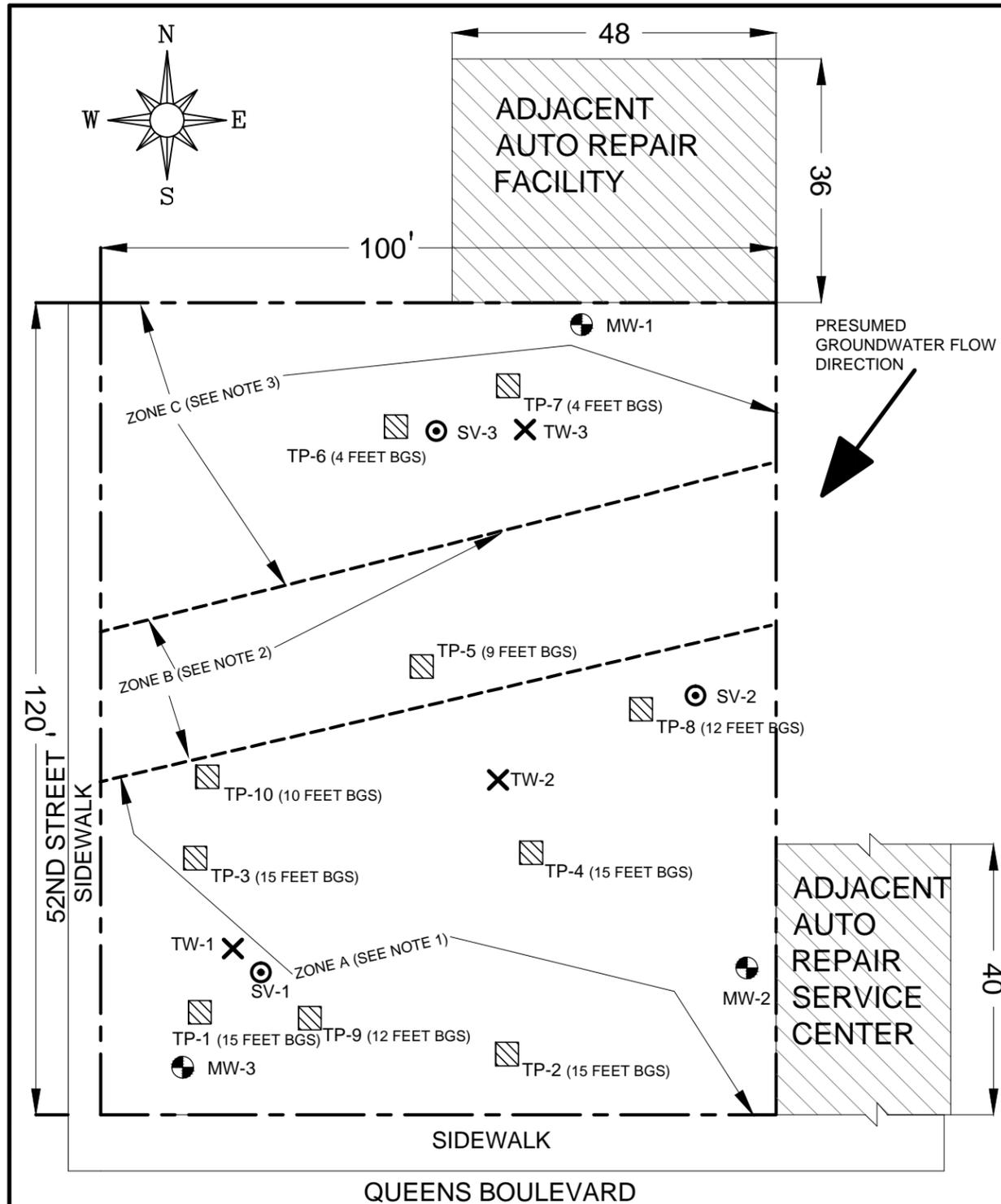
Checked by: WILLIAM SILVERI

Drawing Scale:

Project No.: 12-0013

Site map: 52-01 QUEENS BOULEVARD  
QUEENS, NEW YORK 11377

Figure: 7  
Title: PROPOSED ENDPOINT SAMPLE LOCATIONS



Summary of Soil Sampling Results			
Target Compound List Volatile Organic Compounds (VOCs)			
Test Pit Location	Sample Depth (bgs)	Detected VOC	Results (micrograms/kg)
TP-2	6 feet	Acetone	14.3
TP-3	3 feet	Acetone	38.5
	9 feet	none	ND
TP-6	6 feet	none	ND
TP-7	2 feet	Toluene	8.9
	4 feet	Toluene	3.1
TP-8	4 feet	Toluene	3.4
	8 feet	Acetone	16.1
TP-9	12 feet	Toluene	3.2
	12 feet	Toluene	3.5
	12 feet	none	ND
TP10	2 feet	Acetone	28.4
		Toluene	4
	6 feet	Acetone	39.8
	10 feet	Toluene	3.4
		Toluene	3.1

Only detected VOCs presented in table.

**NOTES:**

- SOILS AT ZONE A WILL BE EXCAVATED TO 15 FEET BGS.
- SOILS AT ZONE B SLOPE FROM ORIGINAL GRADE OF SITE TO 12 FEET BGS.
- SOILS AT ZONE C HAVE ALREADY BEEN EXCAVATED TO 12 FEET BELOW ORIGINAL GRADE OF SITE (I.E. ELEVATION OF SIDEWALKS OF SURROUNDING STREETS).
- TEST PIT DIMENSIONS ARE NOT TO SCALE.
- TEST PIT TP-1 THROUGH TP-6 WERE EXCAVATED TO CHARACTERIZE SOILS FOR OFF-SITE DISPOSAL .
- TEST PIT TP-7 THRU TP-10 WERE EXCAVATED TO DELINEATE THE LATERAL AND VERTICAL EXTENT OF VOC CONTAMINATED SOIL TO THE DEPTH OF PLANNED EXCAVATION.

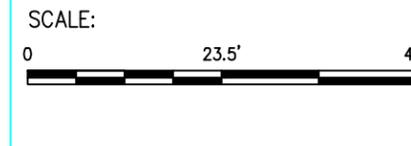
Summary of Soil Vapor Sampling Results			
Target Compound List Volatile Organic Compounds (VOCs)			
Soil Vapor Implant Location	Sample Depth (bgs)	Detected VOC	Results (micrograms/M <sup>3</sup> )
SV-1	12-14 feet	Tetrachloroethene	15
		Trichloroethene	ND
		1,1,2,2-Tetrachloroethane	ND
		Carbon Tetrachloride	ND
SV-2	12-14 feet	Tetrachloroethene	83
		Trichloroethene	ND
		1,1,2,2-Tetrachloroethane	ND
		Carbon Tetrachloride	ND
SV-3	3-4 feet	Tetrachloroethene	21
		Trichloroethene	1
		1,1,2,2-Tetrachloroethane	ND
		Carbon Tetrachloride	ND

Only results for the following NYSDOH Matrix 1 and Matrix 2 Compounds are reported: Carbon tetrachloride; 1,1,2,2-Tetrachloroethane, Tetrachloroethene, Trichloroethene

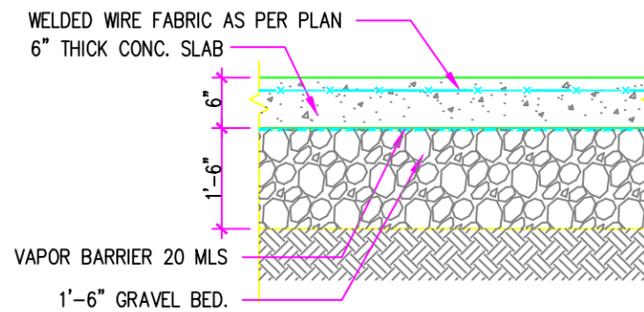
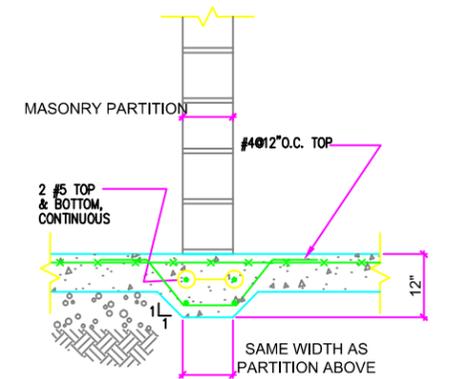
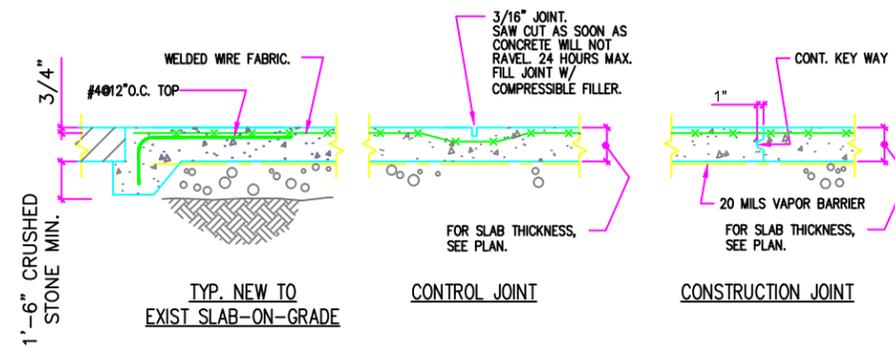
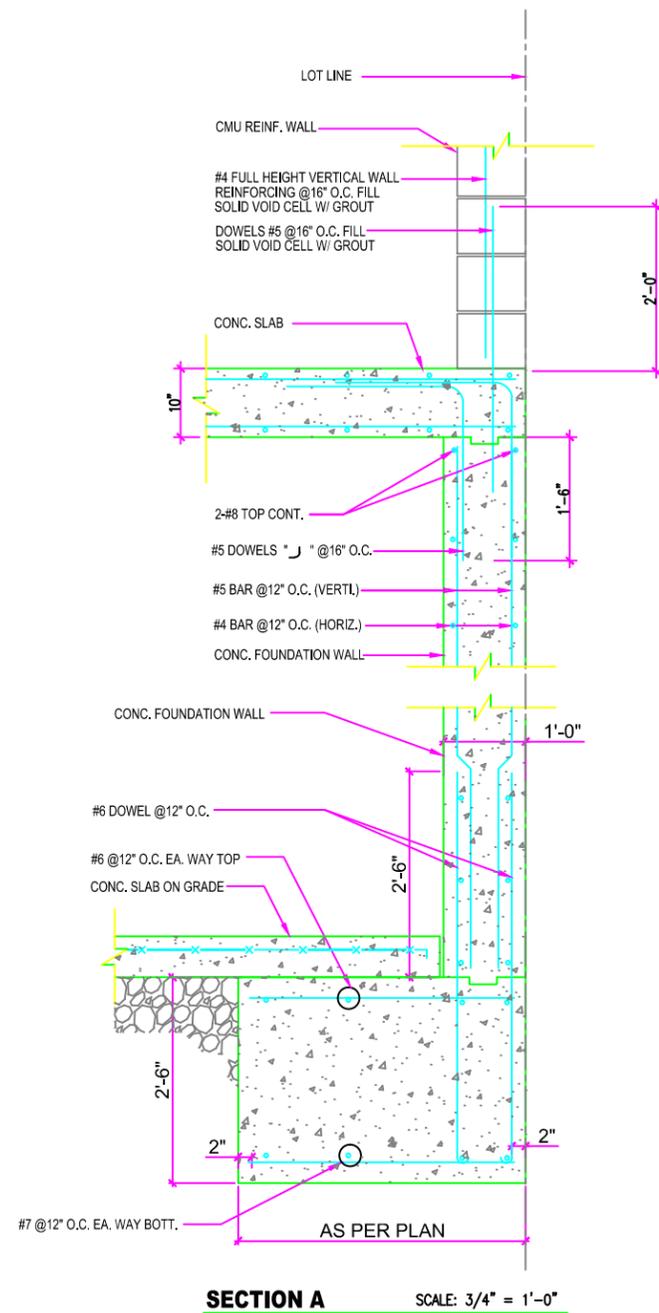
Summary of Groundwater Sampling Results			
Target Compound List Volatile Organic Compounds (VOCs)			
Temporary Well Location	Sample Depth (bgs)	Detected VOC	Results (micrograms/L)
TW-1	30-34 feet	Tetrachloroethene	434
		Trichloroethene	4.6
		cis--1,2-Dichloroethene	4.9
		Toluene	2.1
TW-2	20-24 feet	Tetrachloroethene	252
		Trichloroethene	2.1
		cis--1,2-Dichloroethene	1.6
		Toluene	2.2
TW-3	29-31 feet	Tetrachloroethene	882
		Trichloroethene	10.4
		cis--1,2-Dichloroethene	11.3
		Toluene	2.3
		Ethylbenzene	3.1

Only detected VOCs presented in table.

<b>Legend:</b>	BGS	BELOW GROUND SURFACE	✕	TEMPORARY GROUNDWATER WELL LOCATION
	---	PROPERTY BOUNDARY	⊕	PROPOSED PERMANENT GROUNDWATER MONITORING WELL LOCATION/ AND DESIGNATION NUMBER
	▨	TEST PIT LOCATIONS AND DEPTHS INDICATED IN PARENTHESIS	⊙	SOIL VAPOR IMPLANT LOCATION

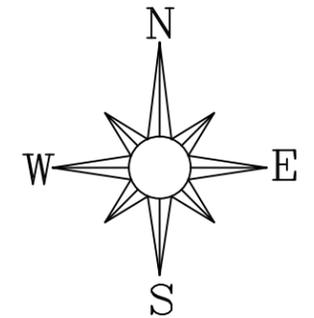


DATE: MAY 23, 2012	Site map: 52-01 QUEENS BOULEVARD QUEENS, NEW YORK 11377
Drawn by: BASIM ALTEMIMI	
Checked by: WILLIAM SILVERI	
Project No.: 12-0013	Figure: 8 Title: PROPOSED PERMANENT GROUNDWATER MONITORING WELL LOCATIONS



**TYPICAL SECTION CELLAR FLOOR SLAB**

NOTE: CELLAR FLOOR SLAB TO BE 4000 PSI STONE CONCRETE



**NOTES:**

BASE MAP FOR FIGURE BASED ON DRAWING PREPARED BY ERNST ARCHITECT, PLLC DATED JULY 7, 2009

Scale:

SCALE: AS NOTED



**ATHENICA ENVIRONMENTAL SERVICES, INC.**

Environmental Consultants  
45-09 Greenpoint Avenue, Long Island City, N.Y. 11104

Date:	MAY 2, 2012	Site map: 52-01 QUEENS BOULEVARD QUEENS, NEW YORK 11377
Drawn by:	SHANA HOLBERTON	
Checked by:	WILLIAM SILVERI	Figure: FIGURE 9 Title: COMPOSITE COVER SYSTEM DETAILS
Drawing Scale:		
Project No.:	12-0013	
Sheets in contract :		

## **TABLES**

**Table 1**  
 Summary of Soil Sampling Results  
 52-01 Queens Boulevard  
 Queens, New York  
 March 2007

Sample Name Lab Sample Id Sample Depth (ft)* Sample Date	Part 375 Unrestricted Use	Part 375 Restricted Residential Use	B-6 (10) Y2137-10 10 3/29/2007 (ppm)
<b>Polychlorinated Biphenyls (PCBs)</b>			
Aroclor-1016	0.1	1	0.018 ND
Aroclor-1221	0.1	1	0.018 ND
Aroclor-1232	0.1	1	0.018 J
Aroclor-1242	0.1	1	0.018 ND
Aroclor-1048	0.1	1	0.018 ND
Aroclor-1254	0.1	1	0.018 ND
Aroclor-1260	0.1	1	0.018 ND

**Legend**

NC - No criterion for evaluation of analytical parameter

ND - Analyte not detected above the indicated reporting detection limit (RDL)

J - Indicates an estimated value detected below the RDL and above the method detection limit (MDL)

B - Indicates the analyte was found in the laboratory blank

**Bold shaded values exceed current evaluation criteria (i.e. Part 375 Unrestricted Use Criteria)**

**Notes**

1: Evaluation criteria for soil sampling results initially was NYSDEC TAGM 4046 Values.

2: VOC compounds analyzed by USEPA method SW846 8082.

**Table 1**  
 Summary of Soil Sampling Results  
 52-01 Queens Boulevard  
 Queens, New York  
 March 2007

Sample Name Lab Sample Id Sample Depth (ft)* Sample Date	Part 375 Unrestricted Use	Part 375 Restricted Residential Use	B-1		B-2		B-3		B-4		B-5	
			Y2137-01RE 20-22 3/29/2007 (ppm)	ND	Y2137-03 20-22 3/29/2007 (ppm)	ND	Y2137-06RE 20-22 3/29/2007 (ppm)	ND	Y2137-08 20-22 3/29/2007 (ppm)	ND	Y2137-09 20-22 3/29/2007 (ppm)	ND
<b>Semivolatile Organic Compounds</b>												
Phenol	0.33	100	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
bis(2-Chloroethyl)ether	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
2-Chlorophenol	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
Benzyl Alcohol	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
2-Methylphenol	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
2-2-oxybis(1-Chloropropane)	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
3+4-Methylphenols	0.33	100	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
N-Nitrosodiphenylamine	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
Hexachloroethane	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
Nitrobenzene	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
Isophorone	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
2-Nitrophenol	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
2,4-Dimethylphenol	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
bis(2-Chloroethoxy)methane	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
2,4-Dinitrophenol	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
Benzoic acid	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
Naphthalene	12	100	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
4-Chloroaniline	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
Hexachlorobutadiene	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
4-Chloro-3-methylphenol	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
2-Methylnaphthalene	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
Hexachlorocyclopentadiene	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
2,4,6-Trichlorophenol	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
2,4,5-Trichlorophenol	NC	NC	0.890	ND	0.910	ND	0.890	ND	0.890	ND	0.890	ND
2-Chloronaphthalene	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
2-Nitroaniline	NC	NC	0.890	ND	0.910	ND	0.890	ND	0.890	ND	0.890	ND
Dimethylphthalate	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
Acenaphthylene	100	100	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
2,6-Dinitrotoluene	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
3-Nitroaniline	NC	NC	0.890	ND	0.910	ND	0.890	ND	0.890	ND	0.890	ND
Acenaphthene	20	100	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
2,4-Dinitrophenol	NC	NC	0.890	ND	0.910	ND	0.890	ND	0.890	ND	0.890	ND
4-Nitrophenol	NC	NC	0.890	ND	0.910	ND	0.890	ND	0.890	ND	0.890	ND
Dibenzofuran	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
2,4-Dinitrotoluene	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
Diethylphthalate	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
4-Chlorophenyl-phenylether	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
Fluorene	30	100	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
4-Nitroaniline	NC	NC	0.890	ND	0.910	ND	0.890	ND	0.890	ND	0.890	ND
4,6-Dinitro-2-methylphenol	NC	NC	0.890	ND	0.910	ND	0.890	ND	0.890	ND	0.890	ND
N-Nitrosodiphenylamine	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
Azobenzene	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
4-Bromophenyl-phenylether	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
Hexachlorobenzene	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
Pentachlorophenol	0.8	6.7	0.890	ND	0.910	ND	0.890	ND	0.890	ND	0.890	ND
Phenanthrene	100	100	0.350	ND	0.360	ND	0.250	J	0.350	ND	0.350	ND
Anthracene	100	100	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
Di-n-butylphthalate	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
Fluoranthene	100	100	0.067	J	0.360	ND	0.350	J	0.350	ND	0.350	ND
Pyrene	100	100	0.085	J	0.360	ND	0.650	J	0.350	ND	0.350	ND
Butylbenzylphthalate	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
3,3-Dichlorobenzidine	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
Benzo(a)anthracene	1	1	0.350	ND	0.360	ND	0.140	J	0.350	ND	0.350	ND
Chrysene	1	3.9	0.350	ND	0.360	ND	0.180	ND	0.350	ND	0.350	ND
bis(2-Ethylhexyl)phthalate	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
Di-n-octyl phthalate	NC	NC	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
Benzo(b)fluoranthene	1	1	0.048	J	0.360	ND	0.240	J	0.350	ND	0.350	ND
Benzo(k)fluoranthene	0.8	3.9	0.350	ND	0.360	ND	0.094	J	0.350	ND	0.350	ND
Benzo(a) pyrene	1	1	0.350	ND	0.360	ND	0.140	J	0.350	ND	0.350	ND
Indeno (1,2,3-cd)pyrene	0.5	0.5	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
Dibenz(a,h)anthracene	0.33	0.33	0.350	ND	0.360	ND	0.350	ND	0.350	ND	0.350	ND
Benzo(g,h,i)perylene	NC	NC	0.350	ND	0.360	ND	0.083	J	0.350	ND	0.350	ND

**Legend**

NC - No criterion for evaluation of analytical parameter  
 ND - Analyte not detected above the indicated reporting detection limit (RDL)  
 J - Indicates an estimated value detected below the RDL and above the method detection limit (MDL)  
 B - Indicates the analyte was found in the laboratory blank

**Bold shaded values exceed current evaluation criteria (i.e. Part 375 Unrestricted Use Criteria)**

**Notes**

- 1: Evaluation criteria for soil sampling results initially was NYSDEC TAGM 4046 Values.
- 2: VOC compounds analyzed by USEPA method SW846 8270B.

**Table 1**  
**Summary of Soil Sampling Results**  
**52-01 Queens Boulevard**  
**Queens, New York**  
**March 2007**

Sample Name Lab Sample Id Sample Depth (ft)* Sample Date	Part 375 Unrestricted Use	Part 375 Restricted Residential Use	B-1 Y2137-01 20-22 3/29/2007 (ppm)	B-2 Y2137-03 20-22 3/29/2007 (ppm)	B-3 Y2137-06 20-22 3/29/2007 (ppm)	B-4 Y2137-08 20-22 3/29/2007 (ppm)	B-5 Y2137-09 20-22 3/29/2007 (ppm)	
<b>Volatile Organic Compounds</b>								
Dichlorodifluoromethane	NC	ND	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
Chloromethane	NC	NC	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
Vinyl Chloride	0.02	0.21	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
Bromomethane	NC	NC	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
Chloroethane	NC	NC	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
Trichlorofluoromethane	NC	NC	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
Tert butyl alcohol	NC	NC	0.1300 U	0.1400 U	0.1300 U	0.1300 U	0.1300 U	
1,1-Dichloroethene	0.33	100	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
Acrolein	NC	NC	0.1300 U	0.1400 U	0.1300 U	0.1300 U	0.1300 U	
Acrylonitrile	NC	NC	0.1300 U	0.1400 U	0.1300 U	0.1300 U	0.1300 U	
Acetone	0.05	100	0.033 JB	0.054 JB	0.057 JB	0.032 JB	0.027 JB	
Carbon Disulfide	NC	NC	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
Methyl tert-butyl Ether	0.93	100	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
Methylene Chloride	0.05	100	0.0610 JB	0.0820 JB	0.0900 JB	0.0530 JB	0.0480 B	
trans-1,2-Dichloroethene	0.19	100	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
Vinyl Acetate	NC	NC	0.1300 U	0.1400 U	0.1300 U	0.1300 U	0.1300 U	
1,1-Dichloroethane	0.27	26	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
2-Butanone (MEK)	0.12	100	0.1300 U	0.1400 U	0.1300 U	0.1300 U	0.1300 U	
Carbon Tetrachloride	0.76	2.4	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
2,2-Dichloropropane	NC	N	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
cis-1,2-Dichloroethene	0.25	59	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
Bromochloromethane	NC	NC	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
Chloroform	0.37	10	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
1,1,1-Trichloroethane	0.68	100	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
1,1-Dichloropropene	NC	NC	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
Benzene	0.06	4.8	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
1,2-Dichloroethane	0.02	3.1	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
Trichloroethene	0.47	21	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
1,2-Dichloropropane	NC	NC	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
Dibromoethane	NC	NC	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
Bromodichloromethane	NC	NC	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
4-Methyl-2-Pentanone (MIBK)	NC	NC	0.1300 U	0.1400 U	0.1300 U	0.1300 U	0.1300 U	
Toluene	0.7	100	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
trans-1,3-Dichloropropene	NC	NC	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
cis-1,3-Dichloropropene	NC	NC	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
1,1,2-Trichloroethane	NC	NC	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
1,3-Dichloropropane	NC	NC	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
2-Chloroethyl vinyl ether	NC	NC	0.1300 U	0.1400 U	0.1300 U	0.1300 U	0.1300 U	
2-Hexanone	NC	NC	0.1300 U	0.1400 U	0.1300 U	0.1300 U	0.1300 U	
Dibromochloromethane	NC	NC	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
1,2-Dibromoethane	NC	NC	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
Tetrachloroethene	1.3	19	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
Chlorobenzene	1.1	100	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
1,1,1,2-Tetrachloroethane	NC	NC	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
Ethylbenzene	1	41	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
m/p-Xylenes	NC	NC	0.0520 U	0.0540 U	0.0520 U	0.0530 U	0.0540 U	
o-Xylene	NC	NC	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
Styrene	NC	NC	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
Bromoform	NC	NC	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
Isopropylbenzene	NC	NC	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
1,1,2,2-Tetrachloroethane	NC	NC	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
1,2,3-Trichloropropane	NC	NC	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
Bromobenzene	NC	NC	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
n-propylbenzene	3.9	100	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
2-Chlorotoluene	NC	NC	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
1,3,5-Trimethylbenzene	8.4	52	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
4-Chlorotoluene	NC	NC	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
tert-Butylbenzene	5.9	100	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
1,2,4-Trimethylbenzene	3.6	52	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
sec-Butylbenzene	NC	NC	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
p-Isopropyltoluene	NC	NC	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
1,3-Dichlorobenzene	2.4	17	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
1,4-Dichlorobenzene	1.8	9.8	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
n-Butylbenzene	12	100	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
1,2-Dichlorobenzene	1.1	100	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
1,2-Dibromo-3-Chloropropane	NC	NC	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
1,2,4-Trichlorobenzene	NC	NC	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
Hexachlorobutadiene	NC	NC	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
Naphthalene	12	100	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	
1,2,3-Trichlorobenzene	NC	NC	0.0260 U	0.0270 U	0.0260 U	0.0270 U	0.0270 U	

**Legend**

- NC - No criterion for evaluation of analytical parameter
- ND - Analyte not detected above the indicated reporting detection limit (RDL)
- J - Indicates an estimated value detected below the RDL and above the method detection limit (MDL)
- B - Indicates the analyte was found in the laboratory blank
- Bold shaded values exceed current evaluation criteria (i.e. Part 375 Unrestricted Use Criteria)

**Notes**

- 1: Evaluation criteria for soil sampling results initially was NYSDEC TAGM 4046 Values.
- 2: VOC compounds analyzed by USEPA method SW846 8260B.

**Table 2**  
 Summary of Soil Sampling Results  
 52-01 Queens Boulevard  
 Queens, New York  
 May 2012

SAMPLE NAME LAB SAMPLE ID TEST PIT LOCATION DEPTH INTERVAL SAMPLE DATE	Part 375 Unrestricted Use	Part 375 Restricted Residential	TP-7-5/15/12-(2') 9967721001 TP-7 2 feet 5-15-2012	TP-7-5/15/12-(4') 9967721002 TP-7 4 feet 5-15-2012	TP-8-(4') 9967721003 TP-8 4 feet 5-15-2012	TP-8-(8') 9967721004 TP-8 8 feet 5-15-2012	TP-8-(12') 9967721005 TP-8 12 feet 41044.0
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
<b>Volatile Organic Compounds</b>							
Acetone	0.05	100	0.0107 ND	0.0089 ND	0.0102 ND	0.0161 ND	0.0358 ND
Benzene	0.06	4.8	0.0021 ND	0.0018 ND	0.002 ND	0.002 ND	0.0013 ND
Bromochloromethane	NC	NC	0.0021 ND	0.0018 ND	0.002 ND	0.002 ND	0.0013 ND
Bromodichloromethane	NC	NC	0.0021 ND	0.0018 ND	0.002 ND	0.002 ND	0.0013 ND
Bromoform	NC	NC	0.0021 ND	0.0018 ND	0.002 ND	0.002 ND	0.0013 ND
Bromomethane	NC	NC	0.0021 ND	0.0018 ND	0.002 ND	0.002 ND	0.0013 ND
2-Butanone (MEK)	0.12	100	0.0107 ND	0.0089 ND	0.0102 ND	0.0099 ND	0.0067 ND
Carbon Disulfide	NC	NC	0.0021 ND	0.0018 ND	0.002 ND	0.002 ND	0.0013 ND
Carbon Tetrachloride	0.76	2.4	0.0021 ND	0.0018 ND	0.002 ND	0.002 ND	0.0013 ND
Chlorobenzene	1.1	100	0.0021 ND	0.0018 ND	0.002 ND	0.002 ND	0.0013 ND
Chlorodibromomethane	NC	NC	0.0021 ND	0.0018 ND	0.002 ND	0.002 ND	0.0013 ND
Chloroethane	NC	NC	0.0053 ND	0.0045 ND	0.0051 ND	0.0049 ND	0.0033 ND
Chloroform	0.37	49	0.0021 ND	0.0018 ND	0.002 ND	0.002 ND	0.0013 ND
Chloromethane	NC	NC	0.0021 ND	0.0018 ND	0.002 ND	0.002 ND	0.0013 ND
1,2-Dibromo-3-chloropropane	NC	NC	0.0053 ND	0.0045 ND	0.0051 ND	0.0049 ND	0.0033 ND
1,2-Dibromoethane	NC	NC	0.0021 ND	0.0018 ND	0.002 ND	0.002 ND	0.0013 ND
1,2-Dichlorobenzene	1.1	100	0.0021 ND	0.0018 ND	0.002 ND	0.002 ND	0.0013 ND
1,3-Dichlorobenzene	2.4	49	0.0021 ND	0.0018 ND	0.002 ND	0.002 ND	0.0013 ND
1,4-Dichlorobenzene	1.8	13	0.0021 ND	0.0018 ND	0.002 ND	0.002 ND	0.0013 ND
1,1-Dichloroethane	0.27	26	0.0021 ND	0.0018 ND	0.002 ND	0.002 ND	0.0013 ND
1,2-Dichloroethane	0.02	3.1	0.0021 ND	0.0018 ND	0.002 ND	0.002 ND	0.0013 ND
1,1-Dichloroethene	0.33	100	0.0021 ND	0.0018 ND	0.002 ND	0.002 ND	0.0013 ND
cis-1,2-Dichloroethene	0.25	100	0.0021 ND	0.0018 ND	0.002 ND	0.002 ND	0.0013 ND
trans-1,2-Dichloroethene	0.19	100	0.0021 ND	0.0018 ND	0.002 ND	0.002 ND	0.0013 ND
1,2-Dichloropropane	NC	NC	0.0021 ND	0.0018 ND	0.002 ND	0.002 ND	0.0013 ND
cis-1,3-Dichloropropene	NC	NC	0.0021 ND	0.0018 ND	0.002 ND	0.002 ND	0.0013 ND
trans-1,3-Dichloropropene	NC	NC	0.0021 ND	0.0018 ND	0.002 ND	0.002 ND	0.0013 ND
Ethylbenzene	1	41	0.0021 ND	0.0018 ND	0.002 ND	0.002 ND	0.0013 ND
2-Hexanone	NC	NC	0.0107 ND	0.0089 ND	0.0102 ND	0.0099 ND	0.0067 ND
4-Methyl-2-Pentanone (MIBK)	NC	NC	0.0107 ND	0.0089 ND	0.0102 ND	0.0099 ND	0.0067 ND
Methylene Chloride	0.05	100	0.0021 ND	0.0018 ND	0.002 ND	0.002 ND	0.0013 ND
Styrene	NC	NC	0.0021 ND	0.0018 ND	0.002 ND	0.002 ND	0.0013 ND
1,1,2,2-Tetrachloroethane	NC	NC	0.0021 ND	0.0018 ND	0.002 ND	0.002 ND	0.0013 ND
Tetrachloroethene	1.3	19	0.0021 ND	0.0018 ND	0.002 ND	0.002 ND	0.0013 ND
Toluene	0.7	100	0.0089 ND	0.0031 ND	0.0034 ND	0.0033 ND	0.0035 ND
Total Xylenes	0.26	100	0.0064 ND	0.0054 ND	0.0061 ND	0.0059 ND	0.004 ND
1,1,1-Trichloroethane	0.68	100	0.0021 ND	0.0018 ND	0.002 ND	0.002 ND	0.0013 ND
1,1,2-Trichloroethane	NC	NC	0.0021 ND	0.0018 ND	0.002 ND	0.002 ND	0.0013 ND
Trichloroethene	0.47	21	0.0021 ND	0.0018 ND	0.002 ND	0.002 ND	0.0013 ND
Vinyl Chloride	0.02	0.9	0.0021 ND	0.0018 ND	0.002 ND	0.002 ND	0.0013 ND
o-Xylene	NC	NC	0.0021 ND	0.0018 ND	0.002 ND	0.002 ND	0.0013 ND
mp-Xylene	NC	NC	0.0043 ND	0.0036 ND	0.0041 ND	0.004 ND	0.0027 ND

**Legend**

NC - No criterion for evaluation of analytical parameter

ND - Analyte Not Detected above the indicated reporting detection limit (RDL)

Bold shaded values exceed evaluation criteria (i.e. Part 375 Unrestricted Use)

**Note**

1. VOC Compounds Analyzed by USEPA Method 8260

**Table 2**  
**Summary of Soil Sampling Results**  
 52-01 Queens Boulevard  
 Queens, New York  
 May 2012

SAMPLE NAME LAB SAMPLE ID TEST PIT LOCATION DEPTH INTERVAL DATE RECEIVED BY LAB SAMPLE DATE	Part 375 Unrestricted Use	Part 375 Restricted Residential	TP-9-5/16/12-(2) 9967991001 TP-9 2 feet 5/17/2012 5-16-2012	TP-9-5/16/12-(6) 9967721002 TP-9 6 feet 5/17/2012 5-16-2012	TP-9-5/16/12-(10) 9967721003 TP-9 10 feet 5/17/2012 5-16-2012	TP-9-5/16/12-(12) 9967721004 TP-9 12 feet 5/17/2012 5-16-2012	TP-10-5/15/12-(2) 9967721006 TP-10 2 feet 5/16/2012 5-15-2012	TP-10-5/15/12-(6) 9967721008 TP-10 6 feet 5/16/2012 5-15-2012	TP-10-5/15/12-(10) 9967721008 TP-10 10 feet 5/16/2012 5-15-2012
	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
<b>Volatile Organic Compounds</b>									
Acetone	0.05	100	0.0106 ND	0.0105 ND	0.0096 ND	0.0098 ND	0.0284	0.0398	0.0106 ND
Benzene	0.06	4.8	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.0018 ND	0.0018 ND	0.0021 ND
Bromochloromethane	NC	NC	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.0018 ND	0.0018 ND	0.0021 ND
Bromodichloromethane	NC	NC	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.0018 ND	0.0018 ND	0.0021 ND
Bromoform	NC	NC	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.0018 ND	0.0018 ND	0.0021 ND
Bromomethane	NC	NC	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.0018 ND	0.0018 ND	0.0021 ND
2-Butanone (MEK)	0.12	100	0.0106 ND	0.0105 ND	0.0096 ND	0.0098 ND	0.0092 ND	0.009 ND	0.0106 ND
Carbon Disulfide	NC	NC	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.0018 ND	0.0018 ND	0.0021 ND
Carbon Tetrachloride	0.76	2.4	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.0018 ND	0.0018 ND	0.0021 ND
Chlorobenzene	1.1	100	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.0018 ND	0.0018 ND	0.0021 ND
Chlorodibromomethane	NC	NC	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.0018 ND	0.0018 ND	0.0021 ND
Chloroethane	NC	NC	0.0053 ND	0.0053 ND	0.0048 ND	0.0049 ND	0.0046 ND	0.0045 ND	0.0053 ND
Chloroform	0.37	49	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.0018 ND	0.0018 ND	0.0021 ND
Chloromethane	NC	NC	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.0018 ND	0.0018 ND	0.0021 ND
1,2-Dibromo-3-chloropropane	NC	NC	0.0053 ND	0.0053 ND	0.0048 ND	0.0049 ND	0.0046 ND	0.0045 ND	0.0053 ND
1,2-Dibromoethane	NC	NC	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.0018 ND	0.0018 ND	0.0021 ND
1,2-Dichlorobenzene	1.1	100	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.0018 ND	0.0018 ND	0.0021 ND
1,3-Dichlorobenzene	2.4	49	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.0018 ND	0.0018 ND	0.0021 ND
1,4-Dichlorobenzene	1.8	13	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.0018 ND	0.0018 ND	0.0021 ND
1,1-Dichloroethane	0.27	26	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.0018 ND	0.0018 ND	0.0021 ND
1,2-Dichloroethane	0.02	3.1	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.0018 ND	0.0018 ND	0.0021 ND
1,1-Dichloroethene	0.33	100	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.0018 ND	0.0018 ND	0.0021 ND
cis-1,2-Dichloroethene	0.25	100	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.0018 ND	0.0018 ND	0.0021 ND
trans-1,2-Dichloroethene	0.19	100	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.0018 ND	0.0018 ND	0.0021 ND
1,2-Dichloropropane	NC	NC	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.0018 ND	0.0018 ND	0.0021 ND
cis-1,3-Dichloropropene	NC	NC	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.0018 ND	0.0018 ND	0.0021 ND
trans-1,3-Dichloropropene	NC	NC	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.0018 ND	0.0018 ND	0.0021 ND
Ethylbenzene	1	41	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.0018 ND	0.0018 ND	0.0021 ND
2-Hexanone	NC	NC	0.0106 ND	0.0105 ND	0.0096 ND	0.0098 ND	0.0092 ND	0.009 ND	0.0106 ND
4-Methyl-2-Pentanone (MIBK)	NC	NC	0.0106 ND	0.0105 ND	0.0096 ND	0.0098 ND	0.0092 ND	0.009 ND	0.0106 ND
Methylene Chloride	0.05	100	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.0018 ND	0.0018 ND	0.0021 ND
Styrene	NC	NC	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.0018 ND	0.0018 ND	0.0021 ND
1,1,2,2-Tetrachloroethane	NC	NC	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.0018 ND	0.0018 ND	0.0021 ND
Tetrachloroethene	1.3	19	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.0018 ND	0.0018 ND	0.0021 ND
Toluene	0.7	100	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.004	0.0034	0.0031
Total Xylenes	0.26	100	0.0064 ND	0.0063 ND	0.0058 ND	0.0059 ND	0.0055 ND	0.0054 ND	0.0063 ND
1,1,1-Trichloroethane	0.68	100	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.0018 ND	0.0018 ND	0.0021 ND
1,1,2-Trichloroethane	NC	NC	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.0018 ND	0.0018 ND	0.0021 ND
Trichloroethene	0.47	21	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.0018 ND	0.0018 ND	0.0021 ND
Vinyl Chloride	0.02	0.9	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.0018 ND	0.0018 ND	0.0021 ND
o-Xylene	NC	NC	0.0021 ND	0.0021 ND	0.0019 ND	0.002 ND	0.0018 ND	0.0018 ND	0.0021 ND
mp-Xylene	NC	NC	0.0043 ND	0.0042 ND	0.0038 ND	0.0039 ND	0.0037 ND	0.0036 ND	0.0042 ND

**Legend**

NC - No criterion for evaluation of analytical parameter

ND - Analyte Not Detected above the indicated reporting detection limit (RDL)

**Bold shaded values exceed evaluation criteria (i.e. Part 375 Unrestricted Use)**

**Note**

1. VOC Compounds Analyzed by USEPA Method 8260

**Table 3**  
**Summary of Groundwater Sampling Results**  
**52-01 Queens Boulevard**  
**Queens, NY**  
**April 2012**

SAMPLE NAME LAB SAMPLE ID SAMPLE DATE DATE RECEIVED BY LAB	TOGS GA Standard/ Guidance  (ug/L)	TW-1 9961452002 4/9/2012 4/10/2012  (ug/L)		TW-2 9961452006 4/9/2012 4/10/2012  (ug/L)		TW-3 9961452004 4/9/2012 4/10/2012  (ug/L)	
		<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>					
Acenaphthene	<b>20</b>	0.094	ND	0.094	ND	0.094	ND
Acenaphthylene	NC	0.094	ND	0.094	ND	0.094	ND
Anthracene	<b>50</b>	0.094	ND	0.094	ND	0.094	ND
Benzo(a)anthracene	<b>0.002</b>	0.094	ND	0.094	ND	0.094	ND
Benzo(a)pyrene	<b>0.002</b>	0.094	ND	0.094	ND	0.094	ND
Benzo(b)fluoranthene	<b>0.002</b>	0.094	ND	0.094	ND	0.094	ND
Benzo(g,h,i)perylene	NC	0.094	ND	0.094	ND	0.094	ND
Benzo(k)fluoranthene	<b>0.002</b>	0.094	ND	0.094	ND	0.094	ND
4-Bromophenyl-phenylether	NC	2.8	ND	2.8	ND	2.8	ND
Butylbenzylphthalate	<b>50</b>	2.8	ND	2.8	ND	2.8	ND
Carbazole	NC	2.8	ND	2.8	ND	2.8	ND
4-Chloro-3-methylphenol	NC	7.5	ND	7.5	ND	7.5	ND
4-Chloroaniline	<b>5</b>	2.8	ND	2.8	ND	2.8	ND
bis(2-Chloroethoxy)methane	<b>5</b>	2.8	ND	2.8	ND	2.8	ND
bis(2-Chloroisopropyl)ether	<b>5</b>	2.8	ND	2.8	ND	2.8	ND
2-Chloronaphthalene	<b>10</b>	2.8	ND	2.8	ND	2.8	ND
2-Chlorophenol	NC	7.5	ND	7.5	ND	7.5	ND
4-Chlorophenyl-phenylether	NC	2.8	ND	2.8	ND	2.8	ND
Chrysene	<b>0.002</b>	0.094	ND	0.094	ND	0.094	ND
mp-Cresol	NC	7.5	ND	7.5	ND	7.5	ND
o-Cresol	NC	7.5	ND	7.5	ND	7.5	ND
Di-n-butylphthalate	<b>50</b>	2.8	ND	2.8	8	2.8	11
Di-n-octyl phthalate	<b>50</b>	7.5	ND	7.5	ND	7.5	ND
Dibenzo(a,h)anthracene	NC	0.066	ND	0.066	ND	0.066	ND
Dibenzofuran	NC	2.8	ND	2.8	ND	2.8	ND
3,3-Dichlorobenzidine	NC	15.1	ND	15.1	ND	15.1	ND
2,4-Dichlorophenol	<b>5</b>	7.5	ND	7.5	ND	7.5	ND
Diethylphthalate	<b>50</b>	7.5	ND	7.5	ND	7.5	ND
2,4-Dimethylphenol	<b>50</b>	7.5	ND	7.5	ND	7.5	ND
Dimethylphthalate	<b>50</b>	7.5	ND	7.5	ND	7.5	ND
2,4-Dinitrophenol	<b>10</b>	15.1	ND	15.1	ND	15.1	ND
2,4-Dinitrotoluene	<b>5</b>	2.8	ND	2.8	ND	2.8	ND
2,6-Dinitrotoluene	<b>5</b>	2.8	ND	2.8	ND	2.8	ND
bis(2-Ethylhexyl)phthalate	<b>5</b>	2.8	ND	2.8	ND	2.8	ND
Fluoranthene	<b>50</b>	0.094	ND	0.094	ND	0.094	ND
Fluorene	<b>50</b>	0.094	ND	0.094	ND	0.094	ND
Hexachlorobenzene	<b>0.04</b>	2.8	ND	2.8	ND	2.8	ND
Hexachlorobutadiene	<b>0.5</b>	2.8	ND	2.8	ND	2.8	ND
Hexachlorocyclopentadiene	<b>5</b>	7.5	ND	7.5	ND	7.5	ND
Hexachloroethane	<b>5</b>	2.8	ND	2.8	ND	2.8	ND
Indeno(1,2,3-cd)pyrene	<b>0.002</b>	0.094	ND	0.094	ND	0.094	ND
Isophorone	<b>50</b>	2.8	ND	2.8	ND	2.8	ND
2-Methy-4,6-dinitrophenol	NC	7.5	ND	7.5	ND	7.5	ND
2-Methylnaphthalene	NC	1.9	ND	1.9	ND	1.9	ND
Naphthalene	<b>10</b>	0.094	ND	0.094	ND	0.1	
2-Nitroaniline	<b>5</b>	2.8	ND	2.8	ND	2.8	ND
3-Nitroaniline	<b>5</b>	2.8	ND	2.8	ND	2.8	ND
4-Nitroaniline	<b>5</b>	2.8	ND	2.8	ND	2.8	ND
Nitrobenzene	<b>0.4</b>	2.8	ND	2.8	ND	2.8	ND
2-Nitrophenol	<b>1</b>	7.5	ND	7.5	ND	7.5	ND
4-Nitrophenol	<b>1</b>	7.5	ND	7.5	ND	7.5	ND
N-Nitroso-di-n-propylamine	NC	2.8	ND	2.8	ND	2.8	ND
N-Nitrosodiphenylamine	NC	2.8	ND	2.8	ND	2.8	ND
Pentachlorophenol	<b>1</b>	15.1	ND	15.1	ND	15.1	ND
Phenanthrene	<b>50</b>	0.16		0.17		0.094	ND
Phenol	<b>1</b>	7.5	ND	7.5	ND	7.5	ND
Pyrene	<b>50</b>	0.094	ND	0.094	ND	0.094	ND
1,2,4-Trichlorobenzene	NC	2.8	ND	2.8	ND	2.8	ND
2,4,5-Trichlorophenol	<b>1</b>	7.5	ND	7.5	ND	7.5	ND
2,4,6-Trichlorophenol	<b>1</b>	7.5	ND	7.5	ND	7.5	ND

**Legend**

NC - No criterion for evaluation of analytical parameter

ND - Analyte not detected at the indicated reporting detection limit (RDL)

Bold shaded values exceed evaluation criteria

**Notes**

1: Evaluation criteria for groundwater results is New York State Class GA Groundwater. Standard/Guidance Values presented in Technical and Operational Guidance Series 1.1.1.

2: SVOC compounds analyzed by USEPA method SW846 8270D.

**Table 3**  
**Summary of Groundwater Sampling Results**  
**52-01 Queens Boulevard**  
**Queens, NY**  
**April 2012**

SAMPLE NAME LAB SAMPLE ID SAMPLE DATE DATE RECEIVED BY LAB	TOGS GA Standard/ Guidance  (ug/L)	TW-1 9961452001 4/9/2012 4/10/2012  (ug/L)		TW-2 9961452005 4/9/2012 4/10/2012  (ug/L)		TW-3 9961452003 4/9/2012 4/10/2012  (ug/L)		Trip Blank 9961452007 4/10/2012 4/10/2012  (ug/L)	
		<b>VOLATILE ORGANIC COMPOUNDS</b>							
Acetone	50	10	ND	10	ND	10	ND	10	ND
Benzene	1	1	ND	1	ND	1	ND	1	ND
Bromochloromethane	NC	1	ND	1	ND	1	ND	1	ND
Bromodichloromethane	50	1	ND	1	ND	1	ND	1	ND
Bromoform	50	1	ND	1	ND	1	ND	1	ND
Bromomethane	5	1	ND	1	ND	1	ND	1	ND
2-Butanone (Methyl Ethyl Ketone)	50	10	ND	10	ND	10	ND	10	ND
Carbon Disulfide	NC	1	ND	1	ND	1	ND	1	ND
Carbon Tetrachloride	5	1	ND	1	ND	1	ND	1	ND
Chlorobenzene	5	1	ND	1	ND	1	ND	1	ND
Chlorodibromomethane	NC	1	ND	1	ND	1	ND	1	ND
Chloroethane	5	1	ND	1	ND	1	ND	1	ND
Chloroform	7	1	ND	1	ND	1	ND	1	ND
Chloromethane (Methyl Chloride)	5	1	ND	1	ND	1	ND	1	ND
1,2-Dibromo-3-Chloropropane	0.04	7	ND	7	ND	7	ND	7	ND
1,2-Dibromoethane (Ethylene Dibromide)	0.0006	1	ND	1	ND	1	ND	1	ND
1,2-Dichlorobenzene	3	10	ND	5	ND	20	ND	1	ND
1,3-Dichlorobenzene	3	10	ND	5	ND	20	ND	1	ND
1,4-Dichlorobenzene	3	10	ND	5	ND	20	ND	1	ND
1,1-Dichloroethane	5	1	ND	1	ND	1	ND	1	ND
1,2-Dichloroethane	0.6	1	ND	1	ND	1	ND	1	ND
1,1-Dichloroethene	5	1	ND	1	ND	1	ND	1	ND
cis-1,2-Dichloroethene	5	4.9		1.6		11.3		1	ND
trans-1,2-Dichloroethene	5	1	ND	1	ND	1	ND	1	ND
1,2-Dichloropropane	1	1	ND	1	ND	1	ND	1	ND
cis-1,3-Dichloropropene	0.4	1	ND	1	ND	1	ND	1	ND
trans-1,3-Dichloropropene	0.4	1	ND	1	ND	1	ND	1	ND
Ethylbenzene	5	1	ND	1	ND	1	ND	1	ND
2-Hexanone	50	5	ND	5	ND	5	ND	5	ND
4-Methyl-2-Pentanone (MIBK)	NC	5	ND	5	ND	5	ND	5	ND
Methylene Chloride	5	1	ND	1	ND	1	ND	1	ND
Styrene	5	1	ND	1	ND	1	ND	1	ND
1,1,2,2-Tetrachloroethane	5	1	ND	1	ND	1	ND	1	ND
Tetrachloroethene	5	434		252		882		1	ND
Toluene	5	2.1		2.2		2.3		1	ND
Xylene (total)	5	3	ND	3	ND	3	ND	3	ND
1,1,1-Trichloroethane	5	1	ND	1	ND	1	ND	1	ND
1,1,2-Trichloroethane	1	1	ND	1	ND	1	ND	1	ND
Trichloroethene	5	4.6		2.1		10.4		1	ND
Vinyl Chloride	2	1	ND	1	ND	1	ND	1	ND
o-Xylene	5	1	ND	1	ND	1	ND	1	ND
m/p-Xylenes	5	1	ND	2	ND	2	ND	2	ND

**Legend**

NC - No criterion for evaluation of analytical parameter

ND - Analyte not detected at the indicated reporting detection limit (RDL)

Bold shaded values exceed evaluation criteria

**Notes**

1: Evaluation criteria for groundwater results is New York State Class GA Groundwater. Standard/Guidance Values presented in Technical and Operational Guidance Series 1.1.1.

2: VOC compounds analyzed by USEPA method SW846 8260B.

**Table 4**  
 Summary of  
 Soil Vapor Sampling Results  
 52-01 Queens Boulevard  
 Queens, NY  
 April 2012

SAMPLE NAME LAB SAMPLE ID SAMPLE DATE DATE RECEIVED BY LAB UNITS	NYSDOH Guidline Values (ug/M <sup>3</sup> )	SV-1 9961493001 4/9/2012 4/10/2012 (ug/M <sup>3</sup> )	SV-2 9961493 4/9/2012 4/10/2012 (ug/M <sup>3</sup> )	SV-3 9961493003 4/9/2012 4/10/2012 (ug/M <sup>3</sup> )
<b>T0-15 Parameters</b>				
Acetone	NC	82	250	210
Benzene	NC	2	5	4
Bromomethene	NC	0.8 ND	4 ND	0.8 ND
2-Butanone	NC	8	21	46
Carbon Tetrachloride	5	1 ND	6 ND	1 ND
Chlorobenzene	NC	0.9 ND	5 ND	0.9 ND
Chloroethane	NC	0.5 ND	3 ND	0.5 ND
Chloroform	NC	1 ND	5 ND	1
Chloromethane	NC	0.9	2 ND	0.4 ND
Cyclohexane	NC	0.7	3 ND	3
1,2-Dibromoethane	NC	2 ND	8 ND	2 ND
1,2-Dichlorobenzene	NC	1 ND	6 ND	1 ND
1,3-Dichlorobenzene	NC	1 ND	6 ND	6
1,4-Dichlorobenzene	NC	1.0 ND	6 ND	1 ND
Dichlorodifluoromethane	NC	4	5 ND	2
1,1-Dichloroethane	NC	0.8 ND	4 ND	0.8 ND
1,2-Dichloroethane	NC	0.8 ND	4 ND	0.8 ND
1,1-Dichloroethene	NC	0.8 ND	4 ND	0.8 ND
cis-1,2-Dichloroethene	NC	2	4 ND	0.8 ND
cis-1,3-Dichloropropene	NC	0.9 ND	5 ND	0.9 ND
trans-1,3-Dichloropropene	NC	0.9 ND	5 ND	0.9 ND
Ethylbenzene	NC	1	5	5
Freon 113	NC	2 ND	8 ND	2 ND
Heptane	NC	1	4 ND	4
Hexachlorobutadiene	NC	2 ND	11 ND	2 ND
Hexane	NC	4	8	8
Isopropylbenzene	NC	1 ND	5 ND	1 ND
Methyl Tert Butyl Ether	NC	1	4 ND	10
4-Methyl-2-Pentanone	NC	1	4 ND	4
Methylene Chloride	NC	6	6	2
Styrene	NC	0.8 ND	4 ND	0.8 ND
1,1,2,2-Tetrachloroethane	100	1 ND	7 ND	1 ND
Tetrachloroethene	100	15	83	21
Toluene	NC	6	21	22
1,2,4-Trichlorobenzene	NC	1 ND	7 ND	1 ND
1,1,1-Trichloroethane	100	1 ND	5 ND	1 ND
1,1,2-Trichloroethane	NC	1 ND	5 ND	1 ND
Trichloroethene	5	1 ND	5 ND	1
Trichlorofluoromethane	NC	1	6 ND	1
1,2,4-Trimethylbenzene	NC	2	10	11
1,3,5-Trimethylbenzene	NC	1	5 ND	3
Vinyl Chloride	NC	0.5 ND	3 ND	0.5 ND

**Legend**

ug/M<sup>3</sup> - micrograms per cubic meter

NC - No criterion for evaluation of analytical parameter

ND - Analyte not detected above the indicated reporting detection limit (RDL)

Concentrations shaded and bolded are above the evaluation criteria

**Note**

Evaluation criteria for soil vapor is the sub-slab vapor concentration for the Matrix 1 and Matrix 2 compounds presented in the NYSDOH Soil Vapor Intrusion Guidance document dated October 2006

**Table 5**  
Soil Cleanup Objectives (SCOs)  
52-01 Queens Boulevard

Contaminant	CAS Number	NYSDEC Part 375-1 SCOs for Unrestricted Use
<b>Volatile Organic Compounds</b>		
1,1,1-Trichloroethane	71-55-6	0.68
1,1-Dichloroethane	75-34-3	0.27
1,1-Dichloroethene	75-35-4	0.33
1,2-Dichlorobenzene	95-50-1	1.1
1,2-Dichloroethane	107-06-2	0.02
cis-1,2-Dichloroethene	156-59-2	0.25
trans-1,2-Dichloroethene	156-60-5	0.19
1,3-Dichlorobenzene	541-73-1	2.4
1,4-Dichlorobenzene	106-46-7	1.8
1,4-Dioxane	123-91-1	0.1
Acetone	67-64-1	0.05
Benzene	71-43-2	0.06
Butylbenzene	104-51-8	12
Carbon tetrachloride	56-23-5	0.76
Chlorobenzene	108-90-7	1.1
Chloroform	67-66-3	0.37
Ethylbenzene	100-41-4	1
Hexachlorobenzene	118-74-1	0.33
Methyl ethyl ketone	78-93-3	0.12
Methyl tert-butyl ether	1634-04-4	0.93
Methylene chloride	75-09-2	0.05
n-Propylbenzene	103-65-1	3.9
sec-Butylbenzene	135-98-8	11
tert-Butylbenzene	98-06-6	5.9
Tetrachloroethene	127-18-4	1.3
Toluene	108-88-3	0.7
Trichloroethene	79-01-6	0.47
1,2,4-Trimethylbenzene	95-63-6	3.6
1,3,5-Trimethylbenzene	108-67-8	8.4
Vinyl chloride	75-01-4	0.02
Xylene (mixed)	1330-20-7	0.26
<b>Semivolatile Organic Compounds</b>		
Acenaphthene	83-32-9	20
Acenaphthylene	208-96-8	100
Anthracene	120-12-7	100
Benz(a)anthracene	56-55-3	1
Benzo(a)pyrene	50-32-8	1
Benzo(b)fluoranthene	205-99-2	1
Benzo(g,h,i)perylene	191-24-2	100
Benzo(k)fluoranthene	207-08-9	0.8
Chrysene	218-01-9	1
Dibenz(a,h)anthracene	53-70-3	0.33
Fluoranthene	206-44-0	100
Fluorene	86-73-7	30

**Table 5**  
Soil Cleanup Objectives (SCOs)  
52-01 Queens Boulevard

Contaminant	CAS Number	NYSDEC Part 375-6 SCOs for Restricted- Residential (ppm)
Ideno(1,2,3-cd)pyrene	193-39-5	0.5
m-Cresol	108-39-4	0.33
Naphthalene	91-20-3	12
o-Cresol	95-48-7	0.33
p-Cresol	106-44-5	0.33
Pentachlorophenol	87-86-5	0.8
Phenanthrene	85-01-8	100
Phenol	108-95-2	0.33
Pyrene	129-00-0	100
<b>Pesticides/PCBs</b>		
2,4,5-TP Acid (Silvex)	93-72-1	3.8
4,4'-DDE	72-55-9	0.0033
4,4'-DDT	50-29-9	0.0033
4,4'-DDD	72-54-8	0.0033
Aldrin	309-00-2	0.005
alpha-BHC	319-84-6	0.02
beta-BHC	319-85-7	0.036
Chlordane (alpha)	5103-71-9	0.094
delta-BHC	319-86-8	0.04
Dibenzofuran	132-64-9	7
Dieldrin	60-57-1	0.005
Endosulfan I	959-98-8	2.4
Endosulfan II	33213-65-9	24
Endosulfan sulfate	1031-07-8	24
Endrin	72-20-8	0.014
Heptachlor	76-44-8	0.042
Lindane	58-89-9	0.1
Polychlorinated biphenyls	1336-36-3	1
<b>Metals</b>		
Arsenic	7440-38-2	13
Barium	7440-39-3	350
Beryllium	7440-41-7	7.2
Cadmium	7440-43-9	2.5
Chromium hexavalent	18540-29-9	1
Chromium trivalent	16065-83-1	30
Copper	7440-50-8	50
Total Cyanide		27
Lead	7439-92-1	63
Manganese	7439-96-5	1600
Total Mercury		0.18
Nickel	7440-02-0	30
Selenium	7782-49-2	3.9
Silver	7440-22-4	2
Zinc	7440-66-6	109

**Notes:**

1. The soil cleanup objective is the lower of the restricted residential and the protection of groundwater value and is based on NYSDEC Brownfield regulations (i.e. Part 375)