April 21, 2010

SITE OPERATIONS PLAN

615-649 West 57th Street
New York, New York

Prepared for

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57 SANDWICH LLC,
57 MINI LLC,
MID BLOCK #57 LLC,
NATIONS DEVELOPER 57 LLC, AND
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1.0 INTRODUCTION

Roux Associates, Inc. and Remedial Engineering, P.C (collectively referred to herein as Roux Associates), on behalf of Durst Development L.L.C., 57 Sandwich LLC, 57 Mini LLC, Mid Block #57 LLC, Nations Developer 57 LLC, and Devco Nations LLC (collectively the "Applicants"), have prepared this Site Operations Plan (SOP) for the proposed remediation/foundation construction of the 1.4-acre property located at 615-649 West 57th Street in the Borough of Manhattan, New York City, New York. A Site location map is provided as Figure 1.

This SOP provides a detailed description of the proposed work activities to be conducted to meet the requirements outlined in the Remedial Action Work Plan (RAWP) for the Site dated July 2009, and revised February 2010. The remediation/foundation construction to be performed at the Site represents a coordinated effort by the construction manager, several contractors, and consultants working together to achieve the goals for the remediation and redevelopment of the Site in a safe and expeditious manner.

The remainder of the SOP is organized as follows:

- Section 2.0: describes the Site, its history, and the results of previous environmental investigations;
- Section 3.0: provides the project team organization and the responsibilities of the various contractors and consultants involved;
- Section 4.0: describes the scope of the remediation/foundation installation construction activities, including all associated plans;
- Section 5.0: describes reporting requirements; and
- Section 6.0: presents the project schedule.

Included with this SOP are the following appendices, as defined and required by the RAWP:

- Appendix A: Construction Health and Safety Plan (CHASP)
- Appendix B: Community Air Monitoring Plan (CAMP)
- Appendix C: Construction Quality Assurance Plan (CQAP)
- Appendix D: Stormwater Pollution Prevention Plan (SWPPP)

2.0 SITE LOCATION, DESCRIPTION, AND HISTORY

This section provides pertinent background information, including a description of the Site and its setting, the known history of the Site, and the results of environmental investigation work conducted at the Site.

2.1 Site Location

The Site is located in the Borough of Manhattan, New York City, New York and is identified as Block 1105, Lots 5, 14, 19, and 43 on the New York City Tax Map. A Site Location Map (Figure 1) shows the Site location. The Site is situated on an approximately 1.4-acre area bounded by 58th Street to the north, 57th Street to the south, the eastern limits of tax lot 43 to the east, and bisects tax lot 5 to the west with the western limits of the Site located 250 feet east of 12th Avenue (see Figure 2).

2.2 Site Description

The Site is an approximately 60,000 square foot vacant lot partially paved with asphalt and concrete. The Site formerly contained an Airborne Express parcel warehouse and vehicular maintenance building (631-649 West 57th Street), a Potamkin Toyota auto service repair facility (623-629 West 57th Street), the Copacabana Night Club (615-621 West 57th Street), and Dynasty Auto Body Facility (616-618 West 58th Street) (Figure 2). All of the aforementioned facilities on the property were demolished and this portion of the Site is currently a vacant open lot.

East of the Site and bordering 11th Avenue is The Helena, an active rental residential tower with market and affordable housing, and Manhattan Mini Storage. The Helena is located at 601 West 57th Street (southeast corner of block) and Manhattan Mini Storage is located at 847-853 Eleventh Avenue (northeast corner of block). West of the Site is a portion of the former Airborne Express parcel warehouse and the Artkraft Strauss Building located at 830 12th Avenue.

2.3 Site History

The following describes the operational history of the site parcels, moving from the Airborne Express parcel on the west side of the block to the Dynasty Auto Body on the east side of the Site. All of the buildings on these parcels have been demolished.

2.3.1 Airborne Express Facility

The Airborne Express Facility, 631-649 West 57th Street, was an L-shaped, two-story concrete building used for parcel receiving, routing, and delivery. This facility was located in the central portion of the Site. The structure, built in 1916, originally housed the Colt Stewart Co. Chrysler Service Station. United Parcel Service, Inc. occupied the building by 1940. A gasoline leak was reported in 1948 and, as a result, the New York City Fire Department (FDNY) ordered hydrostatic tightness testing on the USTs. The tests were performed and the tanks passed to the FDNY's satisfaction. The FDNY also directed the occupant to "clean oil separator" and "repair floor drains and keep same clean." A notarized sworn statement, dated October 1963, from Gas Service Maintenance, on behalf of Don Allen Pontiac, states that the Gas Service Maintenance "discontinued use of 6 underground buried tanks; removed all gasoline and filled with water; and capped, and sealed and cemented all lines." A crankcase waste oil tank was reportedly installed in 1964, although its size and location are unknown. The building was demolished in 2001.

Airborne Express Facility, 640-648 West 57th Street, was a paved parking area occupied by Airborne Express vehicles. The parking area was located on the north side of the Airborne Express Parcel. It was originally part of the S. E. Kellar Lumber Company. A 1926 Sanborn fire insurance map identifies a single story "Auto Repair Shop" at the location. In 1972, this lot, along with the Airborne building noted above, was occupied by New York Telephone, which, according to the GCI Environmental Advisory (GCI) Phase I, installed two (2) USTs located in the area of the present Airborne parking area.

2.3.2 Potamkin Toyota Service Facility

Potamkin Toyota Service Facility, 622 West 58th Street, 623-629 West 57th Street, was a three-story building utilized for car service (ground floor) and auto storage. This facility was located in the central portion of the Site. The building occupied the former site of Lieberman and Sanford Iron Works, which was housed in a steel-framed skeleton shed built prior to 1907. By 1951, Bell Transportation System operated a garage and repair facility at the Site in a building constructed in 1928. The Sanborn maps of the early 1990s describe use of this site as a "Taxi Garage and Repair." The GCI Phase I stated that there may have been up to 13 USTs beneath the Potamkin Service Area floor, including a 4,000-gallon waste oil tank, which was reportedly recently cleaned out and taken out of service. The building was demolished in 2001.

2.3.3 The Copacabana Facility

The Copacabana Facility, 615-621 West 57th Street, was a single-story building that traversed the block between 57th Street and 58th Street. This facility was located in the east-central portion of the Site. The Copacabana property was also part of the lumberyard in the early part of the century. The 58th Street side was a wooden storage building in 1926, while the 57th Street side was part of a garage. In 1980, both sections apparently were garages. The Copacabana was first identified in the 1995 Sanborn map and occupied the structures depicted as garages in the 1980 Sanborn map. Two 550-gallon gasoline tanks were identified as buried at the 58th Street side of the building as early as the 1926 Sanborn map. The building was demolished in 2001.

2.3.4 Dynasty Auto Body Facility

The Dynasty Auto Body Facility, 616-618 West 58th Street, occupied a small two-story wood framed building east of the Copacabana. This property was originally part of a "rented stalls and wagon yard" in 1907. An auto repair shop is shown on the 1926 Sanborn map, with notation of two buried 550-gallon gasoline tanks. This facility was reportedly used as an auto body repair and painting facility since at least 1980. The building was demolished in 2001.

2.4 Results of Previous Environmental Investigations and Selected Remedial Action

The results of previous environmental investigations indicate that onsite soil is contaminated with petroleum-related volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs) in excess of the Part 375 unrestricted and restricted residential soil cleanup objectives (SCOs) across the Site. Metals attributed to urban fill were detected in excess of the Part 375 unrestricted and restricted residential SCOs. Concentrations of VOCs, SVOCs, and metals in soil require remediation.

The investigation also indicated that the chlorinated volatile organic compound tetrachloroethylene (PCE) was detected in soil vapor in the southeast portion of the Airborne Express property at concentrations that require monitoring to determine whether concentrations in sub-slab vapor have changed.

Onsite and offsite groundwater is impacted with low levels of VOCs.

Based on the findings of the subsurface investigations, Roux Associates prepared, submitted, and received approval from NYSDEC for the RAWP, dated February 2010, which sets forth a remedial approach to address impacted groundwater and soil beneath the Site. The proposed remedial action consists of the excavation and offsite disposal of petroleum impacted soil and historical urban fill to an approximate depth of 25 feet below land surface (bls), with deeper excavated areas in certain locations to facilitate construction requirements (e.g., utilities, elevator pits, mechanical pits, etc). The proposed building foundation will be equipped with a waterproofing/vapor barrier to prevent vapor intrusion.

3.0 PROJECT TEAM ORGANIZATION

The implementation of the soil excavation/foundation construction activities will be sequenced based on construction requirements, environmental considerations, and logistic limitations posed by the small size of the Site and proximity of adjacent structures. The project team is comprised of the construction manager, contractors, and consultants specializing in one or more critical aspects of the project. It is understood by the project team that close coordination and proper sequencing of all activities occurring on the Site will be crucial to the success of the remediation and foundation construction. The project team and associated responsibilities are as follows.

3.1 Hunter Roberts Construction Group

Hunter Roberts Construction Group (HRCG) is the Construction Manager for the overall project development and, as such, will be responsible for the quality assurance of all of the tasks being implemented. HRCG will insure that all components of the site activities are conducted according to the remediation requirement and design specifications. HRCG will be responsible for verifying that the daily site construction activities are in compliance with all of the safety requirements and regulations governing the site activity. Both the Site Environmental Health and Safety Officer (SEHSO) (Roux Associates) and the Site Construction Health and Safety Officer (SCHSO) (HRCG) will report all health and safety related issues to the Site Superintendent (HRCG). HRCG will also have the responsibility of coordinating all other trades that will be involved during the foundation construction phase of work, including plumbers, electricians, etc. These trades are not expected to be involved with performing remedial aspects of the project and will not be discussed further in this document.

3.2 Roux Associates, Inc.

Roux Associates will coordinate all Site activities being implemented to achieve the remedial objectives defined in the RAWP. Roux Associates will provide continual review of all quality control measures implemented by the contractors to ensure compliance with the Site's remedial objectives and the CQAP. As such, Roux Associates will provide full-time oversight services for the duration of the remedial activities. Roux Associates will ensure that all site activities conform to and follow the environmental provisions of the CHASP, CAMP, CQAP, and this SOP and will communicate with all project team members as necessary to achieve the remediation goals. All onsite quality control persons identified in the CQAP will provide daily briefings

and/or reports to Roux Associates, identifying the tasks completed, the remedial measures achieved, and any other issues of concern. Roux Associates will also serve as the SEHSO. Additionally, Mr. McGuckin of Remedial Engineering, P.C., a professional engineer licensed in the State of New York, will be responsible for certifying that the remediation construction was completed in substantial conformance with the approved RAWP and/or any NYSDEC-approved field changes.

Roux Associates will also implement the Site-specific CAMP. In accordance with the CAMP, daily monitoring of the upwind and downwind perimeter will be conducted to ensure both the protection of the site workers and surrounding community. Roux Associates will provide ambient air quality monitoring for VOCs and particulates during all intrusive site activities. Meteorological conditions will also be measured continuously during intrusive activities. CAMP monitoring data will be reported daily to the Roux Associates Project Manager (PM) and the SEHSO. Action level exceedances will be reported to the PM, SCHSO, and Site Superintendent immediately, and appropriate communication and action taken.

3.3 The Laquila Group Inc.

The Laquila Group Inc. (Laquila) is responsible for the overall foundation construction and excavation support installation, including excavation of the Site to the required depths, dewatering, disposal of the excavated materials, construction water and all other wastes generated, installation of piles and pile caps, installation of the mud slab, construction of the pressure slab, and installation of the waterproofing/vapor barrier. The primary environmental obligations of Laquila include ensuring the proper installation and protection of the waterproofing/vapor barrier and properly and safely managing all excavated materials encountered during the construction of the foundation. Subcontractors may be used to perform selected work items (e.g., dewatering) and will be identified and approved by the Construction Manager prior to start of their specific work. The vapor barrier installer will be certified by the manufacturer to install their products.

3.4 Environmental Laboratory

The need for an environmental laboratory is specific to excavation end-point soil sampling to be conducted by Roux Associates. The potential also exists for excavated soil waste

characterization analysis and construction water discharge and/or waste characterization analysis to be conducted by Laquila and its subcontractors.

The analyses of excavation end-point soil samples will be conducted Accutest Laboratories (Accutest), located in Dayton, New Jersey and/or Hampton Clarke Veritech (HCV) of Fairfield, New Jersey. Accutest and HCV are New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) certified laboratories. All results will be reported in electronic format deliverables.

3.5 Geotechnical Laboratory

If necessary, a geotechnical laboratory will be contracted for foundation condition verification purposes. Quality assurance related to the structural components of the foundation (e.g., piles, foundation wall, etc.) is not an obligation of this CQAP, and therefore is not discussed further.

3.6 Surveying Firm

Montrose Surveying Co., LLP, a New York State-licensed surveying firm, has been subcontracted by HRCG to provide pre-construction Site surveys. Laquila will employ their own surveyor to document their work during construction.

3.7 Waste Disposal Facilities

Petroleum-impacted soils and other facility-acceptable waste from the Site will be treated as contaminated and regulated material and will be disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations. If disposal of soil/fill from this Site is proposed for unregulated disposal (i.e., clean soil removed for development purposes), a formal request with an associated plan will be made to NYSDEC's Project Manager. Additional facility information is included in Appendix C. If wastewater is to be disposed of offsite, it will be transported to a permitted treatment and disposal facility.

All non-impacted construction debris will be transported to a permitted construction and disposal (C&D) facility. Additional waste disposal facilities may be used as required, based on the nature of the material being removed from the Site and the volume of material each facility will accept on a daily basis.

4.0 REMEDIATION OBJECTIVE AND DETAILED PROJECT DESCRIPTION

The objective of the remediation is to remove and dispose of historical urban fill material underlying the Site to the horizontal and vertical limits described herein in conformance with the RAWP requirements. All work shall be conducted in accordance with this SOP and its associated plans (e.g., CHASP, CAMP, CQAP, and SWPPP).

4.1 Summary of the Work

The soil and groundwater beneath the Site will be enclosed by a perimeter excavation support system and capped by a concrete building foundation equipped with a waterproof/vapor barrier. The perimeter excavation support system will extend from ground surface to bedrock. The Site will be excavated to an average depth of approximately 25 feet bls on the western half of the site, where soil is present, and 15 feet bls on the eastern half of the site, where rock is present to accommodate the construction of the proposed building foundation and cellar areas, with greater depths in certain areas (e.g., elevator pits, mechanical pits, etc) and as required for construction of pile caps, footings, and for installation of utilities. The RAWP stated that the Site would be excavated to an approximate depth of 25 feet bls.

The excavation work will require the excavation and offsite disposal of approximately 66,000 cubic yards of fill from the Site and the dewatering and disposal or onsite treatment and discharge of groundwater. The location of the perimeter excavation support system and the horizontal and approximate vertical excavation limits are indicated in the Site Logistics Plan, provided as Figure 3. Groundwater is located at approximately 9 to 16 feet bls.

The work to be performed by the contractors includes:

1. Obtain all necessary permits, insurance, bonds, and licenses required to complete all work and pay all necessary fees for the permits obtained.
2. Verification of utility locations.
3. Mobilization to the Site and site preparation.
4. Provision of all temporary facilities and utilities.
5. Provision of site security measures.

6. Provision of health and safety services for the contractors' employees in accordance with the CHASP.

7. Setup and maintenance of all traffic control measures.

8. Setup and maintenance of decontamination areas, staging areas (if required), erosion control measures, and dust control measures.

9. Construct facilities for collection, storage, and management of pumped groundwater and runoff.

10. Construction and maintenance (during construction) of signs and perimeter fencing.

11. Protection of excavations and other work areas. These areas will be protected using temporary fencing and other security measures to prevent unauthorized access.

12. Dewatering of excavations.

13. Excavation and dewatering of impacted soil in phases, as required for installation of piles and the foundation slab, etc., for the proposed building.

14. Installation of all required piles, foundation slab, and waterproofing/vapor barrier in coordination with excavation activities.

15. Offsite transportation and disposal of excavated soil in accordance with all applicable federal, state, and local regulations.

16. Final site restoration and demobilization from the Site.

4.2 Detailed Description of the Work

Additional details regarding critical work elements are described below.

4.2.1 Health and Safety

All construction activities will be performed in a manner consistent with 29 CFR 1910 and 1926. The Site-specific CHASP is provided as Appendix A. As defined in the CHASP, all site workers conducting intrusive activities within the exclusion zone will be required to have 40-hour Hazardous Waste Operation Worker (Hazwoper) training in accordance with the referenced regulations. This CHASP will be used to protect all personnel working on the Site, as well as any site visitors. The CHASP will be readily available during the work. During all phases of site work, the various contractors shall monitor site conditions and worker activities and enforce all provisions of the CHASP. This will include monitoring for general site conditions, safety hazards, and the air monitoring to be performed by Roux Associates. Specifically, monitoring

and safety inspections will be performed to verify that all requirements of the Occupational Safety and Health Administration as outlined in 29 CFR Parts 1910 and 1926 are adhered to.

As provided in the CHASP, Site controls will be established to limit the potential exposure to impacted materials. A support zone (SZ), contamination reduction zone (CRZ), and an exclusion zone (EZ) will be established to define specific areas of personal protective equipment (PPE) requirements. The exclusion zone and support zones will be modified as the foundation work progresses to protect workers and allow for other trades to begin work in other designated areas of the Site. Site worker decontamination procedures will be adhered to when leaving the EZ. Personnel decontamination procedures will be conducted within the CRZ.

4.2.2 Community Air Monitoring Program

The CAMP is established to provide an added level of health and safety protection for the community surrounding the Site. Roux Associates will be responsible for implementing the CAMP during all intrusive work activities at the Site. General CAMP provisions require continuous air monitoring at the Site's downwind perimeter for VOCs and particulates. Refer to Appendix B for a detailed summary of the CAMP procedure and requirements. During the course of the work, Laquila will be responsible for mitigating vapor (e.g., VOCs emissions) and airborne particulates via suppression techniques defined in the CAMP and as discussed in Section 4.2.8.

4.2.3 Quality Assurance/Quality Control

Quality assurance/quality control procedures for all construction activities associated with the soil excavation/foundation installation are established in the CQAP, which is included as Appendix C to this SOP.

4.2.4 Erosion and Sediment Control Measures and Storm Water Management

All necessary measures to temporarily control erosion will be employed and will comply with all requirements of the specifications and the requirements in the New York Guidelines for Urban Erosion and Sediment Control. Details regarding erosion and sediment control measures for the Site construction activities are presented in the SWPPP, which is included as Appendix D. Soil erosion and sediment control measures for control of storm water will be installed prior to the

implementation of the remediation/foundation construction activities in accordance with the SWPPP and will be maintained throughout the duration of all construction activities, as appropriate.

4.2.5 Mobilization and Site Preparation

The mobilization/site preparation phase of the project will include:

- mobilization of equipment and materials;
- implementation of traffic control measures;
- work zone demarcation;
- utility location identification and "OK" demarcation;
- utility relocation or removal as necessary;
- installation of erosion control devices;
- installation of perimeter air monitoring system;
- installation of sanitary facilities for onsite workers
- installation of temporary facilities; and
- installation of the decontamination facilities.

4.2.6 Excavation Support System Construction

A steel sheeting system will be constructed around the building perimeter. The sheeting system will consists of AZ 18 steel sheet driven into place utilizing a vibratory hammer. Prior to sheet pile installation, pre-excavation will be performed to assist with limiting obstructions during sheet installation. All necessary precautions will be used during pre-excavation and sheet pile installation to prevent the migration of contaminants and production of vapor or nuisance odors.

The steel sheeting will function as the soil retention system for excavation purposes and construction of the foundation system.

Installation of the steel sheeting will be performed utilizing a Junttan PM 25 hydraulic pile rig or equivalent. Sheet piles will be advanced until bedrock.

As mass-excavation progresses, continuous walers and tiebacks will be installed for the support of excavation system. No excavation can proceed beyond the allowed depth prior to installation of these system components.

Site Excavation

The Site will be excavated to an approximate depth of 25 feet bls, or bedrock, as required for construction of pile caps, footings and structural slab and foundation walls. As the excavation progresses, the previously discussed support of excavation components required will be installed.

Soil excavation will begin in the northwest corner of the site and progress from west to east. The soil will be loaded directly into trucks with minimal amounts being stockpiled in preparation for each day's load out. Waste characterization soil samples will be collected from the soil, as required by the soil disposal facility.

Dewatering will be performed, as required, utilizing a well point system. The dewatering system will be installed after a first cut of site soil, to an elevation approximately 9 feet bls, is completed. The dewatering system will be operated achieve the required final slab on grade elevations.

4.2.7 Building Foundation Construction

This section details the construction of the proposed building foundation. Construction of the building foundation will begin immediately after completion of the excavation support system. The tasks involved include pile installation, soil excavation, pressure slab construction, and waterproofing/vapor barrier installation.

Drilled Piles

In the lower portion of the building cellar, (118) 13-3/8" steel pipe piles will be installed from subgrade to bedrock for support of the building foundations. Once installed to bedrock, the piles will be filled with concrete, and tied into the pressure slab.

In the same area, (78) 1-7/8" diameter tie downs will be drilled to bedrock as required to support the building foundation and prevent uplift of the pressure slab.

Waterproofing/Vapor Barrier Installation

The waterproofing/vapor barrier will consist of several products manufactured by W.R. Grace (Grace). The primary components of the Grace barrier system consist of a factory made high density polyethylene (HDPE) composite membrane that will be rolled directly on top of the mud slab or other prepared surface and HDPE tape that will be used to seal the seams between the segments of HDPE membrane. Grace manufactures numerous types of membranes and accessory waterproofing products, several of which will be used in an integrated manner to produce an effective waterproof and vapor barrier system that conforms to the site-specific foundation requirements. Specifically, the Grace products that will comprise the barrier system proposed for this project are:

- Preprufe® 300R and 160R HDPE membranes;
- Bituthene 4000
- Preprufe® tape and Preprufe CJ tape;
- Bituthene® Edgeguard Tape;
- Bituthene® Liquid Membrane; and
- Hydroduct® 225 drainage composite.

Each of these products will be installed in accordance with the manufacturer's specifications. The heavy-duty grade Preprufe® 300R will be installed on all horizontal surfaces and vertical surfaces located beneath the pressure slab (e.g., sides of pile caps and mechanical pits). The Preprufe® 300R membrane will be installed on top of the mud slab (below the concrete pressure slab). The Preprufe® 300R membrane sheets are designed to adhere to each other when overlapped a minimum of three inches. Preprufe® tape and Preprufe® CJ tape will be applied to all 300R membrane side and end laps, respectively. The Preprufe tape provides protection of the seams during construction. Along the foundation exterior walls, the Preprufe® 160R membrane will be installed. Prior to installing the Preprufe® 160 on the completed foundation exterior walls, a plywood formwork and Hydroduct® 225 drainage composite will be installed along the foundation exterior walls to provide a uniform surface for membrane installation. Any penetrations, including piles and utilities, will be addressed with the Grace system using a combination of membrane patching, Bituthene® liquid membrane and taping to secure the edges.

To assure field quality control, all manufacturer's specifications for installation shall be strictly adhered to, including materials handling, surface preparation, application, and protection during placement of reinforcing and backfill. All waterproofing/vapor barrier components will be installed by Laquila (a Grace certified installer). For quality assurance, Roux Associates, Inc. will inspect the waterproofing/vapor barrier under the direction of Remedial Engineering, P.C. during both installation and immediately prior to pouring concrete over the waterproofing/ vapor barrier.

Pressure Slab Construction

Once the waterproofing/vapor barrier has been installed, construction of the pressure slab will begin. Construction of the pressure slab will be performed in segments, sized such that the concrete can be installed in one workday once the formwork, waterproofing/vapor barrier, and rebar have been installed. This approach will also help limit the potential for damage to the waterproofing/vapor barrier. Prior to beginning each segment of pressure slab construction, the waterproofing/vapor barrier will be installed onto the mud slab in that area. The waterproofing/ vapor barrier will be installed such that a portion of the waterproofing/vapor barrier material remains exposed above the top of the pressure slab (along side walls) or outside of the pour area, on the mud slab (in areas where an additional pressure slab segment remains to be constructed) for tie into the next section of waterproofing/vapor barrier to be installed. Formwork will be installed around each segment of the pressure slab to be poured. Rebar will then be installed within the formwork as specified by the structural design and then concrete will be installed.

4.2.8 Dust Suppression and Odor Control

Dust (airborne particulate matter) will be controlled at the Site in accordance with the CAMP, and all federal, state and local requirements. Laquila will be required to maintain all excavations, stockpiles, access roads, and all other work areas to minimize dust that would cause a hazard or nuisance to others. Dust will be monitored in accordance with the requirements of the CAMP. Based on the results of the monitoring, Laquila will implement necessary measures to control dust to acceptable levels, including one or more of the following measures:

1. applying water on the haul roads;
2. misting equipment and excavation faces;

3. hauling materials in tarped containers;
4. reducing speed of vehicles moving through areas of the Site;
5. covering excavated areas and material after excavation activity ceases; and
6. if necessary, temporarily stopping work until one or more of the above measures have been successfully implemented and or the condition has been mitigated.

The contractor will have access to a local hydrant (with associated hydrant use permit) equipped with the necessary water distribution equipment dedicated to dust suppression available onsite at all times.

In addition, each entrance/egress point for trucks will be furnished with a "Stabilized Construction Entrance" for the purpose of keeping trucks and equipment clean of soil and other materials during site remediation and redevelopment.

If necessary, Laquila will utilize a foaming unit to suppress organic vapors and odors generated during excavation activities. This unit will be located in the staging area during all excavation activities. Foam will be applied as necessary during excavation activities to maintain personal and perimeter air monitoring criteria established in the CAMP. In addition to foam, Laquila will limit the size of the excavation and cover/blend exposed impacted soil with clean soil to minimize vapor and odor emission. During shutdown activities, Laquila will utilize the combination of foam and heavy tarps or plastic sheeting to suppress vapors and odor.

4.2.9 Work Hours, Proposed Truck Routes and Traffic Control

All construction work will occur between 7 A.M. and 6 P.M. from Monday to Friday. If work beyond these hours or on weekends is required, the NYSDEC will be notified. Disturbances to the local community will be minimized to the extent practical.

Proposed truck routes for ingress and egress to the Site are shown in Figure 4. Routes were selected in order to limit transport through residential areas; limit total distance to major highways; and provide safe access to highways.

The contractors will be responsible for providing all necessary personnel and materials (i.e., traffic lanes, safety cones, etc.) to control traffic entering and exiting the Site and for coordinating traffic control measures with the New York City Police Department, as necessary.

4.2.10 Excavated Material Loading and Transportation

It is anticipated that contaminated soils generated while excavating the Site will be directly loaded as they are excavated. Soils generated while constructing the excavation support system or foundation may be stockpiled onsite and for two to three days prior to transport and disposal, as described in Sections 4.2.11 and 4.2.12. Laquila will contract with and schedule properly permitted transporters to transport the contaminated soils offsite for disposal. Laquila anticipates the maximum shipping volume of 2500 tons per day. The actual number of trucks will be dependent upon excavation activities and scheduling with the various disposal facilities. Laquila will maintain a truck/load-out log. The log will include: time in, time out, manifest and/or bill of lading number, transporter, license number, truck and/or trailer number, and decontamination status.

Based on the size of the Site, Laquila proposes to incorporate the decontamination pads into the stabilized roadway for truck ingress and egress through the Site. Sumps will be installed to collect rinse water from wet decontamination, if required. Previous experience on a site of this size have shown that, with the proper construction of the stone haul road within the site and due diligence of the operators, truck loading can be accomplished without decontamination. However, Laquila anticipates the decontamination pads will be installed utilizing a 60-mil HDPE liner covered with geotextile and 2-3-inch sized stone. The pad will be approximately 20 feet by 30 feet in size and will be sloped to a sump containing a 55-gallon drum to collect the decontamination water. This water will be transferred to an onsite water treatment system, water storage tank, or pumped back into the existing excavation where it will be handled consistently with the construction dewatering as described in Section 4.2.13.

Once decontaminated, the truck will follow the approved truck route (Figure 4) out of the project area and proceed directly to the appropriate approved disposal facility described in Section 4.2.13. The trucks will be weighed on certified scales at the disposal facility. Each truck will be equipped with a DOT-approved tarping device to cover each load prior to leaving the

Site. Truck weight reports will be returned to Laquila from the respective disposal facility Completed copies of the manifest and/or bill of lading showing the gross, tare, and net weights and signed by the treatment facility operator will be returned to Roux Associates, Laquila, and HRCG by either fax or hard copy for tracking and quality control.

4.2.11 Temporary Staging and Stockpiling

The current excavation plan is designed to eliminate the need for stockpiling impacted materials while excavating the site, though stockpiling may be necessary for relatively small quantities of material generated while installing the perimeter excavation support system or foundation. All stockpiles will be constructed to limit erosion to the extent possible. The stockpiles will be located within areas still requiring excavation and, therefore, will not require a sub-base liner. Stockpiles will be kept covered at all times with appropriately anchored plastic sheeting. Stockpiles will be routinely inspected and damaged covers will be promptly replaced. Laquila will implement vapor and or dust suppression techniques as needed to mitigate any vapor or dust emissions associated with the stockpiles.

4.2.12 Offsite Materials Disposal

All soil, fill, and other contaminated material excavated from the Site will be disposed of in accordance with all applicable federal, state, and local regulations. If large pieces of concrete, brick, or other construction debris are encountered while excavating, that material will be examined for visual signs of contamination. If no signs of contamination are observed, it will be disposed of as construction and demolition debris (C&D) at a facility to be determined by Laquila.

A finalized list of waste receiving facilities will be provided to the NYSDEC when available.

4.2.13 Dewatering

Wastewater generated during construction, dewatering of the excavation, or construction of the building foundation, will be processed through an onsite wastewater treatment system and discharged under permit to the New York City Department of Environmental Protection (NYCDEP) sewer system. Based upon experience at similar sites, the treatment system will

include a settling tank and carbon filter vessels. The treatment system will be capable of handling approximately 500 gallons per minute (gpm).

Wastewater Discharge

The effluent from the wastewater treatment system will be discharged to the storm sewer under a NYCDEP sewer discharge permit. Effluent from the treatment system will be sampled (by Laquila or their designated subcontractor) and analyzed for the discharge parameters stipulated in the permit prior to discharge. The analytical results for these samples will be reviewed to verify that the quality of the treated water is in compliance with the permit requirements and then be forwarded to the NYCDEP for review and approval. The treated water will only be discharged after receiving NYCDEP's approval to do so.

4.2.14 Contingency Plan - Unanticipated Subsurface Obstructions/Conditions

Unanticipated subsurface obstructions/conditions that may be encountered include USTs, buried drums, former piles, building footings and foundations, and large pieces of demolition debris. This material, if encountered, will be managed as described below and disposed of in accordance with all federal, state, and local regulations.

Unanticipated conditions may include underground storage tanks (USTs), buried drums, and grossly contaminated petroleum impacted soil. If encountered, these materials will be excavated within the limits of the proposed excavation, stockpiled separately, sampled for disposal purposes and disposed of offsite in accordance with applicable regulations and guidance.

If encountered within the excavation area, old foundation type materials will be cut or broken into lengths or pieces suitable for offsite disposal in accordance with approved disposal facility requirements. If this type of debris is not visually impacted, it will be disposed as C&D at the approved licensed C&D disposal facility. If the debris is visually impacted, it will be either decontaminated (if possible) and managed as non-impacted C&D or sampled for waste characterization purposes and disposed of at an appropriate approved facility. Any part of old piles or demolition debris that extends below the depth of the proposed excavation will be cut off and capped prior to construction of the pressure slab.

5.0 REPORTING

The following reporting will be conducted during the course of the work.

Daily Activity Reports

Daily activity reports will be maintained by Laquila and its subcontractors and collected each day by Roux Associates and HRCG for compilation and record management. HRCG will be responsible for maintaining all project records. Roux Associates will manage specific project records to facilitate preparing the Final Engineering Report documenting completion of remediation activities. Daily activity reports will include:

- Date and weather;
- A summary of work activities performed;
- A summary of samples collected;
- An update of progress made during the reporting day;
- Locations of work and quantities of material imported and exported from the Site;
- References to alpha-numeric map for Site activities;
- A summary of any and all complaints with relevant details (names, phone numbers);
- A summary of CAMP finding, including excursions;
- An explanation of notable Site conditions.

Community Air Monitoring

Roux Associates will generate community air monitoring data reports on a daily basis that will be maintained onsite. The reports will include the VOC, particulate, and meteorological monitoring data, a Site map indicating the locations of the perimeter monitoring devices (based on wind direction), and any action limit exceedances for the day. Additionally, monthly Community Air Monitoring Summary Reports will be prepared as prescribed by the CAMP and submitted to the NYSDEC and NYSDOH as prescribed by the CAMP.

Weekly Meeting Minutes

A weekly progress meeting shall be conducted to review work procedures, assess the prior week's progress, overall progress to date, and coordinate future work tasks. Those in attendance

will include representatives from the Owner, HRCG, Laquila, Roux Associates and other subcontractors.

Weekly meeting summaries will be distributed and maintained as part of the permanent project record.

Monthly Progress Reports

Monthly progress reports will be submitted by Roux Associates to the NYSDEC in accordance with the requirements of the RAWP. Laquila will be responsible for providing the following information to Roux Associates in order to prepare the monthly progress reports:

- Activities relative to the Site during the previous reporting period and those anticipated for the next reporting period, including a quantitative presentation of work performed (i.e., tons of material exported and imported, etc.);
- Description of approved activity modifications, including changes of work scope and/or schedule;
- Sampling results received following internal data review and validation, as applicable; and,
- An update of the remedial schedule including the percentage of project completion, unresolved delays encountered or anticipated that may affect the future schedule, and efforts made to mitigate such delays.

Final Engineering Report

In accordance with the RAWP, a Final Engineering Report (FER) will be prepared following completion of all remedial construction activities. The FER provides the documentation that the remedial work required under the RAWP has been completed and has been performed in compliance with this plan. The FER will provide a comprehensive account of the locations and characteristics of all material removed from the Site including the surveyed map(s) of all sources. The Final Engineering Report will include as-built drawings for all constructed elements, certifications, manifests, bills of lading as well as the complete Site Management Plan (formerly the Operation and Maintenance Plan). The FER will provide a description of the

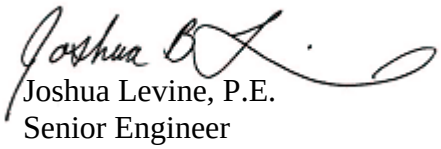
changes in the Remedial Action from the elements provided in the RAWP and associated design documents. The FER will provide a tabular summary of all performance evaluation sampling results and all material characterization results and other sampling and chemical analysis performed as part of the Remedial Action. The FER will provide test results demonstrating that all mitigation and remedial systems are functioning properly.

6.0 SCHEDULE

A preliminary schedule (subject to agency approval) to implement the remediation/foundation construction activities described in this SOP is provided in Appendix E.

Respectfully submitted,

ROUX ASSOCIATES, INC.



Joshua Levine, P.E.
Senior Engineer

REMEDIAL ENGINEERING, P.C.

Charles J. McGuckin, P.E
Principal Engineer

N

Title:

SITE LOCATION MAP

SITE OPERATIONS PLAN
MID BLOCK #57 PROJECT

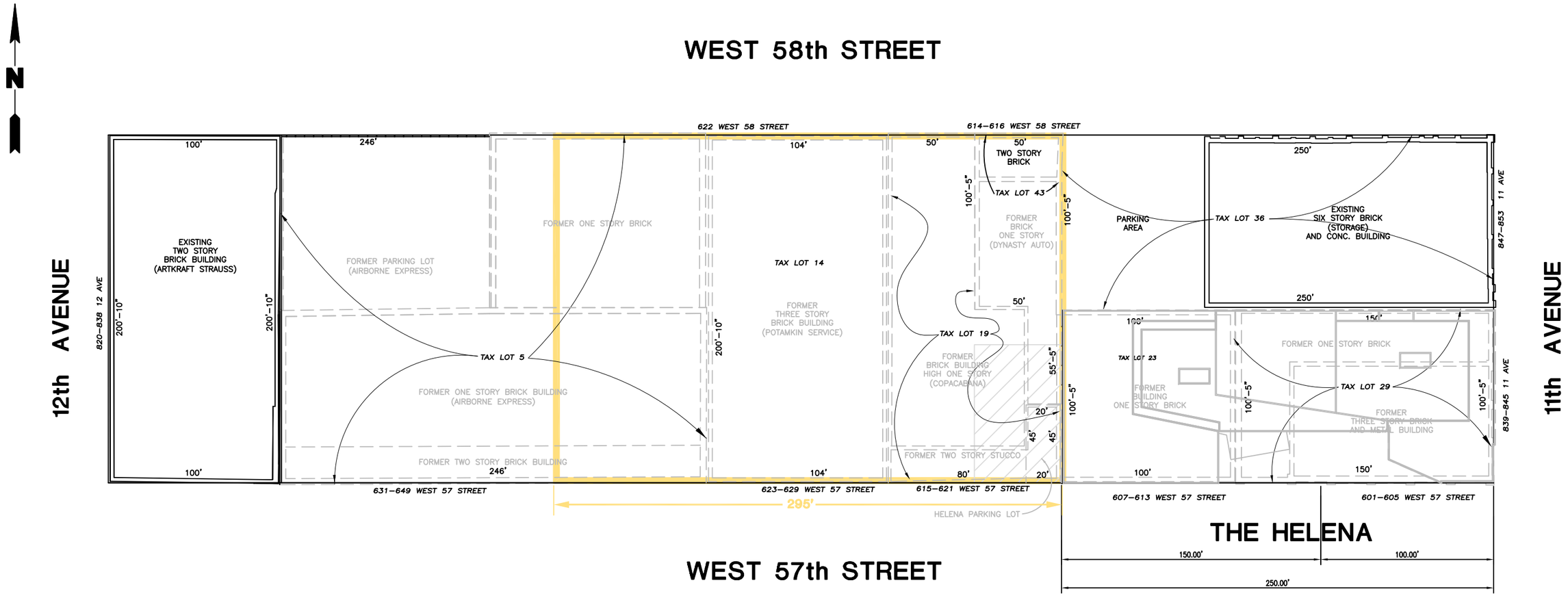
Prepared for:

DURST DEVELOPMENT L.L.C.

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: J.L.	Date: 29MAR10	FIGURE
Prepared by: J.A.D.	Scale: AS SHOWN	1
Project Mgr.: J.L.	Office: NY	
File No.: DUR0315701.CDR	Project No.: 133803Y03	

N:\PROJECTS\DUR1338Y\DUR03Y\157\DUR0315701.CDR



BLOCK 1105

LEGEND

LIMITS OF MID BLOCK #57 PROJECT

60' 0 60'

Title:

SITE PLAN

SITE OPERATIONS PLAN
MID BLOCK #57 PROJECT

Prepared For:

DURST DEVELOPMENT L.L.C.

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: J.L.	Date: 29MAR10	FIGURE
Prepared by: J.A.D.	Scale: AS SHOWN	2
Project Mgr: J.L.	Office: NY	
File No: DUR0315702	Project: 133803Y03	

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POTENTIAL CON ED. VAULT LOCATION

PROPOSED TEMPORARY CONVERSION OF 58TH ST. TO SINGLE EASTBOUND LANE

EXISTING CON ED. STAGING AREA

CON ED. FILTER TRUCKS

CON ED. FILTER TRUCKS

CON ED. FILTER TRUCKS

CON ED. FILTER TRUCKS

CON ED. FILTER TRUCKS

PROPOSED (1) EASTBOUND LANE

EXISTING 2 WAY STREET

WEST 58TH STREET

PEDESTRIAN WALKWAY

MATERIAL STORAGE

TEMP STAIR SCAFFOLD

EMERGENCY MUSTER POINT

TWELFTH AVENUE

EXISTING STRUCTURE 2 STORIES

EXISTING STRUCTURE 2 STORIES

EXISTING STRUCTURE 2 STORIES

OPEN YARD LEASED BY THE DEPT. OF SANITATION

120' (HOLD)

SUB TRAILER

HRGG TRAILER

RAMP WITH GRAVEL TOPPING

PROJECT SITE

TWO LEVEL CELLAR

ONE LEVEL CELLAR

RAMP WITH GRAVEL TOPPING

TRUCK WASHOUT AREA

EXISTING PARKING AREA

EXISTING STRUCTURE 6 STORIES

EXISTING STRUCTURE 1 STORY

EXISTING STRUCTURE 40 STORIES

EXISTING STRUCTURE 10 STORIES

EXISTING STRUCTURE 1 STORY

EXISTING STRUCTURE 10 STORIES

ELEVENTH AVENUE

MATERIAL STORAGE

WORKFORCE TRAFFIC

PPE/SEC BOOTH

HAZMAT BOOTH

PEDESTRIAN WALKWAY

(2) 9' LANES

WEST 57TH STREET

PARKING LANE

EXISTING (DEPT. OF SANITATION) SIDEWALK SHED - SCHEDULED TO BE REMOVED

PROPOSED TEMPORARY CONVERSION OF 57TH ST. TO HAVE 2 WESTBOUND LANES AND 2 EASTBOUND LANES

LEGEND

- NEW SITE FENCE 8' HIGH (PAINTED PLYWOOD) w/ 4' HIGH SILT FENCING ON INTERIOR SIDE
- STEEL SHEET PILING
- JERSEY BARRIERS
- CONCRETE PIERS WITH TIMBER LAGGING
- CONSTRUCTION FENCE OR MOVABLE BARRICADE
- SIGN: SIDEWALK CLOSED - USE WALKWAY
- SIGN: NO LEFT TURN ON 58TH STREET
- SIGN: NO RIGHT TURN ON 58TH STREET
- LOW ILLUMINATED SIDEWALK BRIDGE
- HIGH ILLUMINATED SIDEWALK BRIDGE
- SIDEWALK CROSSING
- FLAG MAN
- EXISTING LIGHT POLE
- EXISTING LIGHT POLE W/PARKING SIGN
- EXISTING FIRE HYDRANT
- MUNI METER
- PARKING SIGN
- EXISTING TREE

SOURCE:
HUNTER ROBERTS CONSTRUCTION GROUP EXCAVATION & FOUNDATION PLAN DATED MARCH 22, 2010.

Title:

SITE LOGISTICS PLAN

SITE OPERATIONS PLAN
MID BLOCK #57 PROJECT

Prepared For:
DURST DEVELOPMENT L.L.C.

ROUX ASSOCIATES, INC.
Environmental Consulting and Management

Compiled by: J.L.	Date: 30MAR10	FIGURE
Prepared by: J.A.D.	Scale: NTS	3
Project Mgr: J.L.	Project: 133803Y03	
File: DUR0315703		

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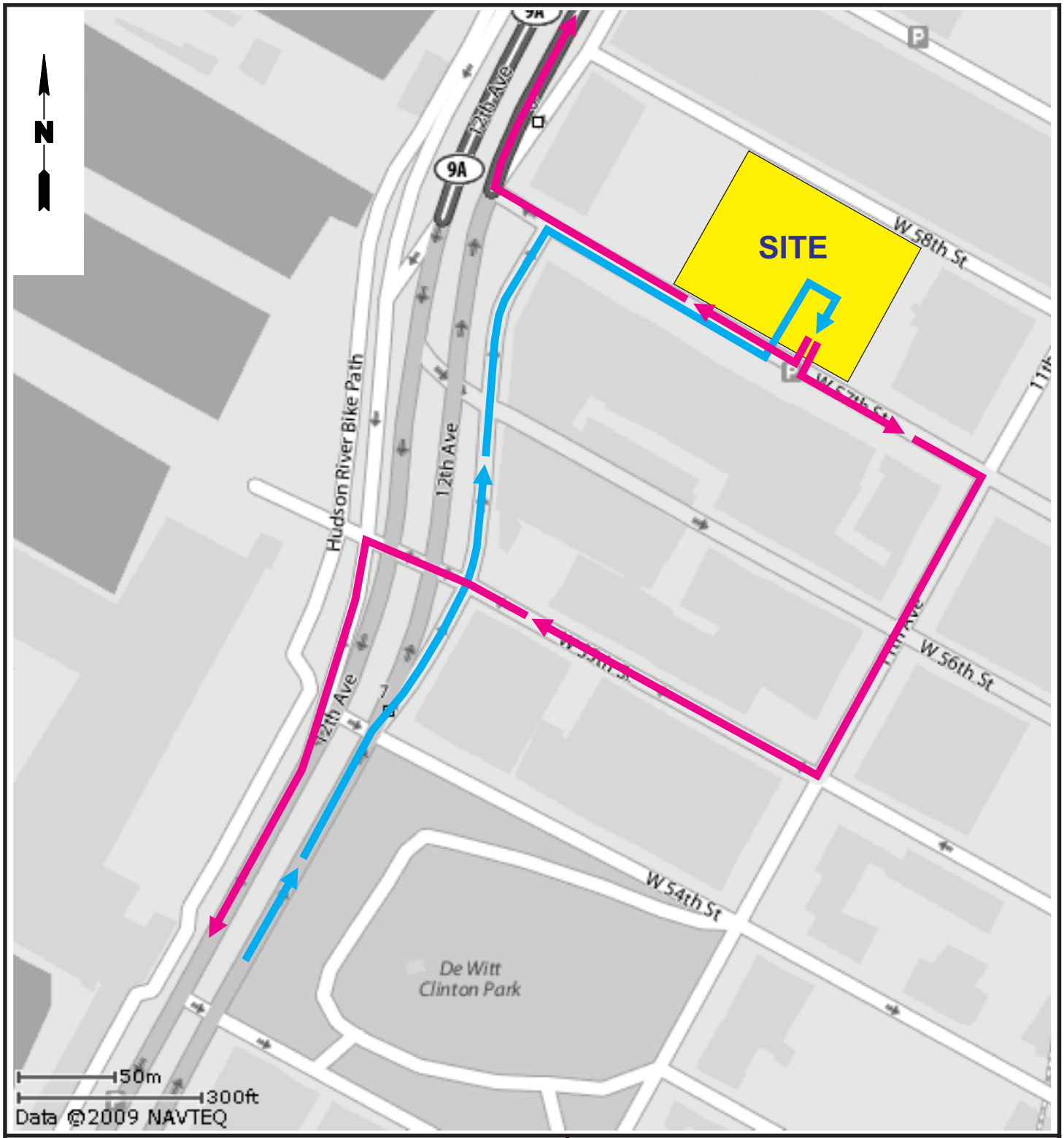

LEGEND

TRUCK ROUTE TO SITE

TRUCK ROUTE FROM SITE

Title:

TRUCK ROUTE

SITE OPERATIONS PLAN
MID BLOCK #57 PROJECT

Prepared for:

DURST DEVELOPMENT L.L.C.

REMEDIAL ENGINEERING, P.C. *Environmental Engineers*	Compiled by: J.L.	Date: 13APR10	FIGURE 4
	Prepared by: B.H.C.	Scale: AS SHOWN	
	Project Mgr.: J.L.	Office: NY	
	File No.: DUR0315701.CDR	Project No.: 133803Y03	

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APPENDIX A

Construction Health and Safety Plan

(CHASP)

THE LAQUILA GROUP, Inc.

1590 TROY AVENUE
BROOKLYN, NY 11234

TEL (718) 252-0126
FAX (718) 421-4061

Date: 2/2/2010

ATTENTION: James McCormick

RE: Avenues: The World School

Site Specific Health and Safety Plan

KINDLY NOTIFY THE SENDER AT ONCE, IF ENCLOSES ARE NOT AS NOTED. TEL (718) 252-0126

To: **Hunter Roberts Construction Group**
2 World Financial Center, 6th Floor
New York, NY 10281
Ph# **1-(212) 321-6800**

MARK ONE ONLY:	
MESSENGER	☐
REGULAR MAIL	☐
FIRST CLASS	☐
PRIORITY MAIL	☐
EXPRESS MAIL	☐
FEDERAL EXPRESS	☑
E-MAIL	☐

WE ARE SENDING YOU THE FOLLOWING ITEMS

ATTACHED

UNDER SEPARATE COVER VIA:

DRAWINGS	☐	
PRINTS	☐	
PLANS	☐	
SAMPLES	☐	
SPECIFICATIONS	☐	
COPY OF DOCUMENT	☑	
PRODUCT DATA	☐	
OTHER	☐	

Copies	Spec Section	Date	Rev	Description	Action
1		2/2/2010	0	*Site Specific Health and Safety Plan*	

REMARK

Additional copies or electronic copies available upon request.

COPY TO: File

THESE ARE TRANSMITTED AS CHECKED BELOW

FOR APPROVAL	☑	
FOR YOUR USE	☐	
AS REQUESTED	☐	
FOR YOUR REVIEW	☐	
APPROVED AS SUBMITTED	☐	
APPROVED AS NOTES	☐	
RETURNED FOR CORRECTIONS	☐	
RESUBMIT FOR APPROVAL	☐	
SUBMIT FOR DISTRIBUTION	☐	
RETURN CORRECTED PRINTS	☐	
FOR BIDS DUE	☐	
RETURN AFTER LOAN TO US	☐	
OTHERS	☐	

SIGNATURE

Prepared By: Cris Jurich

THE LAQUILA GROUP, INC.

SITE SPECIFIC SAFETY PLAN

PROJECT: AVENUES: THE WORLD SCHOOL

615-649 West 57th Street
New York, NY

Date: January 2010

1590 Troy Avenue, Brooklyn, NY 11234 *(718)252-0126 Fax: (718) 421-4061*

General Project Information
&
Emergency Information/Contacts

Project Name: Avenues: The World School

Project Executive: William Forbes

Project Executive, Phone: (718) 252-0126

Senior Project Manager: Norman Shapiro, P.E.

Project Manager Joseph Sorena, P.E.

Project Manager, Phone: (718) 252-0126

Project Superintendent: Chris Nolan

Superintendent, Phone: (917) 335-4123

Site Location: 615-649 W. 57th St, New York, NY

Site Safety Manager: Chris Nolan

Client: Hunter Roberts Construction Group

Client Contact: Steven Giordano

Client Phone: (212) 321-6800

Nearest Hospital Name: St. Lukes Hospital

Hopital Phone: (212)541-5981

Hospital Address: 555 W. 57th St, New York, NY

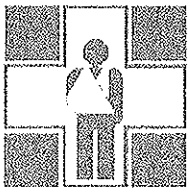
Ambulance Phone: 911

Fire Department: (212)399-4171 or 911

Police Department: (212)258-2870 or 911

Con-Edison Emergency: 1-800-752-6633

In case of Injury, refer to the Preferred Provider listed Below



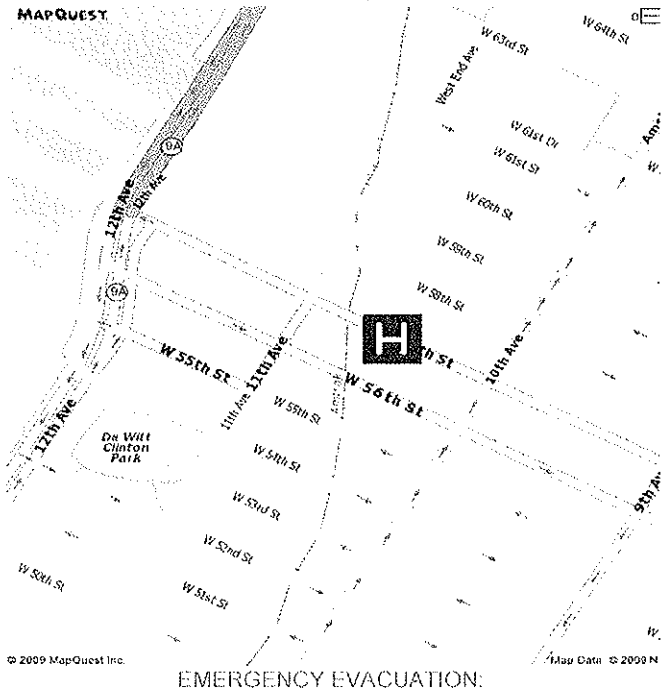
In case of injury, send employee to the physician or clinic listed below for prompt, efficient and high quality medical care.

For emergency assistance, CALL 911 or your nearest police or fire department.

REPORT CLAIMS IMMEDIATELY

In New York the employer may choose the initial treating provider.

St. Luke's Hospital
555 W. 57th Street
New York, NY
212-541-5981



EMERGENCY EVACUATION:
Assembly area will be the NE corner of 57th St. and 12th Avenue.

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(cont.)

STANDARD SAFETY POLICIES AND PROCEDURES

THE LAQUILA GROUP, INC.

STATEMENT OF SAFETY POLICY

It is the desire of The Laquila Group, Inc. to ensure that all construction work on the project site is performed in a safe manner and in conformity with all applicable safety and health regulations and standards. It follows, then, that The Laquila Group, Inc. project personnel and all others working on the site have definite obligation to their co-workers, and to the public, for carrying out the procedures as outlined in the Site Specific Health and Safety Plan. Conscientious observance of the safety responsibilities and procedures is expected of all job site personnel. Willful or careless neglect of such responsibilities is a case of suspension or termination of employment.

Because of the nature of the work, there may be incidental subcontracted work performed at the site. When subcontracted work will be performed, The Laquila Group, Inc. will ensure that subcontractors strictly adhere to all safety requirements implemented at the site.

To that end, the following safety requirements will be enforced to the letter without exception:

1. All Laquila Group employees are required to wear hardhats and safety vests while working on Laquila projects. Safety glasses and/or respirators will be worn as dictated by work assignment.

2. All Laquila Group employees are required to wear safety harnesses and will be tied-off when working at any height above six (6) feet.

3. All Laquila Group employees are prohibited from smoking on Laquila projects this includes any areas within the project limits as well as office trailers and shanties. This is a requirement of the City of New York Fire and Building departments.

4. All Laquila Group employees assigned to Laquila projects will be trained in accord with OSHA's Ten Hour Safety Course.

GLOSSARY

When capitalized terms used in these Guidelines are as defined in the Contract Documents, unless otherwise indicated.

SAFETY ENGINEER	The Contractor's Employees with Safety Responsibility as outlined in Contract Documents
SPECIFICATIONS	The technical sections of the Contract Documents
TOOL BOX	Meeting held by Laquila Group, Inc. with Employees about Safety on Project Site
AHERA	Stipulated training course as outlined in Asbestos OSHA Regulations
PEL	Permissible exposure limit (note OSHA Regulation)
HEPA	Vacuum System for Asbestos/Lead Abatement as per OSHA Standards
EL	Excursion Limit (note OSHA Regulations)
OSHA	U.S. Department of Labor, Occupational Safety and Health Administration
DOT	Department of Transportation, Federal, State and Local
EPA	Environmental Protection Agency
TWA	Time Weighted Average (Lead/Asbestos Abatement)
MSDS	Material Safety Data Sheets

THE LAQUILA GROUP, INC.

PROGRAM OBJECTIVES

The objectives of this Health and Safety Plan are to:

1. Minimize personnel injury and property damage
2. Achieve greater efficiency
3. Reduce direct and indirect costs associated with accidents.
4. Complete, accurate and prompt reporting of accidents.

Management recognizes that the extent to which these objectives are met will depend upon the complete support and cooperation of Laquila Group, Inc. construction personnel in carrying out the following basic procedures:

1. PLAN all work with an eye towards safety to minimize personnel injury, property damage and loss of production time.
2. REVIEW safety program requirements and integrate them into standard operating procedures.
3. IMPLEMENT a system of prompt detection and correction of unsafe practices and conditions.
4. MAINTAIN an effective system of tool and equipment inspections and maintenance.
5. ESTABLISH and conduct an education program to stimulate and maintain interest and cooperation of all employees through:
    a. Safety meetings
    b. Prompt investigation of all accidents to determine cause and take necessary corrective actions.
    c. Enforce use of personnel protective equipment, mechanical guards and compliance with regulatory standards by all project personnel.
    d. Training.

This program is intended to anticipate the hazards specific to this phase of the project and should be revised and expanded as circumstances dictate.

SCOPE OF WORK

Scope of Work (General)

The Avenues School Site is approximately 60,000 square feet and is located in the middle of the block bordered by 57th Street, 58th Street, 11th Avenue and 12th Avenue. East of the site and bordering 11th Avenue is The Helena, an active rental residential tower. West of the Site are warehouses bordering 12th Avenue.

The proposed Avenues School is a five story school for Pre-Kindergarten through the 12th grade, which include ancillary spaces such as a cafeteria, gymnasium and auditorium. The school premises will occupy five stories, plus a mechanical penthouse and a cellar that will comprise approximately 242,000 square feet. There will also be approximately 16,330 square feet of retail space, occupying a portion of the first floor, and 58,700 square feet of below grade parking facilities, occupying the balance of the cellar with access through the ground floor.

The work being performed under this contract involves excavating for a two-story cellar with excavation into both rock and soil which will be supported by a system of steel sheetpiling, and steel tiebacks. Ground dewatering will be performed during excavation activities.

A remedial investigation revealed the presence of contaminants attached to soil particles in both saturated and unsaturated areas of the project site as well as dissolved in groundwater. In addition, VOCs are migrating through volatilization of compounds into soil vapor. Potential receptors include occupational workers, construction workers, visitors or trespassers.

During construction certain steps will be taken as a remedy to this potential risk. Soil exceeding restricted levels will be excavated to fifteen feet below ground surface. In addition soil below fifteen feet will be excavated as necessary to remove potential sources of contamination to groundwater. Groundwater remediation will take place during construction activities consisting of excavation dewatering, treatment and off-site disposal.

Proper dust and odor suppression techniques for all intrusive and soil handling activities will be implemented. A soil erosion and sediment control plan will be implemented and all off-site disposal, handling and transport of removed material will comply with Federal, State, and local regulations.

The rest of the work consists of cast-in-place concrete foundation walls and slab-on-grade which will be supported by a combination of concrete spread footings, concrete filled pipe piles and pile caps, and steel rock anchors.

KEY PERSONNEL

Project Manager – The Laquila Group, Inc.
It shall be the responsibility of the Project Manager to:

1. Ensure that all Laquila Group,Inc. personnel are aware of management's agreement with and support of the Safety Program.
2. Support the Superintendent, Site Safety Manager and Competent persons in their on-site efforts to eliminate potential safety hazards on the project site.
3. Coordinate with field supervision to assure that all loss prevention programs are implemented according to the provisions of this manual and consistent with the scope of nature of the respective work involved.
4. Implement the Safety Program on the project. The daily efforts of the Superintendent toward accident prevention will largely determine the degree of safety that will exist on the project.
5. Enforce employee and subcontractor compliance with safety regulations.
6. Provide for safety planning/training in the scheduling and coordination of the work.
7. Implement recommendations of authorized safety personnel.
8. Attend all safety meetings with authorized safety personnel, employees, foremen and subcontractor as required.
9. Initiate and affect Laquila Group, Inc. hazard communication program.
10. Enforce subcontractor compliance with safety regulations.

Site Safety Manager/ Alternate Site Safety Manager – The Laquila Group, Inc.

It shall be the responsibility of the Site Safety Manager/ Alternate Safety manager to:

1. Be present at the site during all ongoing construction activities.
2. Initiate, review and implement through Competent Persons and job Foreman measures for protection of health and accident prevention.
3. Coordinate to provide whatever guidance, support or information necessary to support the actions of the project personnel and safety initiatives.
4. Audit all work areas as necessary but not less than once per day.
5. Attend weekly safety meetings and additional meetings as necessary to ascertain compliance with Federal, State, and Local safety standards as well as the CM and GC safety and health rules and regulations.
6. Schedule and conduct safety meetings and safety training programs as required by law, the safety plan, and good safety practices. The CM/GC Site Safety Manager and resident Hunter Roberts Construction Group shall be advised in advance of the time and place of such meetings. All employees shall be instructed on the recognition of hazards, observance of precautions, of the content of this safety programs, use of protective and emergency equipment and emergency procedures.
7. Verify the use of personnel protective equipment such as eye protections, ear protections, hard hats, etc. is worn by all personnel at the site.

8. Make a minimum of one complete safety inspection of the project each day. Advice the Superintendent and project manager of all unsafe acts, practices and/or conditions observed.

Project Superintendent –The Laquila Group, Inc.

It shall be the responsibility of the Project Superintendent to:

1. Organize work so it is carried out to the established safety standards and with the minimum risk to personnel, equipment and materials and to ensure that any available safe working instructions provided in writing by the manufacture or suppliers of work equipment and materials are issued to employees carrying out such work operations.
2. Know and observe the requirements of OSHA 29 CFR 1926.
3. Give all supervisory personnel under direction precise instructions for correct working methods and prevent them from exposing themselves or other employees under their supervision to unnecessary risk.
4. Plan and maintain and clean and orderly site.
5. Arrange delivery and stocking of materials, machinery or equipment to avoid double risks by requiring double handling.
6. Ensure that a safe electrical supply is installed and maintained. "Ground Fault" protection shall be used whenever possible.
7. Implement and arrange the subcontractors and other contractors on site to avoid any confusion about areas of safety responsibility.
8. Check that all machinery and plant, including power and hand tools, are maintained in good conditions.
9. Make certain that all employees have been properly trained of the required task.

SAFETY REQUIREMENTS

The Laquila Group, Inc. will comply with the applicable provision of the Occupational Safety and health Administration, The Environmental Protection Administration (Federal), Department of Environmental Conservation (State), Department of Environmental Protection (City), the National Fire Protection Association (NFPA) including National Electrical Codes, the New York City Transit Hunt Construction Group Rules and Regulations, including Safety Rules (MW-2), and all other applicable rules and regulations.

The Laquila Group, Inc. shall do a Walk-through of the work site to identify ways to minimize hazards prior to the start of work. The walk-through shall include the Laquila Group, Inc., the Hunter Roberts Construction Group and supervisor personnel of each trade to identify hazardous locations and conditions.

The Laquila Group, Inc. shall identify hazards which identified at the Work Site. Examples for inclusions are as follows: Confined spaces, compressed gases, gasoline, and use of cranes, contact rail, power cable and other equipment.

The Laquila Group, Inc. shall anticipate hazards to comply with specification section applicable to work to be performed, and proposed measures to minimize or eliminate hazards. Examples are as follows:

- Traffic problems and traffic control plans.
- Plans for safe access and egress.
- Plans for fire protection and emergency response (ambulance, fire, etc.)
- Temporary support of utilities such as steam, gas, electric, oil-o-static, water etc.
- Underpinning of structures.
- Temporary construction.
- Protection from operating tracks and energized contact rail.
- Cranes and other equipment.

The Laquila Group, Inc. shall maintain compliance records and provide them for audit by the Hunter Roberts Construction Group. The types of compliance records shall include but not be limited to:

- Minutes of safety meetings.
- Training records including schedule for refresher training.
- Daily reports and logs.
- **OSHA** Form 200.

GENERAL SAFETY PROVISIONS

The Laquila Group, Inc. shall protect the health and safety of employees, the public and other persons; prevent damage to property, materials, supplies, and equipment. To achieve these purposes, the Laquila Group, Inc. shall perform the following:

1) Comply with all federal, state and OSHA safety laws and regulations and industry standards including, but not limited to, the application of Regulations (29CFR Part 1926-Construction Safety and Health Regulations. 29CFR Part 1910-General Industry Occupational Safety and Health Standards); and the Hunter Roberts Construction Group's rules, regulations, orders and Construction Safety Program. Laquila Group, Inc. shall require compliance of the foregoing by all Subcontractors and suppliers at every tier.

2) Prevent trash, water, snow, dirt, debris, or other transient materials from entering into or remaining in the construction and /or maintenance areas, or in related safety areas. Further, Laquila Group, Inc. shall not allow any material or equipment to obscure pavement markings, pavement edges, or detract from visibility.

3) Ensure all tools and equipment used on the job sites comply with OSHA standards.

4) Use electrical tools, cords, appliances, etc., which comply with applicable OSHA and the National Electrical Code Standards.

5) Secure all material and equipment, such as lightweight construction materials, to prevent displacement from wind.

6) Have temporary electrical service equipped with ground fault circuit interrupters (G.F.C.I.) or enforce the ground assurance program by all Laquila Group, Inc. employees, subcontractors, and suppliers at every tier.

7) Provide adequate and proper fencing, barricading, marking and lighting of construction, maintenance or other sections that are temporarily closed to normal use.

8) Inspect all ladders prior to use. Defective ladders must be removed from service immediately. All ladders shall have firm footing, shall be made secure at the top, shall extend 36 inches above the landing level, and shall be constructed of non-conductive materials.

9) Ensure that no welding or cutting operations which may provide an open flame or hot surface are performed until a review of all exposures is completed.

WORK PREPARATION

Before commencing with the work, the Laquila Group, Inc. shall perform the following:

1) Development of a written Accident Prevention Program, including an inclusive Safety Plan.

2) Establish a written Hazard Communication program and submit a copy to the Hunter Roberts Construction Group for review.

3) Establish a Fire Prevention Plan referencing NYC Fire Dept. Rules/Regulations, OSHA, and NFPA standards. Approved safety cans shall be used for flammable and combustible liquids. "NO SMOKING OR OPEN FLAME" signs and approved fire extinguisher shall be provided where required.

REQUIREMENTS OF THE LAQUILA GROUP, INC. PERSONNEL

The Laquila Group, Inc. and its Subcontractors are responsible for directing employees on the specific safety rules that must be followed by all persons working on the project. A list of minimum requirements is as follows:

1) The Laquila Group, Inc. shall be responsible for providing and requiring the use of required personal protective equipment for its employees.

2) Approved hard hats shall be worn at all times while on the construction site. Hard hats shall be worn properly with the bill forward unless the wearing of eye protection prevents this, as in the case of welders.

3) Respirators, appropriate gloves and hearing protection shall be worn when required.

4) A serviceable pair of safety work shoes or boots that meet ANSI-Z41 1983, Class 75 requirements made of leather or similar material shall be worn. Tennis shoes, sandals and other similar shoes are not permitted.

5) Eye-wear shall consist of prescription or non-prescription safety glasses, with side shields, and with or without tint, which meet ANSI Z87.1 1989 requirements. Certain operations (i.e. welding, working with chemicals/hazardous liquids, etc.) shall require additional protection such as goggles, face shields, gloves, protective clothing etc.

6) Full length pants without excessive length or flared bottoms shall be required. Shirts must cover the entire mid-section and the sleeves must cover the entire shoulder. Sleeveless shirts, tank-tops, net shirts, halter tops, etc. shall not be worn on the construction site.

7) Long hair shall be contained under a hard hat or net.

8) Gambling, fighting or horseplay is prohibited.

9) No employees shall possess a firearm or other weapon on Project Site.

10) No employee shall possess, use, or be under the influence of a controlled substance or alcohol while on the project. (Reference to Drug-Free Workplace program).

Any Laquila Group, Inc., or Subcontractor employee who is found to be in violation of these safety rules or other Hunter Roberts Construction Group policies or procedures is subject to immediate removal from the job site.

REPORTING ACCIDENTS AND OTHER HAZARDS

All accidents which occur from operations or work performed under the Project must be immediately reported to the Hunter Roberts Construction Group.

All involved in the programmed construction shall instruct their employees and other personnel to follow these procedures if someone is injured:

1) Employees are responsible for reporting all injuries or occupational related illnesses (regardless of severity) as soon as possible to their employer or immediate supervisor. No supervisor shall decline to accept a report of injury from a subordinate.

2) Seek medical assistance for anyone who is injured. The injured person's supervisor shall see that first-aid is administered and/or emergency medical personnel are summoned if necessary.

3) Except for rescue and emergency procedures, secure the area tightly and quickly. The accident scene shall not be disturbed until it has been released by the investigating officials.

4) **Immediately** report all accidents resulting in a fatality or serious injury to the Hunter Roberts Construction Group. Copies of any written report shall be delivered to the Hunter Roberts Construction Group and insurers within forty-eight (48) hours of the occurrence of the injury.

5) All accidents shall be reported and investigated. These records are to be maintained by the Laquila Group, Inc. and submitted to the Hunter Roberts Construction Group and shall include:

    a. An in-depth investigation to identify all causes and to recommend hazard control measures.

6) In the event an employee is exposed to toxic materials or harmful physical agents, the Laquila Group, Inc. shall notify the Hunter Roberts Construction Group of the incident and the corrective action taken to eliminate further exposures. Areas of exposure shall be isolated until appropriate testing is performed and areas considered safe.

7) Only authorized personnel, such as the Hunter Roberts Construction Group's Risk Management Department, or **OSHA** shall be given information pertaining to an incident/accident at the work site. Questions from the media and others shall be reported to the Hunter Roberts Construction Group. Laquila Group, Inc.'s emergency procedures should be continually reviewed and adjusted to provide maximum effectiveness. All procedures (such as bomb threats, weather, fire, work on existing utilities, etc.) are to be included in Laquila Group, Inc.'s Safety Plan and coordinated with the Hunter Roberts Construction Group.

Laquila Group, Inc. shall develop procedures under the Hunter Roberts Construction Group's guidance to contact the following offices for the events listed below:

Fire Department	✓ Fire ✓ Injuries ✓ Medical Emergencies
NYCTA Police Department and NYC Police	✓ Bomb Threats ✓ Public Demonstrations

Emergencies must be handled by Laquila Group, Inc.'s ranking individual present. In order that necessary emergency services are supplied promptly, Laquila Group, Inc. should delegate responsibility for making emergency calls and have company personnel telephone numbers available for 24 hours.

First-aid supplies shall be accessible for immediate use. The size and number of First Aid kits/stations shall be determined by the number of employees on the jobsite as follows:

Number of Employees	Requirements
1-20	One 16-Unit Kit
21-40	Two 16-Unit kits or one 24 Unit Kit
Over	First aid supplies equal to or better than one 16 Unit kit for each 20 employees, emergency burn Supplies, stretcher, cot, blankets, etc.
Any employee involved with tunnels, trenching shoring or confined space entry	One portable oxygen unit (15 minute minimum supply) As prescribed by OSHA Regulations

Actions to be taken during emergencies should be discussed regularly with Laquila Group, Inc.'s supervisory personnel and at "tool box" safety meetings.
Telephone numbers and locations of emergency facilities including, but not limited to, hospitals, physicians, fire and emergency medical services, and police shall be posted in conspicuous locations at the job sites.

PROTECTION OF THE PUBLIC AND PROPERTY

For the purpose of this section, "public" shall be construed as indicating all persons not employed by Laquila Group, Inc. /Subcontractors or the Hunter Roberts Construction Group; however, Hunter Roberts Construction Group employees not directly involved with the Project, facilities or other related construction contracts shall be considered members of the public.

In addition to the regulations identified within the specific contract documents, the following precautions are required:

1) Laquila Group, Inc. shall take all necessary action to prevent injury to the public or property damage.

2) Work shall not be performed in any area occupied or in use by the public unless specifically permitted by the contract or in writing by the Hunter Roberts Construction Group or its designated Consultant.

3) When it is necessary to maintain public use of work areas involving sidewalks, entrances to buildings, lobbies, corridors, aisles, stairways, and vehicular roadways, Laquila Group, Inc. shall protect the project and public with appropriate guardrails, barricades, temporary fences, and adequate visibility. Such protection shall guard against harmful radioactive rays or particles, flying materials, falling or moving materials and equipment, hot or poisonous materials, explosives and explosive atmospheres, flammable or toxic liquids and gasses, open flames, energized electric circuits, or other harmful exposures.

4) Sidewalks, entrances to buildings, lobbies, corridors, aisles, doors, or exits that remain in use by the public shall be kept clear of obstructions to permit safe across and egress of the public at all times. Temporary sidewalk bridging may be required to traverse excavation and provide access.

5) Appropriate warnings, signs and instructional safety signs shall be conspicuously posted where necessary. In addition, a signalman shall control the moving of motorized equipment in areas where the public might be endangered.

6) Sidewalks, sheds, canopies, catch platforms, and appropriate fences shall be provided when it is necessary to maintain public pedestrian traffic adjacent to the erection, demolition or structural alternation of outside walls on any structure.

7) A temporary fence shall be provided around the perimeter of above-ground operations adjacent to public areas except where a sidewalk shed or fence is provided by the contract or as required by subparagraph (3) above. Perimeter fences shall be at least six feet high. They may be constructed of wood or metal frame and sheathing, wire mesh or a combination of both as provided in contract documents. When the fence is

adjacent to a sidewalk near a street intersection, at least the upper section of the fence shall be open wire mesh from a point not over the four (4) feet above the sidewalk and extending at least twenty-five (25) feet in both directions from the corner of the fence.

8) Warnings signs and lights, shall meet NYC and NYS DOT or Hunter Roberts Construction Group requirements.

9) Temporary sidewalks shall be provided when a permanent sidewalk is obstructed by Laquila Group, Inc.'s operations. They shall be in accordance with the requirements of the local ordinances and/or contract documents. Guardrails shall be provided on both sides of temporary sidewalks. Temporary sidewalks must be checked and clear daily of any debris. It is Laquila Group, Inc.'s responsibility to maintain as part of their normal operations.

10) Guardrails shall be provided on both sides of vehicular and pedestrian bridges. Pedestrian walkway elevated above adjoining surfaces, or walkways within since (6) feet of the top of excavated slopes or vertical banks shall be protected with guardrails, except where sidewalk sheds or fences are provided as required by subparagraph (3) above. Guardrails shall be made of rigid materials capable of withstanding a force of at least two hundred (200) pounds applied in any direction at any point in their structure. Their height shall be approximately forty-two (42) inches. Top rails and posts may be two inches by four inches (2 x 4) dressed wood or equal material. Posts shall not be over eight (8) feet apart.

11) Fuel-burning types of lanterns, torches, flares, or other open-flame devices are prohibited.

NONCOMPLIANCE

If the Hunter Roberts Construction Group or his designee note any noncompliance with these safety requirements, or is advised of such noncompliance by others, a governmental agency with the Hunter Roberts Construction Group to enforce safety regulations, the Hunter Roberts Construction Group shall perform the following:

1) Notify Laquila Group, Inc. of the noncompliance and of the corrective action required. This notice, when delivered to Laquila Group, Inc. or Laquila Group, Inc.'s representative at the site of the work, shall be deemed sufficient notice of the noncompliance to immediately implement corrective action.

2) Exercise the right to issue a suspend-work order without any liability for delay, impact costs or otherwise stopping all or part of the work if Laquila Group, Inc. fails or refuses to take corrective action within the time specified in the notice. The order shall remain in effect until satisfactory corrective action has been taken.

3) Laquila Group, Inc. is prohibited from making any claim or request for equitable adjacent for additional time or money on any suspend-work order issued under these circumstances.

4) Require the immediate removal from Hunter Roberts Construction Group property of any employee or piece of equipment that is deemed to be unsafe.

The Laquila Group, Inc.'s personnel shall be replaced by the Laquila Group, Inc. at the direction of the Hunter Roberts Construction Group for their nonperformance of his or her safety/security duties at no additional cost to the Hunter Roberts Construction Group.

WORK PRACTICES CONTROL

Purpose and Scope

To establish a basic program that shall be followed by Laquila Group, Inc. for the control and elimination of unsafe practices of employees under Laquila Group, Inc.'s direction during the construction of the Project. Statistically, it has been proven that the majority of construction accidents are attributable to employee unsafe acts. Control of these acts shall be a major factor in the effectiveness of the overall loss control program.

Objectives

To reaffirm the Laquila Group, Inc.'s basic responsibility for the actions of its employees. The exercise of these responsibilities by all Laquila Group, Inc. and Subcontractors shall be an effective deterrent to accidents arising from unsafe practice.

Procedures

The techniques to be applied by Laquila Group, Inc. in the control of employee unsafe acts are identical to those that are utilized in the achievement of production quality and quantity control.

Supervisory Controls

a) Laquila Group, Inc. – Each Laquila Group, Inc. shall be responsible for continuous surveillance of its operations, so that he is aware of the probable sources of potential injury or loss due to unsafe acts or procedures.

b) Laquila Group, Inc. Supervision – The practical safety experience of project supervision shall be utilized in directing the actions of those under their direction. OSHA Safety Standards for safe practices shall be complied with.

Project Controls

Frequent monitoring/audit of the performance of Laquila Group, Inc. and its supervision under this section shall be made by the Safety Hunter Roberts Construction Group and/or its designed representative(s). In addition, periodic inspections shall be conducted by the Hunter Roberts Construction Group. In both instances, Laquila Group, Inc. shall be notified in writing of any serious unsafe practices observed. Laquila Group, Inc. shall respond within ten (10) business days with a corrective action plan and schedule for its implementation. Failure to notify the Laquila Group, Inc. shall not relieve the Laquila Group, Inc. of its obligation to identify and correct unsafe practices.

REQUIRED EMERGENCY PROCEDURES

Emergency Action Plan

The Laquila Group, Inc. shall establish an Emergency Action Plan with procedures to handle emergencies created by the following:

a) Injuries to employees.

b) Injuries to the general public on or adjacent to the work site.

c) Property damages with particular emphasis on utilities.

d) Fire.

e) Natural disasters such as earthquakes.

f) Public demonstrations such as mobs, riots, etc.

g) Bombs or other destructive threats.

h) Other exposures or potential hazards that may occur at work site.

Emergency procedures shall be compatible with local police and fire department procedures

Emergency procedures shall ensure that Laquila Group, Inc.'s most senior supervisor present takes charge and directs the handling of the emergency.

Emergency procedures shall be reviewed frequently to ensure that Laquila Group, Inc. personnel are familiar with the proper actions to take and that emergency telephone numbers are current. The emergency procedures shall be posted on Laquila Group, Inc.'s bulletin board. All emergency procedures shall be reviewed and approved by, and coordinated with the Manager.

The above procedures shall be submitted to the Manager within thirty (30) days of receiving the notice of award for review and approval.

Emergency procedures and actions required shall be discussed regularly with the Laquila Group, Inc.'s supervisory personnel and at "too box" safety meetings.

First Aid Facilities

In formulating the Emergency Action Plan, the Laquila Group, Inc. shall provide for the establishment and staffing of appropriate first aid facilities for the treatment of on the job injuries. First aid facility shall contain, but not be limited to, the following items:

a) A dust proof cabinet with first aid supplies.

b) Disinfectant or Soap.

c) Towels and paper cups.

d) A bulletin board on which to post emergency phone numbers, first aid and safety information.

First aid facilities and treatment of employee injuries shall be in compliance with the standards set forth by the American Red Cross, and OSHA.

All first aid supplies shall be approved by the consulting physician or medical supplier.

All Laquila Group, Inc. Supervisors, Foremen and at least four (4) other Laquila Group, Inc. employees shall be trained in first aid and CPR. Copies of the certificates shall be forwarded to the Safety Manager. Additional requirements for tunnel construction.

Offsite medical treatment of employee injuries will be performed at local medical facilities.

Serious Accidents

Serious accidents shall be reported immediately to the Hunter Roberts Construction Group. Laquila Group, Inc. shall issue standing order to all supervisors directly in charge of operations that the scene of the accident shall not be disturbed, except for rescue or other measures, until otherwise directed. Laquila Group, Inc. forces either witnessing or party to the accident shall be detained at the site to provide detailed accounting of facts.

Posting of Emergency Telephone Numbers

To ensure that emergency actions are promptly taken, Laquila Group, Inc shall post emergency telephone numbers in a conspicuous place(s). See Exhibit 2.

Laquila Group, Inc. shall designate responsible personnel to make emergency calls.

Emergency Plan Implementation

Should an emergency occur, Laquila Group, Inc. shall:

a) Immediately secure the area and implement the emergency action plan.

b) Notify the Hunter Roberts Construction Group

PROTECTION OF THE PUBLIC

Protective Measures

All necessary precautions to prevent injury to the public or damage to property of others shall be taken. Installation of temporary barriers and/or fencing designated to protect the Public shall be reviewed and approved by the Hunter Roberts Construction Group. Precautions shall include but not be limited to the following:

a) When necessary to maintain public use of work areas involving sidewalks, entrances to buildings, lobbies, corridors, aisles, stairways, vehicular roadways, etc., the Laquila Group, Inc. shall protect the public in accordance with all applicable laws and regulations.

b) Sidewalks, entrances to buildings, lobbies, corridors, aisles, doors or exits shall be kept clear or obstructions to permit safe across and egress of the public at all times.

c) Appropriate warnings, signs and instructional safety signs shall be conspicuously posted where necessary. In addition, a signal person shall control the moving of motorized equipment in areas where the public might be endangered.

d) Sidewalks, sheds, canopies, catch platforms and appropriate fences shall be provided when necessary to maintain public pedestrian traffic adjacent to the erection, demolition or structural alteration of outside walls on any structure. The protection required shall be in accordance with all applicable laws and regulations.

e) Whenever practicable, a temporary fence shall be provided around the perimeter of above ground operations adjacent to public areas except where a sidewalk shed or fence is provided by Laquila Group, Inc. as required by subparagraph D. above.

CONCRETE BARRICADES

Requirements

Concrete barricades, known as or jersey barricades, shall be used along streets where work is being performed to separate vehicular traffic from the work areas.

a) They shall be placed according to contract specifications.

Security

Security refers to the protection of the Project site and the property of Laquila Group, Inc. from theft, vandalism, pilfering, and the like. It is Laquila Group, Inc.'s sole responsibility to provide protection for any property (including equipment and supplies) within the Project site.

Environmental Protection

No Laquila Group, Inc. operations shall omit or discharge any substance into the environment in violation of the Federal Environmental Protection Agency (EPA), NYS Department of Environmental Conservation, or NYC Department of Environmental Protection. Where an accidental discharge occurs the following steps shall be implemented:

a) Immediate steps to minimize the discharge and resultant environmental impact, and the like.

b) Contact:

- Emergency 24 Response Clean Up
- Applicable environmental agency, as required by law.
- The Hunter Roberts Construction Group.

PRE-JOB PLANNING

1) Compliance with the following shall be checked before (prior to) the project starting:

- Personal protective equipment required
- Machine guards, equipment safety devices
- Maintenance procedures, shop safety equipment
- Lighting for night operations
- Material storage and handling
- Fire prevention, firefighting equipment
- Ladders, scaffolds, nets, overhead protection and other temporary structure safety requirements.
- First aid and medical requirements
- Traffic patterns, haul road layout, designated parking area
- Requirements to provide an adequate safety factor on any job-built facility
- Sanitary requirements, drinking water
- Trench protection
- Electrical setup
- Anticipated Government Compliance – OSHA, EPA, etc.
- Air Monitoring Equipment
- Other

2) Hazards and control measures involving members of the Public and/or their Property Public vehicular traffic exposure – need for signs, barricades, flashers, flagmen, detours, traffic lights.

- Public pedestrian and children – need for temporary walkways, overhead protection, watchmen, securing equipment, fencing and other methods of protection and denial of access.

- Railroad – protection required, notification to railroads of our operations, securing train schedules, flagmen, signs, warning signals, reduced speed special insurance.

- Utilities – underground and overhead – locating and marking, de-energizing or moving lines, shoring and blocking, emergency measures, notification of schedules, special insurance.

- Blasting pile driving – potential damage to homes, businesses, vehicles, pedestrians, pre-construction surveys, vibration tests, blasting mats, delay patterns, use of blasting logs, storage and transportation of explosives, blast warnings, special insurance. (For explosive records).

PLAN AHEAD TO AVOID FUTURE PROBLEM!

SAFETY INSPECTIONS

Because job conditions are constantly changing and hazards may develop because of these changes, it is important that all jobs conduct safety inspections constantly to see that unsafe conditions are corrected, that safe practices are followed, and that the NYCTA policy and standards are being complied with.

Basic Guidelines

1) Periodic inspections should be made by a member of supervision either daily or weekly. Don't do a lackadaisical job of inspection; be methodical and thorough.

2) All unsafe conditions and unsafe acts should be listed clearly and concisely, with sufficient explanation of the problem and location of the hazard.

3) Normally, corrective action should be completed by going through the chain of command, but when a safety violation is serious and lives are in jeopardy, direct action is called for without delay.

4) When conditions are extremely serious, they should be corrected at once, either by instructing the employee how to work in a safe manner, or by having the physical condition that could result in injury to personnel, equipment, or property immediately corrected.

5) Upon completion of the inspection, record and file the inspection carrier and other concerned parties. Copies of all such inspections should be obtained and filed, with copies kept on the jobsite.

6) Periodic safety inspections shall be made by the insurance carrier and other concerned parties. Copies of all such inspections should be obtained and filed, with copies kept on the jobsite.

7) The Daily Safety Inspection Log can be used as a guide and either adds or delete items so as to produce an inspection from fitted to your own individual project.

SOME ITEMS TO CHECK FOR

Hazardous Conditions to Check For	CFR Regulation
• Oxygen and acetylene store together	1926.350
• Oil drum storage area needs warning sign	1926.152
• Oil drum need bonding	1926.401
• Whip checks are required on all air lines (hose)	1926.803
• Pipes store improperly	1926.250
• Trailer needs cleaning	1926.250
• Crane needs barricading	1926.550
• Crane needs grounding	1926.401
• Garbage cans need dumping	1926.250
• Safety latch on headache ball of all cranes and boom trucks needs replacing	1926.550
• Fire extinguisher needed on all cranes	1926.550
• Glass broken on all equipment	1926.550
• Barricading of work areas	1926.662
• Man cage needs load limit signs & warning signs	1926.552
Any unsafe activity or OSHA violation	

Note: These are not to be considered the only areas required; but should be used as guidelines

STANDARD SAFETY POLICIES

INTERIM LEAD REQUIREMENTS

OSHA has recently published new Interim Lead Rule that requires construction industry employers to take steps to prevent workers from being exposed to lead levels greater that 50 micrograms per cubic meter of air as an eight-hour time – weighted average (TWA).

Preliminary worker protection is required when workers are exposed to lead levels above 30 micrograms per cubic meter as an eight-hour TWA, such as medical monitoring. Once the exposure level exceeds 50 micrograms, employers would have to employ more extensive worker protection methods, such as supplying respirators. The old standard sets the exposure limit at 200 micrograms per cubic meter of air as an eight-hour TWA.

The new standard sets the same exposure limit that OSHA uses to protect workers in general industry. Among those likely to be affected by the rule according to OSHA are:

- Highway and street construction
- Bridge, tunnel and elevated highway
- Electrical work
- Carpentry work
- Structural steel erection
- Wrecking and demolition
- Building equipment manufacturers
- Miscellaneous special trade
- Glass products manufactures
- Electric Utilities
- State and municipal governments

Affected employee shall have to comply with the following:

- Employers must determine if any worker is exposed to lead levels above 30 micrograms per cubic meter or air as an eight-hour time-weighted average. Exposure levels greater than this level may trigger other required compliance activities such as period exposure monitoring, biological monitoring and initial and annual employee training.

- According to **OSHA**, to the extent feasible employers must initiate and work practice controls to reduce lead exposure to levels at or below the permitted exposure level (50 micrograms per cubic meter of air an eight-hour TWA). This provision includes developing and implementing a compliance plan.

- Employers must provide workers with respiratory protection if they are not able to keep exposure levels below the permitted limit through work practice controls, or whenever a worker requests such protection. The rule also requires proper maintenance of respiratory protection devices.

- Protective clothing and equipment must be provided to the employee. It must be cleaned, laundered, replaced or repaired as needed "to maintain effectiveness."

- The rule provides requirements for housekeeping, including vacuuming surfaces to prevent accumulation of lead dust.

- Employers are required to provide hygiene facilities and ensure that workers comply with hygiene practices to reduce lead absorption that accumulates on a worker's body or clothes.

- A medical surveillance program must be provided to employees under the supervision of a licensed physician. Employee participation is not mandatory, however, OSHA said.

- If a worker's periodic blood test (including a follow-up test) shows a blood lead level at or above 50 micrograms of lead per deciliter of blood, the employee must be removed from the job. Employees with medical conditions that place them at an increased health risk from lead exposure also must be removed from the job. Employees are given up to 18 months of medical removal protection benefits, including maintaining total earnings, seniority and other employee rights.

- Workers must be provided with information and training under OSHA's hazard communication standard.

- Employers must post warning signs in any work area where lead exposure exceeds the permitted level.

- Recording keeping requirements provide that employers must keep records on exposure monitoring and assessment, medical surveillance and temporary medical removals. Arise and implement new controls as required. During the life of the project all items installed for public safety shall be regularly inspected and maintained in safe condition.

- Superintendents shall enforce all requirements for public protection as stated in the Contract Documents by and with subcontractor where their work creates safety hazards for the public.

DRUG FREE WORKPLACE PROGRAM

a) As used in this Clause:

1) "Alcohol" means ethyl alcohol and any beverage containing ethyl alcohol.

2) "Controlled substance(s)" means a substance, including a drug listed in Controlled Substance Act. These substances include, but are not limited to, marijuana, heroin, LSD, concentrated cannabis or cannobinoids, hashish or hash oil, morphine or its derivatives, mescaline, peyote, phencyclidine (PCP, Angel Dust), opium, opiates, methadone, cocaine, Quaaludes, amphetamines, "exotic/designer" drugs, benzodiazepines, seconal, codeine, barbiturates, Phenobarbital, or valium.

3) "Safety sensitive task" means each category of work performed at a construction workplace which, if performed by a person impaired by the effects of alcohol or a controlled substance.

i. Would pose a serious risk of death or personal injury to the employee or others in the vicinity or

ii. Could compromise the quality of the construction in such manner as would impose a significant public safety risk.

4) "Drug-free workplace" means a site for the performance of work done at which employee are prohibited from using alcohol or from engaging in the unlawful manufacture, distribution, dispensing possession, or use of a controlled substance.

5) "Employee" means an employee of a Laquila Group, Inc. or subcontractor who may be directly engaged in the performance of work.

6) "Reasonable suspicion" means the presence or absence of specific criteria identified in the Laquila Group, Inc.'s drug-free workplace program (indicating the possibility that a person is under the influence of alcohol or a controlled substance) as observed by Laquila Group, Inc.'s supervisory personnel with reasonable training in the identification of such criteria.

b) The program shall provide for mandatory drug testing of employees who are to perform sensitive tasks under the following circumstances:

1) When there is a reasonable suspicion that an employee is under the influence of alcohol or a controlled substance at the workplace; and

2) When an employee has been involved in an accident or unsafe practice (as defined in the Laquila Group, Inc.'s safety program) at the workplace.

c) The program may, at the Laquila Group, Inc.'s discretion, include mandatory employee drug testing under the following circumstances:

1) As part of or as a follow-up to counseling or rehabilitation for controlled substance use; or

2) As part of a voluntary employee drug testing program.

d) A random testing procedure to detect the use of alcohol or a controlled substance by employees performing safety sensitive tasks is required as part of the Laquila Group, Inc.'s program for the purpose of preventing or deterring hazardous performance.

e) All testing by or on behalf of the Laquila Group, Inc. because of a requirement in a contract shall be conducted only for employees engaged (or to be engaged) in safety sensitive tasks and only for use of alcohol or a controlled substance and shall be conducted in a manner and under written policies that minimize the intrusion on the employee's privacy and personal dignity. This provision shall not preclude Laquila Group, Inc. from adding its own additional testing requirements.

f) Laquila Group, Inc. shall publish a statement notifying employees that the use of alcohol at the workplace or the unlawful manufacture, distribution, dispensing, possession, or use of controlled substance by employees at any time is prohibited and specifying the actions that shall be taken against employees for violations of such prohibition.

g) The program must require each employee who shall perform a safety sensitive task, prior to working to:

i. acknowledge in writing Laquila Group, Inc.'s drug-free workplace program and

ii. Give advance written consent to any drug testing that may be conducted under Laquila Group, Inc.'s program and the use of test results for decisions related to employment, disciplinary action, or continued employment.

Laquila Group, Inc. shall agree, in connection with the employee's consent, that the results of testing for alcohol and controlled substances shall not be voluntarily referred to any law enforcement agency. If Laquila Group, Inc. is subject to a collective bargaining agreement

i. the procedure for obtaining the individual employees' acknowledgement and consent must be consistent with Laquila Group, Inc.'s obligations under the collective bargaining agreement, and

ii. Employees shall have the right to be accompanied by a union representative when any specimen is obtained for testing.

h) Laquila Group, Inc. shall establish a drug-free awareness program to inform its employees about:

1) The damage of drug abuse in the workplace;

2) Laquila Group, Inc.'s policy of maintaining a drug-free workplace;

3) Any available drug counseling, rehabilitation, and employee assistance program; and

4) The penalties that may be imposed upon employees who refuse to submit to require testing and for other violation of the drug-free workplace program including, but not limited to, being unable to remain employed at the workplace until approval to return is obtained from NYCTA Hunter Roberts Construction Group.

i) Laquila Group, Inc.'s drug-free workplace program shall, at a minimum, include:

1) Policies and procedures for specimen collection, chain of custody for specimens, laboratory qualification standards, laboratory analysis procedures, quality control requirements, and test result reporting procedures which substantially conform to the material requirements of the Mandatory Guidelines for federal Workplace Drug Testing Program promulgated by the U.S. Department of Health and Human Services in effect on the date of award.

2) Procedures for Laquila Group, Inc.'s employees to report their use of prescription drugs used in the course of medical treatment or which have been prescribed and authorized for use by a licensed medical practitioner.

3) The criteria Laquila Group, Inc. shall use for "reasonable suspicion" testing.

4) The levels of alcohol or controlled substances which shall be used in conjunction with a determination that an employee is "under the influence" or is "impaired by the effects of "alcohol or controlled substance(s).

j) Laquila Group, Inc. shall display a notice, prominently placed near each entrance to the workplace, stating that, by entering the premises, persons are consenting to an inspection of themselves and their property including but not limited to, their clothing, vehicles, briefcases, lunch boxes, tool boxes, purse and packages.

k) Laquila Group, Inc. agrees to use its best efforts to establish and maintain a work environment free or use by employees of alcohol or controlled substances through implementation of subparagraphs "b" through "j" of this clause

l) A Drug-Free Workplace Program Clause identical to this clause (except for changes appropriate for designation of the parties), including this subparagraph "I", shall be included in every subcontract entered into in connection with this contract.

HAZARD COMMUNICATION PROGRAM

Compliance with Hazard Communications Program is essential. All program elements must be followed.

Program Contents include:

I. Hazard Communication Policy

II. Procedure to Insure Proper Labeling

III. Material Safety Data Sheets

IV. Hazardous Chemicals Safety Training Procedure

V. Appendices

A. Alphabetical Use of Hazardous Chemicals

B. Training Manual

C. List of Employees Who Have Received Hazardous Chemicals

D. Safety Training

E. Copy of Hazard Communication Standard

Further details can be obtained in the NYCTA Hazard Communications Program.

There are basic "steps" which must be taken in order to meet the obligations set by the OSHA Hazard Communication Standard. Outlined here is a guide to follow:

1) Training and Information required by the OSHA Hazard Communication Standard (29 CFR 1926.59)

A. What is the Hazard Communication Standard about?

1) The requirements of the Standard

2) Employer duties

3) Employee rights.

B. Occupational Health Training

1) Method of observation and how employees can detect hazards

2) Preventive measures and what employees and employers can do to prevent exposure

3) Explanation of terms and definitions.

C. How to Read a Material Safety Data Sheet (MSDS).

1) Required information on an MSDS

2) How to read and interpret information

3) Definition of terms used on the MSDS

2) Specific Requirements

(A)

1) The use of correct labels on all containers

2) Training of employees on the understanding of labels.

(B) Specific Training

1) Operations where hazardous chemicals are present

2) Protection measures provided and safe work practices in your company.

3) The location and availability of MSDS files and the Hazard Communication Program.

(C) Hazard Communication Program Must Contain:

1) A written plan which describes what your company shall do to meet all the requirements of the Hazard Communication Standard, and who is responsible for the plan.

2) Labeling MSDS, employee information and training information on non-routine hazards and methods to inform other Laquila Group, Inc of your hazards.

3) The Written Hazard Communication Program and Material Safety Data Sheets must be maintained and available on the worksite.

SAMPLE

WRITTEN HAZARD COMMUNICATION PROGRAM

Introduction

Name of Company has developed a Hazard Communication Program to enhance our employees' health and safety.

As a company, we intend to provide information about chemical hazards and other hazardous substances, and the control of hazards via our comprehensive Hazard Communication Program which includes container labeling, Material Safety Data Sheets (MSDS) and training.

The following program outlines how we shall accomplish this objective.

Container Labeling

It is the policy of this company that no container of hazardous substances shall be released for use until the following label information is verified:

- Containers are clearly labeled as to the contents.
- Appropriate hazard warnings are noted.
- The name and address of the manufacturer are listed.

This responsibility has been assigned to person(s). To further ensure that employees are aware of the hazards of materials used in their work areas, it is our policy to label all secondary containers.

The supervisor (name) in each section shall ensure that all secondary containers are labeled with either an extra copy of the original manufacturer's label or with generic labels which have a block for identify and blocks for the hazard warning.

Material Safety Data Sheets (MSDS)

Copies of MSDS for all hazardous substances to which employees of this company may be exposed are kept in (location) and (location). (Person/position) shall be responsible for obtaining and maintaining the data sheet system for the company.

(Person/position) shall review incoming data sheets for new ad significant health/safety information. He/She shall see that any new information is passed on to the affected employees.

MSDS shall be reviewed for completeness by person/position). If an MSDS is missing or obviously incomplete. A new MSDS shall be requested from the manufacturer. OSHA shall be notified if a complete MSDS is not received.

MSDS are available to all employees in their work area for review during each work shift. If MSDS's are not available or new hazardous substance(s) in use do not have MSDS, please contact (person/position) immediately.

Employee Information and Training

Employees are to attend a health and safety orientation set up by (person/position), prior to starting work for information and training on the following:

- An overview of the requirements contained in the Hazard Communication Standard, including their rights under the Standard.
- Inform employees of any operations in their work area where hazardous substances are present.
- Location and availability of the written Hazard Communication Program.
- Physical and health effects of the hazardous substances.
- Methods and observation techniques used to determine the presence or release of hazardous substances in the work areas.
- How to lessen or prevent exposure to these hazardous substances through usage of controls, work practices, and/or the use of personal protective equipment.
- Emergency and first aid procedures to follow if employees are exposed to hazards substance(s).
- How to read labels and review MSDS to obtain appropriate hazard information.

Note: It is critically important that all of our employees understand the training. If you have any additional questions, please contact (person/position).

When new hazardous substances are introduced, supervisor) shall review the above items as they are related to the new material in your work area safety meeting.

List of Hazardous Substances

The following is a list of all known hazardous substances present (work area/plant). Specific information on each noted hazardous substance(s) can be obtained by reviewing the Material Safety Data Sheets.

Example List

Hazardous Substances (i.e.)	Work Area or Process (i.e.)
Acetone	Welding – Metal Cleaner
Creosol	Ties – Wood Preservative

Hazardous Non-Routine Tasks

Periodically, employees are required to perform hazardous, non-routine tasks. Prior to starting work on such projects, each affected employee shall be given information by their supervisor about hazards to which they may be exposed during such an activity.

This information shall include:

- Specific hazards
- Protective/safety measures which must be utilized
- Measures the company has taken to lessen the hazards including ventilation, respirators, presence or another employee and emergency procedures.

Examples of non-routine tasks performed by employees of this company:

Task	Hazardous Substance
Cleaning sewage lines	Sodium Hydroxide

Hazardous Substances in Unlabeled Pipes or Containers if applicable

To ensure that our employees who work on unlabeled pipes or containers have been informed as to the hazardous substances contained within the following policy has been established. Prior to starting work on unlabeled pipes or containers, our employees are to contact (supervisor) for the following information:

- Hazardous substances to which they may be exposed while on the jobsite.

- Precautions the employees may take to lessen the possibility of exposure by usage of appropriate protection measures.

If anyone has questions about this plan contact (person/position). Our plan shall be monitored to ensure that the policies are carried and that the plan is effective.

_____

Employee Signature

THE LAQUILA GROUP, INC.

Overview of the Hazard Communication Regulation

The Hazard Communication Regulation is intended to ensure that both employers and employees are aware of the dangers associated with hazardous substances in their workplace. The following information is a review of the specific requirements of a hazard communication program, including container labeling MSDS and training.

Written Hazard Communication Program

We have a written program that outlines how we shall provide information and control your exposure to hazardous substances. This plan is available for your review during our training and at the (location) for review during your work shift.

Hazardous Substances Used in our Workplace

In our shop we use a variety of products. Most of these products contain one or more hazardous substances. Let's review and the HAZARDOUS SUBSTANCE INVENTORY LIST in your work area.

Reading Labels and MSDS

Labels

A product label on both the original and secondary containers should be reviewed prior to working with the material. Each label shall have two important pieces of information you should be familiar with:

1) The identity of the Hazardous Substance

2) Hazard Warnings.

The label on the original container shall also state the name and address of the manufacturer.

The label should act as a visual reminder of the information we have presented in this training session in this training session of the information found in more detail on the MSDS.

It is essential for your safety that you read the Hazard Warning and only use the Hazardous Substance(s) within the guidelines prescribed on the label. Questions concerning the label should be directed to your supervisor/foreman.

Material Safety Data Sheets (MSDS)

The MSDS is the primary means we shall use to convey the necessary information about the hazards of the substances we use. The manufacturers and importers are responsible for providing us with the MSDS. The manufacturer must provide us with adequate information to use the substance safety.

Please Note: that there are many commercially available training programs which shall describe how to read Labels, Material Safety Data Sheets, etc.

Physical and Health Hazards of the Hazardous Substance(s) used

Employees are to be trained specifically about the hazards of the substances in their work areas. This may be done by specific Hazardous Substance(s) or by categories of hazards, but in any case, the employee is to be aware that information is available on the specific hazards of individual Hazardous Substances through MSDS.

Employees may be trained using the common type or generic chemical group or by reviewing the specific MSDS, as long as the training includes the following information:

1) Measures to protect employee from the hazards (i.e., work practices, controls and the use of personnel protective equipment).

2) The physical and health hazards of the Hazardous Substance(s).

3) Detection of release of the substance; emergency and first aid procedures.

Example of General Hazardous Substance Group Type Training
Product/Chemical Group: Hydrocarbon Solvents

Health Effects: Effects of Overexposure

High concentrations of solvent vapors are irritating to the eyes, nose, throat and lungs, may cause headaches, dizziness and sleepiness. Even higher levels may cause unconsciousness and may have other brain and central nervous system effects.

Prolonged or repeated liquid contact with the skin may cause deflating of the skin, leading to dryness, possible irritation and dermatitis (reddening and inflamed skin). Some solvents are absorbed right through the skin and the health effects are just as if the solvent vapor was inhaled.

Each organic solvent long term possible health effects shall vary; however, prolonged solvent exposures are related to possible liver, kidney and central nervous system and brain damage.

(Note: The variety of solvent types should be reviewed.)

Physical Hazards

Organic solvents are flammable and combustible and represent fire and explosion hazards if the materials are not handled correctly. Hydrocarbon solvents are generally stable and shall not react violently with water. Review the MSDS section on Fire and Explosion Hazard information. Most solvents shall vaporize rapidly and become airborne.

Detection of Release

Odor – Solvent vapor may produce an odor or cause your nose or eyes to be irritated, but don't depend on odor to warn you. Odor thresholds (lowest level that can be detected) for most solvents vary widely from person to person. Also, some solvents produce "olfactory fatigue" the rapid loss of ability to smell the odor. However, odor can warn you of exposure to some solvents (confirm this with industrial hygiene monitoring).

Appearance

Most solvent vapors are visible so don't rely on appearance to warn you for exposure.

Instrumentation

A variety of industrial hygiene instruments can be used to measure employee exposure. This equipment should be operated only by qualified personnel.

Emergency Response: For Flammable Solvents

If the material is spilled or leaks, shut off and eliminate all sources of ignition. Recover the free product by adding sand, earth or other absorbent to the spill. Minimize breathing vapors and skin contact. Ventilate the area with local exhaust or by opening windows and doors. Follow the hazardous waste disposal procedures we have established.

Exposure Control

Protective Equipment, Controls and Proper Work Practices:

1) Protective Equipment: Use chemical-resistant gloves, aprons or clothing if prolonged or repeated skin contact may occur. Use splash goggles and face shield when eye or face contact may occur. Use approved respiratory protective equipment as established by our Safety Program.

Note: If needed, a review of the respiratory protective program may be appropriate.

2) Controls/Work Practices: Ventilation is to be used when it is necessary to prevent build-up of vapors from both a health or fire and explosion level. Keep containers closed when not in use. Do not handle or store near heat or sources of ignition or strong oxidants. No smoking is permitted in the vicinity of the flammable vapors. Use the bonding and/or grounding system when transferring. Most solvents shall vaporize rapidly and become airborne.

Appropriate Emergency and First Aid Procedures

Eye Contact

If splashed into the eyes, flush with water for 15 minutes or until irritation subsides. If irritation continues, call a physician.

Skin Contact

In case of skin contact, remove any contaminated clothing and wash skin thoroughly with water and soap.

Inhalation

If overcome by vapors, remove from exposure and call a physician immediately. If breathing is irregular or has stopped, start resuscitation.

Ingestion

If ingested, DO NOT induce vomiting, call emergency medical aid immediately.

CONFINED SPACE ENTRY PROCEDURE

Purpose

This confined space entry procedure (CSEP) has been designed with the objective of preventing serious physical injury or death caused by employees attempting to perform work in confined space areas without proper testing and evaluation being performed. Laquila Group, Inc shall ensure that their employees and supervisors are trained in this procedures and that it is used where appropriate.

Confined Space

Identification

All confined spaced shall be properly identified:

- has limited openings for entry and exit;
- which may contain or produce toxic air contaminants;
- has a high concentration of an inert gas;
- is not intended for continuous occupancy; and
- may have an oxygen deficient atmosphere (less than 19.5%).

Examples include, but are not limited to, storage tanks, process vessels, pits, vats, vaults, sewers, tunnels, manholes, cells, ducts, and rooms with less than proper size openings for easy access with no mechanical ventilation.

Responsibilities

Confined space areas must be evaluated prior to employee entry by supervision and/or qualified safety personnel. Once the evaluation is complete, supervision shall draft its plan for ensuring that the elements of the CSEP are met. The Laquila Group, Inc. shall comply with the requirements of OSHA.

POWER ACTUATED TOOLS

General

A number of tools utilizing explosive charges to drive fastenings and perform similar functions are widely used throughout the industry. The manufacturers of these devices provide detailed instructions regarding their use. These instructions shall be kept on file and closely adhered to at all time. Section of these tools shall be made by the Laquila Group, Inc. employees are not use their own guns.

All powder actuated tools should have the following safety devices built directly into the

1) Protective shields or guards not removable without rendering tools inoperative.

2) Mechanisms to prevent firing during loading, unloading, dropping, or preparing to fire.

3) Built-in angle or tilt-fire controls which prevent discharges if tool is inclined more than eight (8) degrees from a perpendicular position.

4) A mechanism to prevent firing unless the muzzle end is pressed against a surface.

Usage Procedures

1) Only employees who have been trained in the operation of the particular tool in use shall be allowed to operate a power-actuated tool. All uses must carry certification for operation.

2) The tool shall be inspected and tested each day by the user before loading to see that safety devices are in proper working condition. The method of testing shall be in accordance with the manufacturer's recommended procedure.

3) Any tool found not in proper working order, or that develops a defect during use, shall be immediately removed from service and not used until proper repaired.

4) Tools shall not be loaded until just prior to the intended firing time. A loaded tool shall never be carried to or from a worksite.

5) The tools shall never be pointed at anyone, whether loaded or unloaded, and hands should be kept clear of the open barrel end.

6) Loaded tolls shall not be left unattended.

7) Safety goggles or face shields shall be worn by operator(s) and assistance(s) and the face should be protected if there is danger of spilling materials. Transport face shields provide both eye and face protection.

8) Fasteners shall not be driven into very hard or brittle materials including but not limited to, cat iron, glazed tile, surface hardened steel, glass block, live rock, face brick, or hollow tile.

9) Driving into materials easily penetrated shall be avoided unless each materials are backed by a substance that shall prevent the pin or fastener from passing completely through and creating a flying missile hazard on the other side. User shall always ascertain that there is no one in danger "on the other side".

10) Powder actuated tools should not be stored or used in explosive atmospheres, in the vicinity of highly flammable materials, or where non-sparking tools are required. Horse-Play shall not be tolerated.

11) No fastener shall be driven into a spilled area caused by an unsatisfactory fastening.

12) All tools shall be used with the correct shield, guard, or attachment recommended by the manufacturer.

13) Fasteners shall not be driven through pre-drilled or pre-punched holes in steel.

14) Only fasteners which are specially designed and manufactured for use in powder actuated tools should be used.

15) Always use the proper type and power level load. Preferably power loads should be provided by the manufacturer of the tool being used. Remember to decrease power, use a lower number, to increase, use a high number.

16) In areas where powder actuated tools are being extensively used, warning signs (available from manufactures) and barriers, if necessary, identifying the hazard area shall be required.

17) In the event of a misfire, the tool must not be removed from the working surface for 15 seconds. The cartridge should be removed before lifting the tool from the surface.

18) In the event of jamming or obstruction in the bore, follow the manufacturer's instruction carefully. An obstructed bore should not be cleared by firing another cartridge assembly.

19) Tools should be locked up when not in use to prevent unauthorized use. All tools shall be checked in and out.

OXYGEN AND ACETYLENE CYLINDERS

Storage

1) Keep cylinders away from sources of heat. If stored in building, keep away from highly combustible materials, stoves, radiators, etc.

2) Store securely. Cylinders should be securely placed, to prevent tipping over; they should not be piled near gangways or other places where they are likely to be knocked over.

3) The cylinders should be stored at least 35 feet from the nearest building or structure.

4) Cylinders stored in the open should be protected from accumulations of ice and snow, should be shielded from the direct rays of the sun where temperatures are high

5) Valves on empty cylinders should be closed.

6) All cylinders should be capped when not in use.

7) Cylinders should be stored so as to avoid possible destruction or obliteration of coloring, tags, or other means of identifying the contents.

8) Oxygen cylinders in storage shall be separated from fuel-gas cylinders or combustible materials (especially oil or grease), a minimum distance of 20 feet or by a noncombustible barrier at least 5 feet high having a fire resistance rating of at least one-half hour.

Use

1) Select a location for setting up cylinders which shall be exposed to as little contact as possible from moving equipment, materials, and the like.

2) Cylinders should be placed in a rack, chained, or otherwise positively secured against tipping over.

3) While in use, valve key wrench should be kept in place on valve spindle.

4) Cylinders should be used in the order received from the supplier. When empty, valve should be closed and cylinder marked accordingly.

5) Keep cylinders from making contact with electric wires.

6) Shield cylinders from sparks or flames from welding and cutting.

7) Do not allow storing, temporary or otherwise, of tools, materials, or anything else on top of cylinders.

8) Cylinders should not be used for anything other than what they were designed for, not as rollers, as supports, or anything else.

9) When being transported in a vehicle, the cylinders shall be in an upright position, secured in place, caps on, and should never be connected to the pressure-regulator.

10) Cylinders may be moved by tilting and rolling on bottom edge; avoid dragging and sliding.

11) When hoisting cylinders by crane or other lifting device, a rack or cage designed specifically for that purpose must be used. Slings, electromagnets, or chokers should not be used. Do not use cylinder caps to lift bottles.

Welding and Cutting

Many industrial and construction property losses have been caused by cutting and welding primarily with portable equipment in areas not specifically designed or approved for such work. The majority of these fires have been caused by sparks. The globules of molten metal shall scatter horizontally as far as 35 feet, and can set fire to all kinds of combustible materials, including the clothing worn by the employee.

Protective Equipment

Protective clothing required for any welding or cutting operation shall vary with the size, nature and location of the work. However, some suggested protective measures for welders and helpers are as follows:

- Flame-resistant gauntlet gloves, to be worn except where welder is engaged in light work;
- Flame-resistant aprons of leather or other suitable material as protection against radiated heat and sparks.
- Clothing should be free of oil and grease.
- Pockets and cuffs invite sparks. Collars and cuffs should be buttoned, and cuffs turned up inside the pants. Pockets should be eliminated from fronts and vests, shirts, and aprons, or with buttoned flaps.
- Fire-resistant leggings, high boots, or other leg protection should be required for very heavy work.
- Safety shoes are recommended. Low-cut shoes with unprotected tops should not be permitted.

- Fire-resistant capes or shoulder covers should be worn during overhead work.
- Ear protection is sometimes desirable for overhead welding and welding in confined places.
- Eye and head protection. High quality welding helmets of glass fiber, vulcanized fiber, chromed leather, or other suitable material should be required. The proper shade of welding lens should be required, and an adequate supply of cover lenses should be available. Hand shields are generally substituted for helmets on light, intermittent work. Anyone assisting the welder should also wear protective lenses to avoid "welding flash".
- Safety goggles or spectacles should be worn under the helmet during chipping and cleaning. These goggles should have tinted lenses, affording ultra-violet and infra-red radiation protection, and lenses should be made of glass, not plastic.
- Combination hard hats-welding helmets may be required in special situations exposing welders to the hazard of falling objects.

Gas Welding Instruction

1) Keep oxyacetylene equipment clean, free of oil, and in good condition. Valves, couplings, regulators, hose, and torches should never be lubricated. Oil or grease with oxygen catches fire spontaneously.
2) Avoid oxygen and acetylene leaks. Repair or replace leaky equipment immediately.
3) Crack valves to clear dust and dirt before installing regulating valves.
4) Does not open fuel gas cylinder valve more than one and one quarter turns.
5) Keep heat, flame, and sparks away from combustibles.
6) Never draw gasses from cylinders except through approved pressure regulators.
7) Never use oxygen anywhere as a substitute for compressed air or other gasses.
8) Never use a torch when working on scaffolding suspended by manila rope.
9) Use a spark lighter or pilot-light to light torches. Never use matches or hot work to light a torch.

10) Wear goggles with filter lenses when using a torch. Wear a head-shield or helmet with suitable filter-plates when arc-welding. Wear flash goggles having side-shields at all times even then adjusting controls.

11) Wear leather or non-flammable gloves.

12) Be sure your own clothing is not oily and that pockets and cuffs are not open ready to receive sparks or hot slag.

13) Should not be used to blow off clothing, for ventilating, for comfort purposes, of for cleaning work areas.

14) Inspect union nuts, connections, and all seating-surfaces on regulators and torches before use. Remove damaged connectors, repair faulty seats.

15) Never test or calibrate regulator pressure-gages with oil.

16) Use flash-back arresters at either the torch or at the regulators.

17) Never use a torch as a hammer or to knock slag from work. Use slag hammers and wire brushes.

18) Blow the talc out of a new hose before using it.

19) Use standard hose-fittings with right-hand threads for oxygen, and left hand for acetylene, to prevent a mix-up.

20) Protect hoses from sparks, hot slag, hot objects, sharp edges, open flames, and grease and oil.

21) If a hose is burned by a flashback, discard it – the inner walls are burned.

22) Check all hose periodically for leaks, worn places, and loose connections. Test it by immersing it in water under normal working pressure. Repair it by cutting the hose and remaking the joint with standard fittings. Don't repair hose with tape.

23) Remove from service any cylinder that leaks, has a leaky valve, or is otherwise defective.

24) If the torch does not relight automatically, close the oxygen cutting and pre heating-valves in that order immediately. Then close the acetylene-valve, and purge your lines. Check your pressure. Relight.

LADDER

General

Ladders present one of the major hazards in construction work, and their improper use is the cause of many serious accidents. An analysis of accidents involving ladders revealed that the four major causes of such accidents are:

1) Ascending or descending improperly

2) Failure to secure ladder at top and/or bottom

3) Structural failure of the ladder itself

4) Carrying objects in hands while ascending or descending

Great care should be used in the selection of the proper size and design of the ladder to be used the proper maintenance and storage of a ladder when not in use, and frequent inspections should be made on all ladders.

Ladders of all types should be carefully inspected if accidently dropped or otherwise damaged in use. Ladders found to be defective should be repaired or, if necessary, destroyed.

Frequent inspection of metal ladders is recommended. All parts should be checked for wear, corrosion and structural failure.

General Use

1) The use of ladders with broken or missing rungs or steps, broken or split side rails, or other faulty or defective construction is prohibited.

2) Portable ladder feet shall be placed on a substantial base, and the area around the top and bottom of the ladder shall be kept clear.

3) In ascending or descending ladders, workmen should face the ladder and use both hands to hold on to side rails. Material should not be carried on ladders.

4) Portable ladders shall be used at such a pitch that the horizontal distance from the top support to the foot of the ladder is about one quarter of the working length of the ladder.

5) Ladders shall not be used in horizontal position as platforms, runways, or scaffolds.

6) Ladders shall not be placed in passageways, doorways, driveways, or any location where they may be displaced by activities being conducted on any other work, unless protected by barricades or guards.

7) The side rails shall extend not less than 36 inches above the landing. When this is not practical, grab rails, which provide a secure grip for an employee moving to or from the point of access, shall be installed.

8) Portable ladders in use shall be tied, blocked, or otherwise secured to prevent their being displaced.

9) Portable metal ladder shall not be used for electrical work where they may contact electrical conductors.

Job Made Ladders

1) Job-made ladders shall be constructed for intended use. If a ladder is to provide the only means of access or exit from a working area for 25 or more employees, or simultaneously two-way traffic is expected, a double cleat ladder shall be installed.

2) Double cleat ladders shall not exceed 24 feet in length.

3) Single cleat ladders shall not exceed 30 feet in length between supports (base and top landing). If ladders are to connect different landings, or if the length required exceeds this maximum length, two or more separate ladders shall be used, offset with a platform between each ladder. Guard rails and toe-boards shall be erected on the exposed sides of the platform.

4) The width of single cleat ladders shall be at least 15 inches, but not more than 20 inches between rails at the top.

5) Side rails shall be parallel or flared top to bottom by not more than one quarter of an inches for each 2 feet of length.

6) Wood side rails of ladders having cleats shall not be less than 1-1/2 inches thick, 3-1/2 inches deep (2 inches by 4 inches nominal).

7) It is preferable that side rails be continuous. If splicing is necessary to attain the required length, however, the splice must develop the full strength of a continuous rail of the same length.

8) 2-inch by 4-inch lumber shall be used for side rails of single cleat ladders up to 16 feet long; 3-inch by 6-inch lumber shall be used for single cleat ladders from 16 to 30 feet in length.

9) 2-inch by 4-inch lumber shall be used for side rails of single cleat ladders up to 16 feet long, 3-inch by 6-inch lumber for double cleat ladders from 12 to 24 feet in length.

10) Cleats shall be inset into the edges of the side rails one-half inch, or filler blocks shall be used on the rails between the cleats. The cleats shall be secure to each side rail with three 10d common wire nails or other fasteners of equivalent strength.

11) Cleat spacing should be uniform and not over 12 inches or less than 10 inches on centers. The wood for rungs or cleats should be clear, straight grained, and entirely free of knots.

12) All surfaces should be planed and free of splinters, and edges where hand-rails are used should be beveled.

13) Long ladders should be braced at intermediate points as necessary to prevent spring.

14) Ladders stored horizontally should be supported at both ends and intermediate points to prevent sagging of the middle section, which tends to loosen the rungs and wrap the rails.

CRANE OPERATION

a) Where a crane is operated in such a location that any part of the crane or its load in any position of boom or swing may come within 10 feet of a liver power line or contact rail then:

1) The power line or contact rail shall be de-energized.

2) The power line or contact rail shall be insulated or isolated.

3) The crane shall be grounded with Number 2 AWG or larger single conductor, 600 volt covering, and resistance of 25 ohms or less.

4) The power line and contact rail shall be protected from damage in an approved manner.

b) The following restrictions shall be adhered to where crane booms are extended across tracks:

1) Each track crossed shall be flagged in accordance with the Hunter Roberts Construction Group.

2) Crane booms shall not be moved near a stationary or moving train.

3) No materials shall be moved over a train.

4) Materials moved shall be secured in an approved manner.

c) Laquila Group, Inc. shall furnish Hunter Roberts Construction Group with copies of the following documentation indicating compliance with applicable local regulations or code restrictions pertaining to the use of cranes:

1) Certification of pavement and ground support and submittal of graylag design and details.

2) Current Building Department Certification of Inspection for approval of crane operation.

3) Hunter Roberts Construction Group's approval for crane usage near and over tracks.

4) Certification by licensed Professional Hunter Roberts Construction Group, where required, for allowing transportation of crane over a specific route, to be submitted to D.O.T.

5) Permit issued by D.O.T. allowing use and transportation of crane.

6) License of crane operator.

7) Where track mounted crane cars use used, all applicable Hunter Roberts Construction Group approvals and restrictions shall apply.

8) All other local and regulation or code restrictions where applicable.

d) Laquila Group, Inc. shall provide Hunter Roberts Construction Group with a two week notice prior to using crane.

e) Laquila Group, Inc. shall use tag lines

f) Laquila Group, Inc. shall not hoist over a building without permission of Owner.

WIRE ROPE

A. Slings and Chokers

1) Welded alloy chain slings shall have permanently affixed durable identification stating size, grade, rated capacity, and sling manufacturer.

2) Hooks, rings, oblong links, pear-shaped links, welded or mechanical coupling links, or other steel chains, shall have a rated capacity at least equal to that of the chain.

3) Job or shop hooks and links, or makeshift fasteners, formed from bolts, rods, etc., or other such attachments, shall not be used.

4) The rated capacity of the chain shall not be exceeded.

5) All chain slings shall be inspected yearly and a record kept.

B. Synthetic Webbing (Nylon, Polyester and Polypropylene)

Nylon and Polyester are the most popular and best general purpose synthetic webbing slings. Polypropylene slings are intended for specific controlled applications which require resistance to strong acids and alkalis.

Each application must be evaluated, taking into consideration the following:

1) Type of acid, alkali or other chemical
2) Exposure conditions
3) Concentration
4) Temperature

All synthetic webbing slings are subject to cutting when lifting items with sharp edges. Sharp edges in contact with the sling should be padded with material sufficient in strength to prevent damage to the sling. Wear pads give extra protection to the sling where the most wear occurs.

C. Wire Rope

Safe operating practices for general use of wire rope slings:

1) Slings that are damaged or defective shall not be used

2) Slings shall not be shortened with knots or bolts or other makeshift devices.

3) Sling legs shall not be kinked.

4) Slings shall not be loaded in excess of their loaded capacities.

5) Slings used in a basket hitch shall have the loads balanced to prevent slippage.

6) Slings shall be securely attached to their loads.

7) Slings shall be padded or protected from sharp edges of their loads

8) Suspended loads shall be kept clear of all obstructions.

9) All employees shall be kept clear of loads about to be lifted and suspended.

10) Hands or fingers shall not be placed between the sling and its load while the sling is being tightened around the load.

11) Shock loading is prohibited.

12) A sling shall not be pulled from under a load when the load is resting on the sling.

A wire rope sling shall be removed from use if the following conditions are present:

1) Ten randomly distributed broken wires in one rope lay, or five broken wires in one stand in one rope lay, never to exceed working load capacity.

2) Wear or scraping of one-third the original diameter of outside individual wires.

3) Kinking, crushing, bird caging or any other damage resulting in distortion of the wire rope structure.

4) Evidence of heat damage

5) End attachments that are cracked, deformed or worn.

6) Hooks that have been opened more than 15 percent of the normal throat opening measured at the narrowest point or twisted more than 10 degrees from the plane of the unbent hook.

7) Corrosion of the rope or end attachments.

TRAFFIC CONTROL

Traffic Control for Roadway and Street Construction

Street construction poses a variety of safety problems not encountered in any other field of construction. The hazards normally associated with such construction are multiplied by the fact that the work area is either shared by or in close proximity to the moving stream of traffic. Our safety responsibility is fivefold. We must provide safety of:

1) The public – motorist, pedestrian, resident

2) The workers

3) The construction equipment

4) The public utilities

5) The completed work

In protecting against these hazards, the public interest and convenience must be weighed. It may be safer, more convenient, and less costly to the project to divert or interrupt the movement of traffic. Roadways and streets are productive facilities, and most users are on the highway as an essential part of getting their particular jobs done. Unnecessary inconvenience and delay to the street user is often not only uneconomical in the overall view, but also poor public relations.

O.S.H.A. and the Department of Transportation requires compliance with the Manual on Uniform Traffic Control Devices.

Construction activities on roads and streets often present motorists with unexpected and unusual situations. Traffic control principles and procedures which may enhance the safety of motorists and workers at these work areas include the following:

1) Traffic safety should be an integral and high priority element of every project, from planning through design and construction.

2) Traffic should be routed through work areas with traffic control devices comparable to those employed for normal situation whenever possible.

3) Traffic movement should be inhibited as little as, possible.

4) Motorists should be guided in a clear and positive manner while approaching and traversing work areas.

5) Routine inspection of the traffic control elements should be performed to insure acceptable levels of traffic operations and device maintenance.

6) All persons responsible for the development, design, implementation, and inspection of traffic control should be adequately trained.

Typical problems which may develop in a traffic control pattern are as follows:

1) Insufficient advance warning

2) Inadequate guidance through the work zone

3) Unprotected hazards

4) Distractions to the motorists

5) Congestion and capacity problems

Traffic Control Plan

A traffic control plan is a plan for handling traffic through a specific roadway or street work zone or project.

Work Site

(Work Area) The work area itself is that space set apart which is delineated for use by workmen and equipment performing work and which is protected, marked, or signed to exclude vehicular and pedestrian traffic.

Traffic Control

Traffic control is the process of advising motorists as to detailed requirements or conditions affecting road use at specific places and times in order that proper action may be taken and accidents or delays avoided.

Traffic Control Devices

Traffic control devices are used to slow or warn motorists of changes or possible changes in conditions. These devices are used to implement the traffic control process.

Traffic Control Zone

Traffic control zone is the entire area of roadway which encompasses all traffic control devices used to regulate or guide motorists' behavior.

Signs

Signs are used to advise and warn the motorists and to instruct them as to how to proceed through the work site.

Types of signs

Regulatory signs

Regulatory signs may be used at construction and maintenance work sites to advise motorist of applicable laws and regulations. These signs are typically rectangular in shape with the long dimension vertical. The standard color scheme is black lettering on white background.

Guide Signs

Guide signs show destinations, designations, directions, distances, services, points of interest and other geographical or cultural information. These signs are rectangular with their long dimension horizontal. The standard color is while legend upon a green background.

Warning Signs

Warning signs are used to give notice of conditions that are potentially a hazard to traffic. These signs are typically diamond-shaped with one diagonal vertical. Permanent warning signs have a black legend on a yellow background. The orange color is used to indicate the temporary nature of the condition and the additional potential hazard of the work site.

Supplemental Warning Plates

Supplemental plates may be added a warning signs to provide additional information. When used they shall be placed immediately below the diamond main sign. They are not to be used by themselves.

Description Plates

Description plates are rectangular with the long dimension horizontal.

Advisory Speed Plates

Advisory speed plates are square shaped.

Channelizing Devices

Channelizing devices are used to guide the motorist through the work site, to indicate hazardous areas and to execute traffic from the actual work zone. Channelization devices are placed in or adjacent to the roadway to control the flow of traffic. They have distinct purposes:

1) Taper; force movement of traffic from one lane to another.
2) Delineate; guide the motorist to and along the safe path of travel.

Cones

Conical in shape with broadened base; minimum height is 18 inches (greater on high speed roads), orange or fluorescent red-orange or yellow-orange color.

Drums

Approximately 36 in height and a minimum of 18 in diameter, horizontal, circumferential orange and white reflectorized stripes with a minimum of 2 orange and 2 while stripes.

Barricades

8 to 12 inch width of rails reflectorized with orange and white stripes on a 45 degree angle; stripes slope downward towards the side on which traffic is to pass; minimum height is 3 feet.

Barrier Walls

Portable concrete barriers may be used to provide a physical device which traffic cannot penetrate. The most widely-used concrete barrier is the precast New Jersey "safety shape".

Arrow Boards

The arrow board is used when a lane is closed. It tells the motorist that he should merge into the adjacent lane as shown by the direction of the arrow.

Lighting or Barricade Lights

Barricades lights are used to indicate hazards and to delineate the safe path of travel. There are three types of barricade lights:

Type A

Type A lights are low intensity flashing lights that are generally mounted on barricades. They are effective only at night.

Type B

Type B lights are high intensity flashers which are effective both day and night.

Type C

Type C lights are steady burning low-wattage lights which are used at night for delineation. They are commonly mounted on barricades or drums.

Standard Colors of Signs

The color coding of traffic signs is as follows:

- **RED** ➤ **Stop or prohibition**
- **GREEN** ➤ **Indicates movement permitted; guidance for direction**
- **BLUE** ➤ **Motorist services guidance**
- **BLACK** ➤ **Regulation**
- **WHITE** ➤ **Regulation**
- **ORANGE** ➤ **Construction & maintenance warning**
- **BROWN** ➤ **Public recreation and scenic guidance**

LASERS

General

A Laser (light amplification by stimulated emission of radiation) is a device for generating coherent electromagnetic waves of such intensities that, if the exposure is not controlled may cause permanent injury to employees. The eye is the organ most vulnerable to injury because of the ability of the cornea and lens to focus the parallel laser beam on a small spot on the retina. Reflections from laser beams are just as intense as direct beams. These reflections are difficult to predict and can make off-axis viewing just as dangerous as on-axis viewing. Not all exposures to laser energy in eye injury.

Safety Procedures

1) Only trained and qualified persons shall set up, adjust and operate laser equipment.

2) Standard laser warning placards should be posted to warn employees for laser hazards at area affected.

3) Laser equipment must have a label attached indicating maximum output.

4) All manufacture warnings and instructions for set up, adjustment and use should be adhered to.

5) Laser beams shall not be directed at employees.

6) Beam or shutter caps must be used or the laser turned off when laser use is completed and at any time the laser is left unattended.

7) Whenever possible, laser beams shall be set up to such a level so as to be above the head level of employees.

8) Employees shall not be exposed to light intensities above:

- Direct Staring: 1 micro-watt per square centimeter
- Incidental Observing: 1 mille-watt per square centimeter
- Diffused Reflected Light: 2-1/2 watts per square centimeter

9) Appropriate personal protective equipment should be provided and used when exposures to non-ionizing radiation exist.

CONCRETE FORMWORK

(A) Reinforcing Steel – Formwork and Concrete Placement

1) Employees placing and tying reinforcing steel shall wear hard hats. Protective gloves should be worn when handling reinforcing steel.

2) Employees placing and tying reinforcing steel in walls, piers, columns, etc., at an elevation of six Feet or more above adjacent surfaces, shall wear belts properly secured when working from steel.

3) Reinforcing mats uses as walkways shall be provided with planking afford safe footing.

4) Employees shall not be permitted to work above vertically protruding reinforcing steel unless it has been protected to eliminate the hazard of impalement. This shall be accomplished by bending the steel over or covering the protruding ends of the steel with timber or other suitable material, or other equally effective methods (plastic caps).

5) Pants cuffs shall be close fitting and work shoes shall be in good condition to prevent hooking, snagging or tripping on the steel.

6) Eye protection should be used to prevent rust particles from damaging the employee's eyes.

7) Good housekeeping shall be maintained at all times to reduce tripping and falling hazards.

8) Bundles of reinforcing steel moved by crane or cable way shall be securely tied together to prevent slipping, and steel bundles over 20 feet in length shall be handled properly spaced two-part slings.

9) Reinforcing steel for walls, piers, columns and similar vertical structures shall be guyed and supported to prevent collapse.

10) Reinforcing steel must not be used for such items as scaffolding brackets, stirrups, load bearing members of any type of lifting device, a Deadman, or any other type o0f anchorage device, nor should it be welded to any of these numbest.

(B) Formwork

1) Any concrete form, regardless of size, shall be planned in every particular and designed and constructed with an adequate factor of safety.

2) Shoring and bracing of formwork must be provided as specific in existing local, state and federal standards. Shoring and bracing must have a safety factor based on approval test procedures for the type of shoring used.

3) Good housekeeping shall be maintained at all times, and stripped lumber and materials intended for reuse should be cleaned of nails and wire and removed from the immediate work area.

4) Lumber, concrete, form hardware, and other materials shall not be permitted to accumulate on wailers, scaffolds, and walkways.

5) Fire protection shall be provided in areas where wood forms and other combustible materials are being used.

6) Form supports and wedges shall be checked during concrete placement to prevent distortion or failure.

7) Only personnel actually engaged in form stripping should be allowed in the area during these operations. Hard hats, gloves, and heavy- soled shoes are a must, sole shields are recommended when employees are wearing steel-toed rubber boots.

(C) Concrete Placement

1) Concrete buckets, positioned by crane or cableway, shall be suspended from shackles or approved safety- type hooks, and the load shall not exceed the lifting capacity of the crane at the designated boom radius.

2) When the point of placement is not readily visible to the crane operator, a signalman shall be positioned in clear view of the operator and the point of placement. Where this is not possible, radio communication shall be used.

3) Riding of concrete buckets for any purpose shall be prohibited, and vibrator crews should be kept out from under concrete buckets suspended from cranes or cableways.

4) In handling concrete buckets by crane, care should be taken to keep the loaded bucket under the boom point in order to avoid excessive side loading on the boom.

5) Concrete trucks and similar mobile equipment shall either be equipped with automatic audible backup alarms, or backing operations shall be controlled by a competent signalman.

6) Concrete workers should be required to wear shirts, boots, and rubber gloves to reduce the danger of concrete burns. It is recommended that the workers be provided with protective creams or lotions to reduce dermatitis and skin irritation.

7) Safety glasses, goggles or full-faced shields are mandatory to prevent concrete from splashing the worker's face.

8) Finishers shall be required to wear safety glasses or face shields when chipping, wire brushing, or using power impact or rotary tools in patching concrete.

(D) Winter Protection of Concrete

1) When construction areas are enclosed with canvas, plastic or flammable materials, open flame or open salamanders shall not be used as a source of heat. Fire-resistive-treated canvas tarpaulins should be considered flammable.

2) Adequate fire protection shall be in or adjacent to the enclosed areas described above.

3) Temporary winter-protection enclosures shall be provided with adequate light and ventilation for the safety of personnel entering these areas.

(E) General Equipment

1) Conveyors – Conveyor systems shall be equipped with an audible start-up signal device. Where conveyors are operated in tunnels, pits, and similar enclosures, ample room shall be provided to allow safe access and operating space. An emergency stop device shall be installed on conveyors located in these locations.

2) ..... automatic warning device which operates when the paver is moved ahead or the bucket is run out.

3) Bull Floats – Handles on bull floats shall be constructed of nonconductive material, only if used around energized electrical conductors.

4) Powered Concrete Towels – Powered and rotating-type concrete toweling machines that are manually guided be equipped with a control switch that shall

automatically shut off the power whenever the operator removes his hands from the equipment handles (dead-man controls).

5) Pumpcrete Systems – Pumpcrete or similar systems using discharge pipes should be provided with pipe supports designed for 100 percent overload. Where employees are required to work from the pipe supports, the supports and scaffolding shall have minimum safety factors of 4. Compressed air hose in such systems shall be provided with positive fail – safe joint connectors to prevent separation of sections when pressurized.

6) Concrete Buckets – Concrete buckets equipped with hydraulic or pneumatic operating gates shall have positive safety latches or similar safety devices installed to prevent premature or accidental dumping. Buckets shall be designed to prevent aggregate and loose material from hanging on the top and sides of the bucket.

7) Tremies, Elephant Trunks, Etc. - Sections of tremies, elephant trunks, and similar concrete conveyances shall be secured with wire in addition to the regular couplings or connections.

8) Electric Vibrators – conductors, frequency changers, and other energized parts shall be installed and grounded in accordance with the applicable standards.

MATERIAL STORAGE

1) All materials stored in tiers shall be stacked, racked, blocked, interlocked, or otherwise secured to prevent sliding, falling or collapse.

2) Aisles and passageways shall be kept clear to provide for the free and safe movement of material handling equipment or employees.

3) Material stored inside buildings shall not be placed within 6 feet of any hallway or inside floor openings, or within 10 feet of an exterior wall which does not extend above the top of the material stored.

4) Non-compatible materials shall be segregated in storage.

5) Bagged materials shall be stacked by stepping back the layers and cross keying the bags at least every 10 bags high.

6) Materials shall not be stored on scaffolds or runways in excess of supplies needed for immediate operations and never to exceed working capacity of platform.

7) Brick stacks shall not be more than 7 feet in height. When a loose stack reaches a height of 4 feet, it shall be tapered back 2 inches in every foot of height above the 4-foot level.

8) When masonry blocks are stacked higher than 6 feet, the stack shall be tapered back one-half block per tier above 6-foot level.

9) Use lumber shall have all nails withdrawn before stacking.

10) Lumber shall be stacked on level and solidly supported sills.

11) Lumber shall be so stacked as to be stable and self – supporting.

12) Lumber piles shall not exceed 20 feet in height provided that lumber to be handled manually not be stacked more than 16 feet high.

13) Structural steel, poles, pipe, bar stock, and other cylindrical materials, unless racked, shall be stacked and blocked so as to prevent spreading or tilting.

14) Drums that are filled with volatile liquids should be stored in a protected area out of the sun or other areas with a heat source.

15) Burlap should not be stored in high stacks. Heat is generated by the weight, creating a spontaneous ignition hazard.

EXCAVATING

The Laquila Group, Inc. shall enforce the following safety requirements for excavating work:

1) Prior to opening an excavation. Effort shall be made to determine whether underground installations; i.e., sewer, telephone, water, fuel, electric, gas lines, etc. shall be encountered, and if so, where such underground installations are located. When the excavation approaches the location of such an installation, the exact location shall be determined, and when it is uncovered, proper supports shall be provided for the existing installation. Utility companies and authorities shall be contacted and advised of proposed work prior to the start of actual excavation.

2) The excavation Laquila Group, Inc., in compliance with OSHA's new excavation law 1926.65, 1926.651, 1926.652 and 1926.653, shall obtain a soils report that shall determine the classification of the ground to the excavated. Soil A, Soil B and Soil C.

   Note: All trenches under the OSHA Excavation Law are now considered excavations!

3) A copy of the soils report should be kept on site during excavation operations. A copy of the soils should be forwarded to the Laquila Group, Inc. before excavation operations begin.

4) The walls and faces of all excavations in which employees are exposed to danger from moving ground shall be guarded by shoring, sloping to the proper angle of repose, or some other equivalent means.

   The determination of the angle of repose and design of the supporting systems shall be based on careful evaluation of pertinent factors such as type of soil; possible variation in water content of the material while the excavation is open; anticipated changes in materials from exposure to air, sun, water, or freezing; loading imposed by structures, equipment, overlying material; and vibration from equipment, traffic, or other sources. The soils report shall be used as a guideline for cutting back the excavation sides to the proper angle of repose. Any shoring system being used on excavation 20' deep or less should use the suggested design systems as offered in the OSHA standard. Any shoring systems that are deeper than 20' or are different than the suggested OSHA designs shall have drawings on them. These drawings should be stamped by an in state P.E. Again copies of the shoring system drawings should be on site during the excavation activities with a copy given to the Laquila Group, Inc...

5) Any Laquila Group, Inc. or performing excavation work shall have a designated competent person on site during excavation operations. The excavation shall be inspected during excavation activities, after every rain storm or other hazard increasing occurrence, and the protection against slides or cave-ins shall be increased if necessary. Signs of cracking or sliding of soil on tops or sides of the excavation are danger signs. The Designated competent person shall be familiar with the OSHA Excavation Law and have the Hunter Roberts Construction Group to stop work in the excavation at anytime or claims for delays, monies or hardships caused by such acting to the Laquila Group, Inc. shall be accepted by the NYCTA/MTA.

6) All excavations 4' deep or more shall require a means of egress every 25'. This means of egress may be a ladder, stairways or ramp.

7) In excavations which employees may be required to enter, excavated or other material shall be kept back at least 2 feet from the edge of the excavation.

8) Water shall not be allowed to accumulate in an excavation. Diversion ditches, dikes, or other suitable means shall be used to prevent surface water from entering an excavation and to provide adequate drainage of the area adjacent to the excavation.

9) Adequate physical barrier protection shall be provided at all remotely located excavations into which persons may fall and not be able to climb out because of steepness of sides. Wells, pits, shafts, etc., shall be barricaded or covered.

10) Walkways and ramps over excavations shall be constructed of 2 inch planning, or equivalent, on strong stringers, with guard rails on both sides. Any temporary sidewalk bridging shall require a P.E. stamp.

11) If it is necessary to place or operate excavating machinery or trucks on a level above and near excavation, the side of the excavation shall be sheet-piled or shored, and braced as necessary to resist the extra pressure of such superimposed loads.

12) When mobile equipment is used or allowed adjacent to excavations, substantial stop logs or barricades shall be installed.

13) Sides of trenches more than 5 feet deep shall be shored or sloped back to the angles of repose.

14) In trenches 4 feet deep or more, an adequate means of exit, such as a ladder or steps shall be provided and located so as to require no more than 2 feet of lateral travel.

15) Portable trench boxes or sliding trench shields may be used for the protection of employees in lieu of shoring or sloping. They all be designed and constructed to provide protection equal to or greater than shoring required for the trench.

16) Open excavation in the public way shall be securely covered over with 2" planking, or ¾ plywood or its equivalent, or guarded on all open sides with a standard guard rail during non-working hours.

DEFINITIONS

1) An excavation is any man made cavity or depression in the earth's surface formed by earth removal, and producing unsupported earth conditions by reasons of the excavation.

2) A trench is a narrow excavation at least 4 feet deep and not over 15 feet wide.

3) The angle of repose is the greatest angle above the horizontal plane at which a material shall lie naturally, without sliding.

SCAFFOLDING

General

Scaffolding accidents, in most cases, are caused by careless maintenance and improper use. Help keep your scaffolds safe for your safety by observing these simple procedures:

1) All equipment should be inspected prior to use. Never use damage or deteriorated equipment.

2) The footing or anchorage for scaffolds should be sound, rigid and capable of carrying the maximum intended load, without settling or displacement. Unstable objects such as barrels, boxes, loose brick, or concrete blocks should not be used to support scaffolds or planks.

3) Scaffolds and their components shall be capable of supporting without failure at least four times the maximum intended load.

4) Any scaffold including accessories such as braces, brackets, trusses, screw legs, ladders, etc. damaged or weakened from any cause shall be immediately repaired or replaced.

5) The poles, legs, or uprights of scaffolds shall be plumb, and securely and rigidly braced to prevent swaying and displacement.

6) Guardrail and toe-boards shall be installed on all open sides and ends of platforms more than 10 ft. above the ground or floor.

7) Guardrail shall be 2 x 4 inches, or equivalent, approximately 42 inches high, with a mid-rail, when required. Supports shall be at intervals not to exceed 8 feet. Toe-boards shall be a minimum of 4 inches in height.

8) All planking shall be scaffold grades or the equivalent.

9) All planking of platforms shall be overlapped (minimum 12 inches), or secured from movement.

10) Scaffold planks shall extend over their end supports not less than 6 inches or more than 12 inches.

11) An access ladder or equivalent safe access should be provided at all times, do not use the braces or scaffold end support for access.

12) Don't stockpile materials on scaffolds; remove all materials and tools at the end of the day.

13) Never overload scaffolds. Pile materials being worked over ledger and bearer points to minimize platform loadings.

14) Don't work on scaffolds during storms or high winds, and clear platforms of all ice and snow before using. Sand wet planking to prevent slipping.

15) Protect scaffolds; don't bump or strike against scaffolds with vehicles or materials; control hoisted material from ground with taglines.

16) Keep platforms and area around scaffold cleared of debris, un-needed equipment, material, and other possible tripping hazards.

17) The use of shore or lean-to scaffolds prohibited.

LOCK OUT – TAG OUT PROCEDURE

1. General Requirements

a) A competent person shall determine potential sources of energy for equipment or building services prior to starting work.

b) The equipment or building service shall be de-energized from all energy sources as determined above.

c) The device(s) used to de-energize the equipment or service shall be physically secured in the "safe" position and a danger tag and lock affixed.

d) The equipment or service shall then be checked to verify a "zero energy state".

e) Equipment or services shall not be re-energized until all affected personnel are notified and are cleared, and the system has been checked out by competent personnel.

Note: "Energy source is defined to include electricity, compressed air (Pneumatic systems,
hydraulic systems, and corrosive, flammable or toxic substances.

2. Specific Requirements

a) Determination of Energy sources

With due consideration to the scope of work, all potential energy sources to the area or work shall be determined in advance by competent supervisory personnel.

Special caution must be given to:

- Multiple energy sources
- Residual energy
- Remote start up of equipment

b) De-energization and lock out

- Electrical

Service disconnects and switches to the equipment or line upon which work is to be performed shall be opened (switch off) then locked in this position to prevent accidental engagement. A "Danger" tag and lock shall be affixed to the switch. This tag is to be dated and signed by the supervisor requesting the lock out. Where more than one crew or craft performs work on the system, each crew foreman shall affix a tag and lock on the disconnect.

Multiple lock out devices shall be used

Lock keys shall be in the safe possession of the individual using the lock. Combination locks shall not be used.

Caution! Before any work is performed, a competent person shall verify that the system is de-energized.

3. Mechanical

All electrical powered pumps, valves and control devices in the system upon which work is to be performed shall be placed in the "safe" condition, then locked out and tagged in accordance with the electrical tag out/lock out procedure above.

Mechanical isolating devices should also be used, valves shall be place in the "safe" position, and tagged and locked in this position, where possible. Slip blinds ("pancakes") may be required on systems without mechanical valves. Where more than one crew or craft performs work on a system, each crew foreman shall affix a tag and a lock to the physical isolating device.

Systems and equipments upon which work is to be performed shall be checked by a competent person to ensure a "Zero Energy State".

Process equipment, vessels and piping shall be drained prior top penetration. Systems which have contained corrosive, toxic or flammable substances must be flushed or purged prior to starting work.

4. Release From Lock Out

No system shall be re-energized until all tags and locks are removed and the system has been inspected to ensure safe operation, locks and tags shall only be removed by authorized personnel.

ELECTRICAL GROUNDING PROGRAM

Assure Equipment Grounding Conductor Program

All projects should establish and implement an assure equipment grounding conductor program on construction sites covering all cord sets, receptacles which are not a part of the permanent wiring of the building or structure, and equipment connected by cord and plug which are available for use or used by employees. This program shall have the following minimum requirements:

1) A written description of the program.

2) A competent person designated to implement the program.

3) A daily inspection of all cord sets, attachment caps, plugs and receptacles of cord sets, and any equipment connected by cord and plug , to determine external defects, deformed or missing pins, insulation damage, or indication of internal damage, any of which requires that damage or defective equipment not be used until it is repaired.

4) The following tests must be made:

   a. All equipment grounding conductors must be tested for continuity and must be electrically continuous;

   b. Each receptacle and attachment cap or plug must be tested or correct attachment of the equipment grounding conductor. The equipment grounding conductors must be connected to its proper terminal.

5) Each of the above tests must be performed within the time period of every three months.

6) Adequate records shall be maintained of all tests conducted.

Below is the color coding scheme for Assured Equipment Grounding Conductor Program to be used with the above testing:

Month or Quarter	Quarterly	Monthly	Numeric Coding Scheme
January	White	White	**1**
February		White and Yellow	**2**
March		White and Blue	**3**
April	Green	Green	**4**
May		Green and Yellow	**5**
June		Green and Blue	**6**
July	Red	Red	**7**
August		Red and Yellow	**8**
September		Red and Blue	**9**
October	Orange	Orange	**10**
November		Orange and Yellow	**11**
December		Orange and Blue	**12**
Repair/ Incident	Brown	Brown	**0**

Electrical

It takes very little electric current to kill- less than one-tenth of an ampere. With good contact, 115 volts is sufficient voltage to caused death. There have been fatal electrical shocks where voltage as low as 60n to 70 volts was involved.

The electrical system should be designed and installed to provide adequate power for maximum anticipated loads. Consideration should be given to sufficient lighting and sufficient power to run all electrical equipment on the project.

Rigid installation and maintenance standards of temporary electrical power should be set up as part of a project safety program. Poor workmanship and use of inferior materials can result in serious injury, fires, power failure and costly delays.

ONLY QUALIFIRD PERSONNEL SHOULD BE ALLOWED TO PERFORM ANY TYPE OF ELECTRICAL WORK.

Note: Working around NYCTA live track, has the 3rd rail of 600 volts d.c.

General Safety Rules

1) Do not guess about whether a circuit is alive or not. Consider every one alive until proved otherwise.

2) Use proper instruments for testing circuits. Use light banks and alarms for 3rd rail warnings.

3) Never touch any wire of a circuit unless you know that it is dead.

4) Use safety equipment when necessary, such as rubber gloves, rubber mats, fuse tongs, insulated tools, and the like.

5) Lock open main switches and place tags before working on power circuits so that no one else may close them while you are working. Before closing a switch, make sure other workmen are clear of circuits.

6) Use danger signs and rope off dangerous areas.

7) High voltage must be posted on all projects.

8) Arrange for proper maintenance of equipment and careful follow-up of repairs.

9) Never bridge a fuse with wire or other metal.

10) Do not use aluminum ladders on electrical jobs.

11) Extension cords used with portable electric tools and appliances shall be grounded/ checked by ground assurance program.

12) All temporary lights shall be equipped with guards to prevent accidental contact with the bulb.

13) Worn or frayed electrical cables or cords including taped repairs shall not be allowed.

14) Wherever possible, and certainly where required by law ground fault.

15) The Company Assured Grounding Program must be adhered to.

16) Use of ground fault circuits interrupter at either the tool or as permanent breakers within electrical panels. This is required when assured equipment program is not being implemented.

RIGGING

Rigging equipment shall be inspected prior to each use so as to ensure that it is safe to use.

- Rigging equipment shall not be loaded in excess of its recommended safe working load.
- Rigging equipment, when not in use, shall be removed from the immediate work area so as not to present a tripping hazard to employees.
- Make-shift fasteners, formed from bolts, rods, wire, etc., shall not be used.
- Wire rope cables shall not be secured by knots for any purpose.
- Wire rope cables, use in hoisting, lowering or pulling loads, shall consist of one continuous piece without knots or splices.
- When U-bolt wire rope clips are used to form eyes or loops in any load bearing cable, a minimum of three (3) clips shall be used. Clips shall be applied so that the "SADDLE" portion of the clip is nor in contact with the dead end of the cable.
- Hooks used for lifting shall be equipped with a safety catch.

TUNNEL SAFETY

TUNNELS AND UNDERGROUND STATION CONSTRUCTION

In addition to the stated requirements in these Guidelines all Laquila Group, Inc. and subcontractors constructing tunnels, underground stations chambers for the NYCTA shall comply with the requirements of the OSHA Tunnel Safety Standards, 29 CFR 1926.800.

Ventilation, Dust Control and Air Quality

General

1) Fresh air shall be provided to all underground work areas by a fan that is capable of blowing air into or exhausting air out of the tunnel.

2) The air supply shall not be less than 200 cubic feet per minute for each person underground.

3) The air supply shall be of sufficient quantity to prevent the dangerous and harmful accumulations of dust, fumes, vapors and gasses.

4) Necessary precautions (respiratory protection and the like) shall be taken should dust, fumes, vapors or gasses be encountered.

5) The atmosphere and air flow in the tunnel shall be tested by safety personnel at least twice every working shift and results recorded.

6) The air being drawn into the air intakes of the compressors\ fans shall be tested daily for air contaminants. The test results shall be recorded.

Transportation and Haulage

Note: This section refers to Laquila Group, Inc. tunnel equipment, not NYCTA (operating Transit system)

1) Only qualified and experienced persons shall operate locomotives.

2) All locomotives shall be equipped with lights front and rear, an audible warning device (horn, bell or siren) a fire extinguisher and self-rescuers.

3) No train shall be operated at a speed which shall endanger any employee.

4) All locomotives and cars shall be checked at the beginning of each shift. Any defects shall be reported and corrected.

5) Locomotives and cars that are coupled or uncoupled must be equipped with automatic couplings. When not so equipped, the train shall come to a complete stop before coupling and uncoupling.

6) All cars shall be equipped with a safety chain and connected to the car in front at all times.

7) All trains shall slow down when anyone is alongside the track or passing over switches.

8) Laquila Group, Inc. personnel, visitors, and the like shall not ride on the locomotives or in the muck cars.

9) No training shall be moved until the operator has first given a warning by sounding a bell, horn or siren.

10) Standing trains and cars not on a flat grade shall be blocked to prevent movement.

11) All materials shall be adequately secured against shifting while being transported by train.

12) Man-cars equipped with seats and railed sides shall be provided and used to transport personnel.

13) The use of fuel-burning or internal combustion engines or locomotives, underground is prohibited except for diesel engines when and where permitted in writing by OSHA and under conditions specified for each section or specific areas of the project.

Hoisting and Shafts

General

1) Laquila Group, Inc. personnel shall not be hoisted in or out of the shafts except in the case of an emergency, and then only in an approval man-cage or boatswains chair. This also applies to cut and cover work.

2) Injured personnel not capable of climbing the stairs shall be hoisted out by basket stretcher.

3) The top lander shall warn employees in the shaft of loads to be lowered into the shaft prior to the load being placed over by the use of an air horn.

4) Material hoisting into and out of a shaft, shall be done by using appropriate hand signals or other approved communication systems, such as voice communication with radios, voice activated headset, and the like.

5) The top lander shall stand at the top of the shaft where he/ she can see all vertical movement of the line and material being hoisted.

6) The bottom lander shall keep all personnel clear of the load.

7) All shafts shall be provided with guardrails arranged to prevent an employee from walking or falling into the shaft.

8) The Hoisting Operator (Crane Operator, etc.) shall pass a thorough physical examination; at least once a year by a medical physician licensed to practice in the State of New York and hold a valid operator's license.

9) The shaft(s) shall be inspected by a competent person at least once each week. A written report of the inspection shall be kept on file in the Laquila Group, Inc office to be available upon request.

Check In/ Check-out System and Visitors

General

1) A check-in/check-out system for Laquila Group, Inc. personnel, visitors and the like working underground shall be established to maintain an accurate head-count.

2) Visitors must report to the Laquila Group, Inc.'s field office prior to going on site or entering the tunnel. The Laquila Group, Inc.'s Safety Representative shall give each visitor a brief safety talk on the safety requirements of tunnel operations. (Visitors include but are limited to personnel from the Laquila Group, Inc.'s home office or other projects, insurance representatives, and the like.)

3) Visitors other than those who are experienced in tunnel operations shall be accompanied by a representative of the company.

4) The check-in/check-out system shall be a topic of a toolbox/tailgate safety meeting.

5) A list of personnel working underground shall be kept in the Laquila Group, Inc.'s office and available upon request.

Communications

General

1) An underground communication system shall be installed and shall be independent of the underground power supply.

2) Underground phones shall be located at but not limited to the following:

(a) Heading/ working face
(b) Bottom and top of shaft(s)
(c) First aid station
(d) Laquila Group, Inc.'s office.

Walkways and Access

General

1) A clear, unobstructed walkway with adequate lighting shall be maintained through-out the tunnel.

2) Roads and walkways in the Laquila Group, Inc.'s yard and building shall be kept clear of obstructions and materials.

Rescue Crew and Self-Rescuers

General

1) The Laquila Group, Inc. shall have a rescue crew of at least five (5) people when there are ten (10) or more personnel underground at any one time.

2) The Laquila Group, Inc. shall have two crews of five (5) people each divided between shifts when there are more than twenty five (25) personnel underground at any one time.

3) All members of the rescue crew shall receive annual training that is equivalent to that of the U.S. Bureau of Mines.

4) The rescue crew shall practice at least one hour each month in the use of the self contained breathing apparatus.

5) The Laquila Group, Inc. shall have sufficient number of self contained breathing apparatus (SCBA) for at least a five (5) person rescue crew. These units shall be maintained accordance with the manufacturers' recommendations.

6) The Laquila Group, Inc. shall have a sufficient number of Bureau of Mines approved self-rescuers at or near the advancing face for each person in the heading.

7) Each locomotive shall be equipped with at least two (2) self rescuers for the operator and break man.

8) All personnel shall be instructed in the use of the self rescuers when hired and quality thereafter.

9) The self-rescuers shall be inspected at least once each month by the Safety Representative to ensure the operational status of these units. The results of the inspection shall be recorded and kept on file in the Laquila Group, Inc. office and available upon request.

Compress Air Work

When working under compressed air the Laquila Group, Inc. shall have written procedures governing the operations of all air locks, personnel training and the like.

Gas Testing

General

1) On gassy or extra hazardous classified tunnels, underground stations or underground chambers, employ a competent person on each work shift whose sole duty is gas testing, Gas Testing shall be under direct supervision of the Safety Representative.

2) The gas testing shall have the Hunter Roberts Construction Group to stop work and remove employees from the work area (evacuate tunnel0 when gas or toxic levels reach a dangerous level as defined by OSHA.

Pre-Construction Meetings

General

1) A pre-construction safety meeting shall be conducted by the Laquila Group, Inc. Safety Manager prior to work commencing on any tunnel or underground station project. The meeting shall address the following:

   (a) General contractual safety, health, and environmental requirements and responsibilities.
   (b) Roles of the Laquila Group, Inc. and employees, the Hunter Roberts Construction Group and its Representatives
   (c) Accident reporting requirements.
   (d) Required attendees are Hunter Roberts Construction Group, Hunter Roberts Construction Group Representatives, Laquila Group, Inc. and Laquila Group, Inc.'s Safety Manager.

2) Pre-job safety meeting OSHA for tunnel construction projects and pipe-jacking operations.

(a) It is the Laquila Group, Inc.'s responsibility to contact the OSHA and establish a pre-job safety meeting.

Care of Injured Personnel

General

1) First Aid Training

All supervisors and at least one person on each tunnel crew shall have had first aid training and be competent to give proper emergency treatment.

Operation in a Gassy or Extra Hazardous Classified Tunnel

General

2) Smoking shall be strictly prohibited and the employer shall be responsible for collecting all personal sources of ignition, such as matches and lighters, from all persons entering the tunnel or performing underground work. Smoking in a gassy or extra hazardous classified tunnel shall be cause for termination.

3) Welding, cutting or other spark-producing operations shall only be done in atmospheres containing less than 20% LEL and under the direct supervision of a qualified person. The competent person shall check for NYC Fire Dept. burn permit and shall test for gas and vapors before these operations start and continuously during the operation.

4) Automatic and manual gas-monitoring equipment shall be provided for the heading in tunnels using mechanical excavators at locations specified by OSHA. The monitor shall signal both audible and visually, the heading, and shall shut down electric power in the tunnel, except for ventilation equipment, when 20% or more LEL is encountered or assumed to be present. In addition, a manual shutdown control shall be provided near the heading.

5) The competent person shall perform manual gas tests in dead air locations, monitor and record air quality and test for noxious, toxic or other hazardous fumes or vapors and monitor and record air quality.

6) In tunnels driven by conventional drill and blast methods the air shall be tested for gas prior to re-entry after blasting and continuously when workers are working underground. Records of gas tests and airflow measurements shall be maintained on the surface by the Safety Hunter Roberts Construction Group and/ or competent person, and shall be made available on request. Ventilation systems shall exhaust flammable gas or vapors from the

tunnel, be provided with explosion relief mechanisms, and be constructed of fireproof materials.

7) A refuge chamber or alternate escape route shall be maintained within 5,000 feet of the face of a tunnel classified as gassy or extra hazardous or according to any specific requirements stated by OSHA. Workers shall be provided with emergency rescue equipment and trained in its use. Refuge chambers shall be equipped with a compressed air supply, a telephone, and a means of isolating the chamber from tunnel atmosphere. The emergency equipment, air supply, and rescue chamber installation shall be acceptable to regulations of OSHA. A general plan of action for use in time of emergency shall be prepared by the Laquila Group, Inc. of every tunnel under construction or major repairs, posted in areas where employees congregate and coordinated with Laquila Group, Inc.'s Project Emergency Plan.

Lighting

General

Offices, workrooms, stairways, corridors, passageways, construction roads, working areas, and tunnels shall be adequately lighted while work is in progress or when needed to protect the general public and construction personnel from construction hazards. Minimum foot-candles (fc) required for lighting are:

FC	Area
2	Tunnel Floor
3	General construction, low activity
5	Outdoor active construction
5	Indoors (warehouses, hallways, and stairways)
5	Tunnel heading
10	General construction shops, first aid, and offices

All lighting in compressed air chambers shall be exclusively by electricity, and two independent electric lighting systems with independent sources of supply shall be used. The standby or emergency source shall be arranged to become automatically operative if the regular source fails. All electric equipment and wiring for light and power circuits shall comply with requirements of the National Electrical Code, ANSI-CI-1971, for use in damp, hazardous, high-temperature, and compressed air environments. Each tunnel worker shall have portable, permissible hand or cap lamp wherever natural light is inadequate or no emergency lighting exists.

All wiring shall comply with the latest edition of the National Electrical Code, OSHA, Federal, State, and City of New York, where applicable.

For electrical installation in gassy or extra hazardous classified tunnels, refer to OSHA.

Required Laquila Group, Inc. Safety Inspections

General

1) In tunnel or underground work, the Laquila Group, Inc. shall inspect the roof, face walls, and ground support system at the beginning of each shift and frequently thereafter. Any loose or dangerous ground shall be dislodged or adequately supported.

2) Written records shall be kept of such inspections by the Laquila Group, Inc. and a weekly report shall be maintained by the Safety Hunter Roberts Construction Group. The length of cracks or changes in movement of any surface shall be recorded each day and the differences noted.

3) A weekly inspection of all shafts shall be made by the Laquila Group, Inc. Safety Hunter Roberts Construction Group and reports made and kept on file for review by the Laquila Group, Inc., Hunter Roberts Construction Group and OSHA.

4) Tracks for construction equipment shall be installed and maintained in accordance with OSHA. In addition, The Laquila Group, Inc. shall designate a qualified person to perform weekly inspections of track fasteners, fish plates, switches, derailers, bumpers, and the like. The water level in the tunnel shall always be maintained below the top or rail.

The crane, hoist, or elevator operator shall make a daily inspection of all hoisting machinery or equipment and related safety appliances. Any hazard noted shall be corrected immediately and so documented.

Miscellaneous Tunnel and Station Lighting Arrestor

General

For protection of equipment, electrical machinery, and employees underground, each wire in each power or main lighting circuit that leads underground and extends over the surface of the ground 500 feet or more from the generating station or the substation shall be equipped with a lightning arrestor with proper ground connections at the generating station or substation and also at, or near, the point "Where the circuit enters underground. The lightning arrestor shall be connected to the secondary side of the transformers that feed circuits leading underground, unless the portion of the secondary circuit above ground is less than 50 feet long, in which case the arrestor may be connected to the transformer.

Underground Rescue

It takes very little time for a worker to be overcome by smoke or dust 'When he is in a confined space, such as a deep tunnel or shaft. Expediency, preparation and organization are needed when confronted 'With an underground rescue situation.

Expediency

Reaction time to an emergency is always extremely important Consideration to the severity of the incident at hand should be taken into account, You or the director of the rescue operation shall want to act quickly and accordingly; still, it would not be in your favor to rush into potentially disastrous situations "Without taking into account all the possibilities at hand Expediency in this case refers to the time in which it takes to notify the Proper authorities and establish a recovery program.

Preparation

A training program for underground rescue must be established on all tunnel job sites. At least two groups of five selected employees shall receive training by a certified MSHA instructor for underground rescue. Rescuers shall be given sufficient training in the areas of NSHA regulations, Closed Self Contained Breathing Apparatus (S.C.BA) instruction, and the hazards associated with poor tunnel environments during tunnel disasters. They must comply with Section Subparagraph S of 29 CFR.1926 of the Occupational Safety and Health Standards for the Construction Industry.

Organization

Programs for tunnel evacuation procedures, fire preparedness, and general documentation of all underground rescue activities before, during and after an underground disaster shall be recorded. Everyone involved in a tunnel project who is employed by this firm shall be educated or trained to act accordingly in the event of a tunnel disaster.

The following is a recommended procedure that shall be followed in the event of a disaster:

1) Contact or organize the rescue crew assigned to that particular Job site, Contact also: the Police (for security reasons), Ambulance, Fire Department, and Hospital.

2) Secure the area, and control the immediate surroundings of any disaster access or exit.

3) In the event of 311 underground fire or ground fall rescue, the Hunter Roberts Construction Group and the NYCTA Safety Manager shall be notified.

4) Prepare to recover the tunnel from the surface of the project through ventilation and other related methods.

5) Provide separate and designated areas for first aid, family members of injured employees, the media and press, command center for operation strategies, and a place where the rescue crew can change and regroup if necessary.

6) No public statements shall be made by the Laquila Group, Inc. to the media and/or press until cleared by the Hunter Roberts Construction Group.

Underground Rescue

Tunnel Evacuation Procedures Awareness:

NOTE: Full section provided for tunnel safety.

When entering any tunnel you should make a mental note to be aware of the following:

1) Know your references so that you know where you are if the tunnel lighting goes out due to a shut down or malfunction. Examples are: what side of tunnel is the power cable vent line, etc. (when walking out is the vent line on the left or right?). By knowing this you shall be able to find your way out if you lost your orientation.

2) Know Where some very vital elements are: example: emergency lighting, communication phone, self-rescuers, self-contained breathing units, gas meters, first aid kits, fire extinguishers.

3) Know where tunnel equipment is so that you shall be able to get around equipment if there is a power outage or emergency.

4) Look and sense anything that is different. It could be a tip-off of a changing condition.

Procedures

1) Leave immediately in case of:

(a) Fire or Smoke
(b) Detection of Gas by Gas Monitors
(c) Floods
(d) Ground Fall

2) Be Calm - DO NOT Panic - Don't Run!

3) Do not move any equipment.

4) Do not switch any electrical equipment if it is "on", leave it on. If it is "off" leave it off.

5) Notify the Top man immediately of the situation.

6) Take Self-Rescuer and any self-contained breathing units - use if necessary.

UNDERPINNING

1) Includes underpinning of structures (with either wall or pit construction), The Laquila Group, Inc. shall comply with OSHA's confined space 29CFR 1926.800 Regulations.

2) Atmosphere of pits, tunnels and subsurface areas shall need to be taken. Gasses must be monitored and oxygen maintained.

3) Soil support systems need drawings and professional engineering prior to construction. OSHA requires all temporary support to meet bracing requirements as outlined in 29CFR1926.

4) A competent person must be present during all operations.

5) Buildings/structures (including **NYC** Transit tunnels/stations) within the excavation zone of influence must be monitored with benchmark and/or geotechnical monitoring, Any signs of deflection, damage or collapse must be immediately reported to the NYCTA Construction Manager, NYCTA Safety Group and the **NYCTA** Insurance Administrators. A report must be given on control/avoidance or repair.

6) All employees working below ground must wear hard hat protection.

7) Adequate means of access/ egress must be provided.

8) Ventilation duct/portable blowers/fans or forced air ventilation tubing shall be provided to adequately provide workers with sufficient air quality and flow during all pit operations.

9) Block and tackle used to excavate soil from pits must establish wheel support system, adequate bucket weight limits and ropes must meet **OSHA** regulations. A competent person must make sure employees are provided adequate overhead protection and ropes/ bucket/ wheel must be checked regularly as required by **OSHA** regulations.

10) Water must be removed from pits prior to workers being allowed into area.

TRACK/SIGNAL WORK

1) Laquila Group, Inc., subcontractors and all employees must comply with **NYCTA** Rules and Regulations governing employees engaged in the operation of the NYC Transit System or applicable Transit governing authority.

2) Employees shall be trained in working around track and operating railroads.

3) All employees must wear a safety reflective vest approved by the **NYCTA** while working on or around **NYCTA** operating trains. This includes areas of diversions or general orders.

4) Laquila Group, Inc. is required to familiarize its crews with existing subway emergency procedures. Know how to stop a train, know where emergency equipment/ communication are located throughout existing tunnel and station areas.

5) Fire watch must be provided by the Laquila Group, Inc. doing any rail welding, steel cutting or standard welding in existing structures. Portable extinguishing systems must be provided in accordance with NYCTA System Safety

6) Laquila Group, Inc. /subcontractor employees must be cautioned of areas where insufficient clearance for safety may be located.

7) Employees of Laquila Group, Inc. must be in informed to expect trains to run at any time, on any track, in either direction, they must be constantly reinforced (at minimum, each work shift) with this subject. They must also inform them to look in both directions before entering upon or standing close to 3rd rail track and must be careful not to touch the 3rd rail (contact rail), side approach plates, or fixtures extending from and fasten to the side approach.

8) Always consider 3rd **rail** (contact rail) to be live.

9) All tools used around 3rd rail or negative return should be non-conductive and/or properly insulated.

10) All employees must be equipped with a flashlight and trained how to stop, or warn approaching train of your presence.

11) Laquila Group, Inc. must provide 3rd rail alarms with audible and visual alarms.

12) Any crane/boom operation must not foul operating train track. Equipment should be properly grounded and avoid fouling signal equipment.

13) Employees shall be instructed by Laquila Group, Inc. that anyone electrified by contact with 3rd rail should not be touched, pushed or tried to free from contact. Emergency procedure shall be followed to have power shut down and emergency rescue performed.

14) Housekeeping is extremely important in track way. Any debris must be removed. Temporary material storage in track way must be approved by **NYCTA**. Clearance far train passage is of utmost importance. Derailment/fouling of track must be checked daily before turning over work zone to passenger train operations.

15) Drilling/grouting equipment should be grounded to avoid possible exposures of 3rd rail and negative return. Laquila Group, Inc. should be careful not to foul operating track/ signals.

16) Negative return lines must be checked and should be treated as a live line carrying power.

17) Ventilation must be provided during concrete breaking, welding or cutting. Employees must wear proper respirators in accordance with **OSHA** respirator requirements.

18) Work trains (run on diesel power) must be checked for carbon monoxide, scrubbers or ventilation provided. Atmosphere must be monitored in accordance with **OSHA** Regulations 29CFR1926.

19) Hearing protection shall be provided while working in existing transit structures. A hearing conservation program shall be provided by the Laquila Group, Inc. or subcontractors submitted to NYCTA prior to doing any work that would expose workers or others to noise above OSHA regulations.

20) During switch removal/installation or working on track, employees should be warned regularly (at minimum each work shift) of exposure to switches.

NOTE: Track shall move side to side and has power to take off body part.

21) Working on signals requires close coordination with **NYCTA** Signal Dept. Any damage or mis-wiring to signals found should be reported to **NYCTA** immediately. No repairs should be made by the Laquila Group, Inc. without the **NYCTA** approval.

22) Lock out tag-out procedures shall be followed on all electrical outages. During testing or switch gear.

FALL PROTECTION SYSTEMS

OSHA Final Rule February 6, 1995, revising the Construction Industry Standards Regulating Fall Protection Systems and Procedures shall be complied with.

Purpose

Prevent workers from falling off, onto or through working levels and from being struck by falling objects.

Key Provision

Protection shall be provided for workers exposed to possible falls of **OSHA** specified distances in a number of situations including, but, not limited to:

1) Walking/ working surfaces including ramps and runways.
2) Loading edges and near unprotected sides and edges or holes.
3) On faces of formwork or reinforcing steel.
4) At edges of excavation.
5) Roofs of various pitches.
6) Erecting structural members of precast concrete.
7) Above dangerous equipment.

The various protections include:

- Guardrails
- Toe-boards
- Safety Hatch Covers
- Safety Nets
- Personal Fall Arrest Systems
    1) Body Belts
    2) Harnesses
    3) Lines

ASBESTOS IN CONSTRUCTION

Requirements at any Asbestos level shall include; but, not be limited to:

- Exposure Assessments and Monitoring

  a) Performed by competent person (as defined by **OSHA** Regulation 29CFR 1101).

  b) Additional monitoring when work changes or exposures above PEL may occur.

  c) Additional controls and work-practice to get to or below the PEL.

- Laquila Group, Inc. shall ensure all workers in or next to regulation area, are in compliance with most recent OSHA, Federal, State, Local standards.

- Controls

  a) Controls and work practices shall include:

     1) HEPA Vacuums

     2) Wet Methods

     3) Prompt clean-up and disposal

     4) Critical barriers or other measures to isolate area

  b) Asbestos waste shall be sealed in impermeable labeled bags or containers for disposal.

  c) Newly discovered substances will need to be assessed and all work in this area stopped...

  d) Local exhaust ventilation with HEPA filters.

  e) Enclosure or isolation of work areas.

  f) Directed make-up air with HEPA filter exhaust (If levels exceed PEL or EL).

  g) Regulated area shall be noted with signs.

  h) Daily monitoring by competent person.

  i) All work supervised by competent person.

  j) AHERA abatement worker training (four days).

  k) Medical surveillance if workers are exposed at or above a PEL.

l) Competent person shall

1) Inspect site at least once per work shift and at any time employee request.

2) Do or supervise specified control duties (**OSHA** (O)(3)(i) of 29CFR 1926.1181).

3) Currently be accredited from an AHERA Supervisor's course (five days) or an equivalent (**OSHA** 29CFR 1926.1101 (O)(4)(i)).

m) Respirators as tor **OSHA** Regulations.

n) Protective clothing as per **OSHA** Regulations.

o) Hygiene facilities and practices as per **OSHA** Regulations.

p) Record retention shall be the responsibility of Laquila Group, Inc...

1) Exposure monitoring records

2) Medical surveillance

3) Training

TRAINING

NEW EMPLOYEE SAFETY

NEW EMPLOYEE ORIENTATION PROGRAM

EMPLOYEE INFORMATION

NAME OF EMPLOYEE: _____
(PRINT)

DATE OF HIRE: _____

SOCIAL SECURITY NUMBER: _____

POSITION: _____

JOB NUMBER: _____

	Yes	**No**
1. Covered Safety Policies		

Reviewed

2. Safety Manual

3. Accident Procedures

4. Safety Equipment
   (a) Personal Protective Equipment

5. Project Safety Rules and Regulations

6. Locations of First Aid Stations

Instructed Employee

7. To Ask Questions if Not Familiar With Operations

8. To Review and Check Out Equipment Before Using

9. To Report Any Unsafe Condition or Act

Informed Employee

10. Of State and Federal Right to Know Laws/Haz Com Laws

11. Drug and Alcohol Program and Policy

12. Evacuation/Trench Excavation

I acknowledge that the above items have been discussed with me and that I have reviewed the safety policies, programs and procedures listed above and attached.

DATE: _____

EMPLOYEE'S NAME: _____
(PRINT)

EMPLOYEE'S SIGNATURE: _____

TRAINER'S SIGNATURE: _____

NEW EMPLOYEE SAFETY

When hired, the Laquila Group, Inc. and the Laquila Group, Inc.'s safety Manager should:

- Review the Laquila Group, Inc. Safety Manual during New Employee Orientation.
- Issue required Safety Equipment
- Review the Laquila Group, Inc. Safety Rules. Make sure the employee understands the Hunter Roberts Construction Group's commitment to safety.
- Require the Employee to sign a statement that they have received Employee on orientation.
- Stress to the employee the importance of performing their work safely.
- Stress to the employees the importance of asking questions regarding anything he/she is unsure of.

Laquila Group, Inc.'s employees should be required to adhere to the following rules under penalty of discharge or other discipline.

No list can include all instances of conduct which can result in discipline. However, our guidelines are based on common sense and do not replace our expectation that each employee shall exercise the sound judgment, common courtesy, and good taste which everyone should apply while at work.

1) Violating Company safety rules or performing work I Il all unsafe manner dangerous to oneself or other personnel, property, or equipment.

2) Destroying or removing without permission any property of the Owner, Hunter Roberts Construction Group, Laquila Group, Inc.(s) or other employees.

3) Provoking or engaging in a fight, disturbance, or horseplay.

4) Reporting for work under the influence of alcohol or controlled substances.

5) Possession or use of alcoholic beverages or controlled substances on the job site, other than prescribed medication.

6) Gambling or possession of gambling paraphernalia, such as cards, dice, and parlay cards on the work site.

7) Insubordination or refusal to work as directed, or interfering with the work of any other employee.

8) Sleeping on the job.

9) Possession of firearms or other deadly weapons on the site.

10) Falsifying reports involving attendance, absence, sickness, or termination.

11) Submitting false claims for injury or compensation.

TOOLBOX SAFETY MEETING

To be conducted by the Project Foreman

The most effective method of promoting on-the job safety is the toolbox safety meeting; a five to ten minute meeting conducted on-the job at the crew level by the immediate Supervisor on Foreman.

Here are a few points to remember to make the toolbox safety meetings as effective as they can be.

1) First of all, hold a meeting at least once a week, Regular meetings shall provide the feeling that they are a regular part of the project.

2) A written record of the meeting shall be kept on the form provided; all employees attending should both print and sign their names on this form.

3) Hold the meeting right on the jobsite, preferably where the employees can sit and relax.

4) Limit each meeting to ten minutes or less.

5) Discuss only a single point or subject. This is important in keeping the employees interested.

6) Don't choose too broad a subject, or one that is of no interest to the employee. Gear the meeting to the specific project.

7) Spend some time and thought before the meeting so that you are able to stimulate discussion.

8) While you may open the meeting by stating the subject and presenting the hazard or problem, try to get the group to join in on the discussion and work out a solution.

9) Use positive approaches and conclusions whenever possible. Do not single out an employee when discussing a project problem. Be diplomatic in your approach to a problem.

10) Before the start of any phase of work on the project, hold a meeting to discuss the hazards or problems that might develop with this new operation.

SUBCONTRACTOR SAFETY RESPONSIBILITIES

General

Coordination between the safety departments of both the subcontractor and the prime Laquila Group, Inc. is a must, if the objectives of accident reduction and lowered costs are to be achieved. Subcontractor. personnel should also be required to attend safety meetings held on the job site that involve their operations, so that matters of common concern can be discussed and mutually beneficial decisions reached.

Safety Responsibilities of the Subcontractor

Each subcontractor engaged in work on this Project shall be responsible for the following:

They shall be directly responsible for initiating and maintaining a Safety and Health Program to prevent their employees from working under conditions which are unsanitary or dangerous to their safety or health.

They shall prohibit the use of unsafe machinery, tools, material or equipment, which shall be identified as unsafe by tagging or by locking the controls to render them inoperable or they shall be removed from service.

They shall only permit employees qualified by training or experience to operate equipment and machinery.

They shall instruct each of their employees In the recognition and avoidance of unsafe conditions and the regulations applicable to their work environment.

They shall instruct each of their employees required to handle or use flammable liquids, gasses, toxic materials, poisons, caustics and other harmful substances in their safe handling and use. The employee shall be made aware of the potential hazards, the necessary personal hygiene and the personal protective measures provided.

They shall instruct each of their employees required to enter confined or enclosed spaces as to the nature of the hazards involved, the necessary precautions to be taken and in the proper use of protective and emergency equipment required.

They shall designate competent persons to be responsible for their own Safety and Health Program.

They shall be responsible for providing and requiring the wearing of necessary personal protective equipment according to the hazards of the work being performed.

Enforcement of Subcontractor Safety

It is the responsibility of the Laquila Group, Inc. to see that subcontractors follow established safety rules, the owner's safety rules, those of the state and city, as well as the Occupational Safety and Health Act.

If any subcontractor is negligent in complying with established safety rules, we refer you to our contract agreement, if this fails issue a letter of warning to inform the subcontractor of our inspection and the violations we noted. A copy should be sent to the subcontractor home office for their information.

ACCIDENT INVESTIGATION

1) ALL accidents shall be investigated.

2) ALL lost time accidents shall be completely investigated by the Laquila Group, Inc.

3) The Laquila Group, Inc. Site Safety Hunter Roberts Construction Group/Supervisor shall turn in a written accident investigation report to the Hunter Roberts Construction Group for all serious lost time accidents.

POLICY FOR REPORTING ACCIDENTS

The Laquila Group, Inc. is responsible for making sure all employees are informed of this policy and that it is carried through.

Employee Accident

It is imperative that if an employee of the Laquila Group, Inc. or Subcontractor is injured, an accident report is completed. This accident shall be reported to the Worker's Compensation Board and insurance company. The Insurance Company if not given adequate notices could claim they have been dealt with in a "bad faith" condition, denying coverage of the claim.

General Liability

If you have caused damage to another individual's property, or if a person claims you have caused damage to their property (whether it be a broken 'Window, water main, telephone pole, cable, cracks, etc.), this claim shall also be immediately reported..

Auto Accident

If you are involved in an auto accident, involving an injury you must always call the police immediately and make sure that a report is on the file with them, even if it occurred on private property. You are then to notify the Laquila Group, Inc. who shall submit a full copy of accident report with a copy of the police report to the Hunter Roberts Construction Group.

We cannot reiterate enough the seriousness of your reporting any type of accident to the Hunter Roberts Construction Group immediately, including those involving subcontractor and suppliers, or other Laquila Group, Inc.

INSTRUCTIONS

Complete investigation of any accident, whether or not injury or damage is involved is a vital part of effective accident prevention. The investigation is not complete until the causes and proper corrective actions are determined.

The investigation and this report must be completed by you immediately after any accident or incident relating to your job which involves:

- Personal injury to any of our employees or any other persons.
- Damage or loss to company property, materials or equipment.
- Damage or loss to property of others
- "Near misses" which could have Involved any of the above

If property damage or personal injury to others is involved, do not assume any responsibility or obligations in any way. Do not sign anything or anyone, except your employer's representative. You should politely refer any questions to the Laquila Group, Inc.:

In your investigation and preparation of this report give extra attention to the following areas:

WHAT HAPPENED?

- This does not mean list the injuries or damages that resulted. It means explain the events which led to the injuries or damages.
- Describe the work or activity involved. The conditions and what the people involved were doing.
- Describe the tools, equipment or materials involved their condition and how they were involved.
- Describe the unexpected event or occurrence which resulted in the injury, damage or loss.
- If more space is needed or if a diagram shall help your description, please attach another sheet.

CAUSES

Primary and Secondary – See Common Causes of Accidents

CORRECTIVE ACTIONS

Primary and Secondary

LOCATION

Specific place on jobsite (Street and City when applicable)

PROPERTY DAMAGE OR INJURY TO OTHERS

Describe property, extent of damage or nature of injury. If vehicle is involved, show year, make and model.

PERSONAL PAACTICES OF EMPLOYEE

- Haste of shortcuts
- Safety equipment provided but not used
- Personal protective equipment used
- Horseplay or practical jokes
- Instructions or rules disregarded Inattention
- Inexperience
- Physical condition of employee Improper method of doing work Action of another person
- Improper clothing

UNSAFE EQUIPMENT OR MATERIALS

- Ineffectively guarded equipment Unguarded equipment
- Defective materials
- Defective tools
- Defective equipment (not motor vehicles) Defective motor vehicle equipment
- Improper type or poor design
- Unsafe equipment or material of another Laquila Group, Inc. or customer

UNSAFE CONDITIONS

- Poor light
- Poor ventilation
- Congested area
- Improper storage of materials
- Exits or emergency escapes inadequate or not provided
- Faulty layout of plant or facilities
- Tools or equipment improperly stored
- Poor housekeeping
- Unsafe conditions caused by another Laquila Group, Inc. or a customer

Submit original and copy to Project Office.
Retain copy for your records.
Keep the Hunter Roberts Construction Group advised of an injured employee's work status.

APPENDIX B

Community Air Monitoring Plan (CAMP)

October 16, 2009

COMMUNITY AIR MONITORING PLAN

Mid Block #57 Project
615-649 West 57th Street
New York, New York

Prepared for

DURST DEVELOPMENT, LLC
One Bryant Park
New York, **New York**

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

ROUX

209 Shafter Street, Islandia, New York 11749 ♦ 631-232-2600

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APPENDICES

1.0 INTRODUCTION

Remedial Engineering, P.C and Roux Associates, Inc. (collectively referred to herein as Roux Associates), on behalf of DURST DEVELOPMENT L.L.C., 57 SANDWICH LLC, 57 MINI LLC, MID BLOCK #57 LLC, NATIONS DEVELOPER 57 LLC, and DEVCO NATIONS LLC (collectively the "Applicants"), have developed a project specific Community Air Monitoring Plan (CAMP) to implement real time monitoring at 615-649 West 57th Street (Site) during soil excavation/foundation construction activities. Based on the results of previous investigations conducted, volatile organic compounds (VOCs) and particulates have been identified as contaminants of potential concern (COPC). Additionally, residual petroleum (and associated VOCs) pose the potential for nuisance odors to adjacent offsite receptors. The monitoring program will screen and analyze ambient air for total VOCs and particulate concentrations at the downwind perimeter of the Site. The monitoring program will be implemented at all times during excavation of the Site and while performing any foundation construction activities (e.g., pile driving, pile drilling, excavation) that could potentially cause vapors or particulates to migrate towards the Site perimeter. The CAMP is designed to provide a measure of protection for the downwind community and onsite workers not directly involved with the subject work activities from potential airborne contaminant releases as a direct result of remedial and construction activities. This plan is consistent with the New York State Department of Health's (NYSDOH) Generic Community Air Monitoring Plan guidance document.

Roux Associates shall be responsible for implementation of the CAMP and will have direct and constant communication with all components of the remediation team in order to effectively and instantaneously initiate the necessary onsite controls to prevent and/or minimize offsite migration of fugitive dust or air.

Given the Site-specific characteristics, it is expected that the odor threshold will be lower than the minimum allowable VOC air concentrations. As such, primary emphasis will be placed on odor management as part of the CAMP and Site Operations Plan (SOP) implementation. The suppression techniques discussed in Section 1.4 addresses not only VOCs and particulates, but odors as well. This comprehensive odor management approach will minimize the potential for exceedance of the VOC action levels.

Additionally, a significant portion of the intrusive activities will be conducted in a relatively deep excavation with substantial work below the water table in moist soil. This high moisture content will provide for "natural" dust suppression in these areas. The implementation of direct loading and offsite transport of excavated soils will also minimize particulate issues.

The specifics of the CAMP are presented in the following four (4) sections:

- 1.1 VOC Monitoring Approach
- 1.2 Particulate Monitoring Approach
- 1.3 Meteorological Monitoring Approach
- 1.4 Available Suppression Techniques

1.1 VOC Monitoring Approach

Prior to remediation, a chemical-specific air sample will be obtained using one Summa canister (placed at grade), analyzed by a NYSDOH Environmental Laboratory Approval Program (ELAP)-accredited laboratory via the United States Environmental Protection Agency (USEPA) Method TO-14 (or equivalent), and used as a baseline sample. The results of this sample will be used to evaluate the potential need to incorporate chemical-specific air monitoring during the work due to continued action limit exceedance or nuisance odors. Due to the relatively small size of the Site, it is not practical to monitor individual work areas within the Site. Thus, total VOC concentrations in air will be monitored continuously at the upwind and downwind perimeters of the Site during all ground intrusive activities. The VOC monitoring equipment will be located at temporary monitoring stations that will be established daily based on Site logistics and weather conditions. The monitoring work will be conducted using MiniRAE 2000 portable VOC monitors, or similar type monitors, for all VOC monitoring. The equipment will be calibrated at least once daily using isobutylene as the calibration gas. One (1) upwind and one (1) downwind monitor will be deployed each day. Each monitoring unit is equipped with an audible alarm to indicate exceedance of the action levels (as defined below and summarized in Table 1).

The equipment is capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

- If the ambient air concentration of total VOCs at the downwind perimeter of the Site exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

- If the ambient air concentration of total VOCs at the downwind perimeter of the Site persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of VOCs identified, suppression techniques employed to abate emissions, and monitoring continued. After these steps, work activities can resume if the total organic vapor level at the Site perimeter is below 5 ppm over the background concentration for the 15-minute average. If levels are in excess of 25 ppm above background, identified contributing ground-intrusive activities will be halted and vapor suppression techniques will be evaluated and modified until monitoring indicates VOC levels at the Site perimeter are below 5 ppm over background. Once VOC levels are below 5 ppm at the Site perimeter, work will resume with continued monitoring.

All 15-minute readings will be recorded and be available for State Regulator (NYSDEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes will be recorded. If an exceedance of the action level occurs, an Action Limit Report will be completed, identifying the monitoring device location, the measured VOC level, the activity causing the exceedance, meteorological conditions, and the corrective actions taken, as provided in Appendix A. Additionally, the NYSDEC and NYSDOH will be notified within 24 hours of the VOC Action Limit Report generation. Daily monitoring equipment locations and meteorological conditions will also be documented on the daily CAMP Monitoring Location Plan, as shown in Appendix B. All documentation will be kept on file at the Site. Chemical specific air monitoring using similar methods and procedures as outlined for the VOCs baseline sampling will be conducted if perimeter action levels for VOCs are regularly exceeded or nuisance odors (as defined by offsite odor complaints) are prevalent offsite.

1.2 Particulate Monitoring, Response Levels and Actions

Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the Site 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 levels (as defined below and summarized in Table 1). Monitoring equipment will be MIE Data Ram monitors or equivalent. A minimum of one (1) upwind and one (1) downwind monitor will be deployed each day, equipped with an omni-directional sampling inlet and a PM-10 sample head. The data logging averaging period will be set to 15-minutes with time and date stamp recording. Alarm averaging will be set at 90 micrograms per cubic meter ($\mu g/m^3$) above the average background concentration per 15-minute period. This setting will allow proactive evaluation of Site conditions prior to reaching Action Levels of 100 $\mu g/m^3$ above background. The equipment will be outfitted with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration will be visually assessed during all work activities. The monitoring will be used to compare values to the following:

- If the downwind PM-10 particulate level is 100 $\mu g/m^3$ greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the Site, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 $\mu g/m^3$ above the upwind level and provided that no visible dust is migrating from the Site.

- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 $\mu g/m^3$ above the upwind level, work must be stopped, a re-evaluation of activities initiated, and dust suppression techniques modified. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 $\mu g/m^3$ of the upwind level and in preventing visible dust migration.

All 15-minute readings will be recorded and be available for State Regulator (NYSDEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes will be recorded. If an exceedance of the action level occurs, an Action Limit Report will be completed, identifying the monitoring device location, the measured particulate concentration, the activity causing the exceedance, meteorological conditions, and the corrective actions taken, as provided in Appendix A. Daily monitoring equipment locations and meteorological conditions will also be documented on the daily CAMP Monitoring Location Plan, as shown in Appendix B. All documentation will be kept on file at the Site.

1.3 Meteorological Monitoring

Meteorological data consisting of wind speed, wind direction, temperature, barometric pressure, and relative humidity will be collected. At a minimum, a full set of meteorological parameters will be measured and recorded at the start of each workday, noon of each workday, and the end of each workday. Wind direction readings will be utilized to position the VOC and particulate monitoring equipment in appropriate upwind and downwind locations. A Davis Corporation wireless instrument station or equivalent will be used to measure and log the meteorological monitoring data.

1.4 Available Suppression Techniques

During all intrusive activities, vapor suppression foam will be applied routinely to areas where there is active excavation and handling or exposure of grossly contaminated odor-producing soils/materials to preemptively mitigate the potential for odors, VOCs, and particulates to be released into the air. Water misting via controlled fire hose and/or dedicated water truck will be utilized as necessary to mitigate the potential for particulate/dust release in non-contaminated Site work areas and roadways. Excavation methods and material staging and loading methods will be continually evaluated and modified (as necessary) to alleviate the potential for odor, VOCs, and particulate releases.

1.5 Reporting

All recorded monitoring data will be downloaded and field logged daily, including action limit reports (if any) and daily CAMP monitoring location plans. All records will be maintained onsite for NYSDEC/NYSDOH review. The results of the CAMP monitoring will be submitted to the NYSDEC and NYSDOH in monthly CAMP data summary reports that will contain all of the CAMP data collected during the month, daily monitoring station location maps, and copies of the month's Action Limit Reports (ALRs) (if any). A description of all CAMP-related activities will also be included in the Monthly Progress Report submitted to the NYSDEC and NYSDOH. Additionally, all CAMP monitoring records will be included in the overall Remedial Action Completion Report that will be submitted to the NYSDEC and NYSDOH. If an ALR is generated due to VOC exceedances, the NYSDEC and NYSDOH will be notified within 24 hours of the exceedance.

Table 1. Action Limit Summary for VOCs and Particulates, 615-649 West 57th Street , New York, New York

Contaminant	Downwind Action Levels*	Action/Response
Volatile Organic Compounds (VOCs) (Monitoring Via Photoionization Detector and Odor Observation)	< 5 ppm	1. Resume work with continuing monitoring.
	5 ppm < level < 25 ppm	1. Work activities must be temporarily halted, source vapors must be identified, suppression techniques employed to abate emissions and monitoring continued. 2. After these steps, if VOC levels (200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or structure, whichever is less) is below 5 ppm over background, resume work.
	> 25 ppm	1. Identified contributing ground intrusive activities must be halted and vapor suppression techniques must be evaluated and modified until monitoring indicates VOC levels below the action level. 2. After these steps, if VOC levels (half the distance to the nearest potential receptor or structure) are below 5 ppm over background, resume work.
Particulates (Monitoring Via Particulate Meter and Observation)	< 100 ug/m^3	1. If dust is observed leaving the work area, then dust control techniques must be implemented or additional controls used.
	100 ug/m3 < level < 150 ug/m^3	1. Employ dust suppression techniques. 2. Work may continue with dust suppression techniques provided that downwind PM-10 particulate concentration do not exceed 150 ug/m^3 above the upwind level and provided that no visible dust is migrating from the work area.
	> 150 ug/m^3	1. STOP work 2. Re-evaluate activities, modify dust suppression techniques. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 ug/m^3 of the upwind level and in preventing visible dust migration.

* 15-minute running time-weighted average (twa) above background. Particulate readings are based on the respirable (PM-10) fraction. Background readings are taken at upwind locations relative to Work Areas or Exclusion Zones.

COMMUNITY AIR MONITORING PLAN

APPENDIX A

Action Limit Report

ACTION LIMIT REPORT

Project Location: 615-649 West 57th Street, New York, New York

Date: _____ Time: _____

Name: _____

Contaminant: PM-10: _____ VOC: _____

Wind Speed: _____ Wind Direction: _____

Temperature: _____ Barometric Pressure: _____

DOWNWIND DATA

Monitor ID #: _____ Location: _____ Level Reported: _____

Monitor ID#: _____ Location: _____ Level Reported: _____

UPWIND DATA

Monitor ID #: _____ Location: _____ Level Reported: _____

Monitor ID#: _____ Location: _____ Level Reported: _____

BACKGROUND CORRECTED LEVELS

Monitor ID #: _____ Location: _____ Level Reported: _____

Monitor ID#: _____ Location: _____ Level Reported: _____

ACTIVITY DESCRIPTION

CORRECTIVE ACTION TAKEN

COMMUNITY AIR MONITORING PLAN

APPENDIX B

Daily CAMP Monitoring Location Plan

APPENDIX C

Construction Quality Assurance Plan
(CQAP)

April 21, 2010

CONSTRUCTION QUALITY ASSURANCE PLAN

Mid Block #57 Project
615-649 West 57th Street
New York, New York

Prepared for

DURST DEVELOPMENT, L.L.C.
One Bryant Park
New York, New York 10036

ROUX ASSOCIATES, INC.

Environmental Consulting & Management

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1.0 INTRODUCTION

The Construction Quality Assurance Plan (CQAP) has been prepared in accordance with the Remedial Action Work Plan (RAWP) for the Mid Block #57 Project, located at 615-649 West 57th Street in the Borough of Manhattan, New York City, New York (Site). The CQAP describes the site-specific construction quality assurance and control measures that will be performed during remediation and related construction activities that will be implemented at the Site in accordance with the RAWP. The CQAP includes a program for construction observation and testing to verify performance of the remedial construction in accordance with the design specifications. General construction-related Quality Assurance/Quality Control (QA/QC) (e.g., load testing, concrete testing, construction material verification, etc.) will be managed via the overall site development quality control program being implemented by the Construction Manager and the Owner and is not a component of this CQAP.

In general, the work to be addressed by this CQAP consists of the excavation and proper management/disposal of impacted soils and associated construction waters and the concurrent installation of the foundation and engineering controls for the proposed building to be constructed at the Site.

Hunter Roberts Construction Group (HRCG) will be the General Contractor/Construction Manager for the project. HRCG will manage the work using a team of companies (subcontractors) with specific expertise in the respective tasks comprising the project. Roux Associates, Inc. and their affiliated engineering company Remedial Engineering, P.C., (collectively referred to as Roux Associates) will verify that the overall remedy construction is completed in accordance with the RAWP and will conduct perimeter air monitoring in accordance with the Site's Community Air Monitoring Plan (CAMP).

The Remedial Contractor (The Laquila Group Inc.) will manage all excavated materials for proper handling and disposal, manage dewatering, and construct the building sub-grade level. More details of the organizational structure are provided in Section 2.0.

The work to be performed includes:

- Mobilization and site preparation;

- Provision of site security measures;
- Setup and maintenance of all traffic control measures;
- Construction of temporary stormwater and soil erosion and sediment control measures;
- Installation of decontamination facilities;
- Vapor, odor, and dust controls;
- Community air monitoring;
- Site health and safety monitoring;
- Installation of excavation support system and foundation piles;
- Sampling and waste characterization analysis of excavated materials (prior to and during excavation);
- Excavation of impacted soil across the Site to specified depths and surveying of excavation limits;
- Dewatering during excavation and foundation construction;
- Offsite transport and disposal of excavated material;
- Installation of waterproofing/vapor barrier;
- Installation of foundation structural slab and walls;
- Backfill and compaction; and
- Site restoration and demobilization from the Site.

The CQAP includes the following components:

- Section 2.0: Organization/Personnel
- Section 3.0: Submittals
- Section 4.0: Construction Quality Control Testing
- Section 5.0: Project Coordination
- Section 6.0: Recordkeeping/Reporting

The Owner or the Owner's designated representative will provide independent monitoring and verification of compliance with all construction and CQAP requirements. Any concerns will be communicated to the General Contractor/Construction Manager and Remedial Contractor.

2.0 ORGANIZATION/PERSONNEL

It is the responsibility of the General Contractor/Construction Manager to manage the construction project team such that the Mid Block #57 Project Site remedial construction is completed in accordance with the design criteria, construction drawings, and contract documents. Roux Associates will assist the General Contractor/Construction Manager in the review of quality control measures to insure compliance with the RAWP.

The work scope can be segregated into four components:

1. Overall site health and safety;
2. Excavation Support System;
3. Excavation and dewatering; and
4. Foundation construction and waterproofing/vapor barrier installation.

It will be the responsibility of the General Contractor/Construction Manager to provide quality assurance related to the foundation construction to be performed by the Remedial Contractor. With the exception of water management, vapor barrier and excavation support installation, and environmental health and safety (RAWP requirements), QA/QC for the structural component (e.g., piles, concrete mix, etc.) of the foundation construction will not be addressed in this CQAP.

An organizational chart for the CQAP is provided in Figure 1.

2.1 Hunter Roberts Construction Group – General Contractor/Construction Manager

Project Quality Assurance Manager/Site Safety Compliance Manager
Site Construction Health and Safety Officer (SCHSO)

Hunter Roberts Construction Group (HRCG) has been contracted by Durst Development, L.L.C. (Durst), the developer of the Site, as the General Contractor and Construction Manager for the entire project and, as such, will be responsible for the quality assurance of all of the tasks being implemented. The overall Project Quality Assurance Manager & Site Safety Compliance Manager will be briefed daily by the task-specific QA/QC personnel and insure that all components of the site activities are conducted according to the remediation guidelines and the design specifications. The Project Quality Assurance Manager & Site Safety Compliance Manager will be responsible

for verifying that the daily site activities, both environmental and construction-related, are in compliance with all of the safety requirements and regulations governing site activities.

HRCG will be serving in the role of Site Construction Health and Safety Officer (SCHSO). The SCHSO will be responsible for daily enforcement of the construction-related health and safety requirements as defined by the Site-specific Construction Health and Safety Plan (CHASP) and dictated by site conditions and for all construction and heavy equipment related safety matters during the remediation/foundation construction. The SCHSO will be responsible to initiate all daily safety briefings and weekly safety meetings to insure compliance with the CHASP. The role of the SCHSO is further defined in the CHASP. Both the Site Environmental Health and Safety Officer (Roux Associates) and the Construction Health and Safety Officer (HRCG) will report all health and safety related issues to the Project Quality Assurance Manager & Site Safety Compliance Manager**.**

2.2 Roux Associates, Inc. – RAWP and Environmental Monitoring Compliance

Remediation Engineer/Quality Assurance Officer
Quality Control Project Manager
Site Environmental Health and Safety Officer /Perimeter Monitoring Quality Control

Roux Associates has been contracted by Durst to be responsible for assuring compliance with the RAWP and to perform all necessary environmental monitoring. The Remediation Engineer will be in charge of verification that all remediation construction is being conducted in accordance with the provisions of the RAWP. The project manager (PM) for Roux Associates will provide review of quality control measures implemented by the contractors to insure compliance with the Site's remedial objectives. Roux Associates will confirm that all site activities conform to and follow the provisions of the environmental components of the CHASP, the CAMP, and the Site Operations Plan (SOP). All onsite quality control persons identified in the CQAP will provide daily briefings and/or reports to Roux Associates identifying the tasks completed, the remedial measures achieved, and any other issues of concern. Additionally, Remediation Engineer will be responsible for certifying that the remedial construction was completed in conformance with the approved RAWP and/or NYSDEC-approved field changes.

Roux Associates' Site Environmental Health and Safety Officer (SEHSO) will implement the Site's CAMP. The SEHSO will conduct all air monitoring within the intrusive work area and maintain all health and safety-related training and medical surveillance documentation for the site workers. The role of the SEHSO is further defined in the CHASP. In accordance with the CAMP, daily monitoring of the upwind and downwind perimeter will be conducted to insure both the protection of the site workers and surrounding community. Roux Associates will provide ambient air quality monitoring for total volatile organic compounds (VOCs) and airborne particulates during all intrusive Site activities. CAMP monitoring data will be reported to the PM and the SCHSO daily. Action level exceedances will be reported to the PM and/or SCHSO immediately. Exceedances of VOC Action Levels must be reported to the NYSDEC and New York State Department of Health (NYSDOH) within 24 hours.

Roux Associates will also be responsible for collection and analysis of waste characterization samples for all soil and water being disposed of as part of the remediation/foundation construction at the Site. Roux Associates will insure proper handling and shipment of the samples to the designated laboratory, Accutest Laboratories.

2.3 The Laquila Group Inc. – Remedial Contractor

Excavation and Foundation Construction Project Manager

The Laquila Group Inc. (Laquila) has been contracted by HRCG to construct the foundation slab, excavation support system waterproofing/vapor barrier installation, establish the site environmental controls, excavate, manage and properly dispose of soil required to be excavated to facilitate foundation installation. As such, the Excavation/Foundation Construction Project Manager will be responsible for the remediation quality controls related to excavation and disposal of soil, dewatering, and installation of the vapor barrier. The Excavation/Foundation Construction Project Manager shall establish and maintain site controls to insure avoidance of the spread of any impacted material that may be encountered during excavation and limit the exposure of the site workers to VOCs and particulates that may be produced from such material. He will insure that all necessary vapor and particulate suppression techniques and controls are implemented in coordination with the real-time Site health and safety air monitoring being conducted by Roux Associates. The Excavation/Foundation Construction Project Manager will also be responsible for managing all phases of the offsite disposal of impacted soil. He will insure proper packaging and

shipment of all impacted materials to the designated facility. The Excavation/Foundation Construction Project Manager will also be responsible for overseeing compliance with the project specifications, schedule, survey controls, and reviewing, submitting and coordinating shop drawing submittals to HRCG, Roux Associates, and the Owner's representative, as appropriate.

Laquila will implement all necessary quality controls measures and provide the necessary quality control documents in order for Remedial Engineering to be able to certify that the excavation support and the foundation waterproofing/vapor barrier materials will act as effective engineering controls, as required by the remedial objectives outlined in the RAWP. This will include, but not be limited to, materials specification submittals, manufacturer-approved installer certifications, and installation inspection records.

Laquila will provide survey control to verify the limits and extent of excavation. This data will be provided to Roux Associates for inclusion in the Remedial Action Completion Report.

2.4 Environmental Laboratory

An environmental laboratory will be required for soil waste characterization analysis, construction water disposal analysis, and excavation endpoint sampling analysis. The potential also exists for chemical specific air sampling and analysis. Accutest Laboratories, located in Dayton, New Jersey, will be contracted by Roux Associates for all remediation construction-related analytical requirements. Accutest is a NYSDOH Environmental Laboratory Approval Program (ELAP), New Jersey Department of Environmental Protection (NJDEP), and Pennsylvania Department of Environmental Protection (PADEP) certified laboratory. All results will be reported in electronic format and be made available to HRCG and Roux Associates using analytical turnaround times as short as two days for quality assurance purposes.

2.5 Geotechnical/Civil Engineering/SWPPP Inspections

HRCG will coordinate with Langan Engineering & Environmental Services for geotechnical and foundation construction purposes. Quality assurance related to the structural components of the foundation is not an obligation of this CQAP and, therefore, is not discussed further. In addition, Langan will be performing site inspections to confirm adherence to the Stormwater Pollution Prevention Plan (SWPPP).

2.6 Surveying Firm

Montrose Surveying Co., LLP, a New York State-licensed surveying firm, has been subcontracted by HRCG to provide pre-construction Site surveys. Laquila will employ their own surveyor to document their work during construction.

2.7 Designated Soil Disposal Facility

All soils excavated from the Site will be transported by permitted transportation contractors (arranged by HRCG and Laquila) to designated disposal facilities approved to receive historic fill, as well as historic fill that contains petroleum. A list of potential disposal facilities is provided in Appendix A.

3.0 SUBMITTALS

The RAWP requires formal submittals of the HASP, SWPPP, CAMP, SOP, and this CQAP. These will all be submitted to the NYSDEC for approval prior to initiating the work. Copies of all submittals will be maintained onsite for reference by the project managers, project team, and NYSDEC and NYSDOH.

Submittals (e.g., waterproofing/vapor barrier design details) will be made to HRCG and Roux Associates in a timely manner for review and approval prior to use. All submittals must be provided electronically. Hard copies may be provided in addition to the electronic deliverables.

A Submittal Register will be developed and maintained, which details submittal requirements for this Project. The Submittal Register will track the dates of submission, action taken, and date of return. The Submittal Register will be used to control and track all required submittals. Data that will be provided in the Submittal Log will include:

- Submittal identification number;
- Name of company and individual preparing the submittal;
- Description of shop drawings and submittal;
- Date of submittal;
- Submittal return date;
- Action taken; and
- Re-submittal (if necessary).

Submittals will be made as specified in the Contract Specifications.

The following additional quality control submittals will be required by the identified contractor.

3.1 Waste Transporter Qualifications

The Laquila Group shall submit a qualifications package for each vendor contracted to transport waste from the Site to the designated soil disposal facilities. The package shall include proof of insurance and all current necessary waste transport permits for the waste type(s) being transported.

3.2 Waterproofing/Vapor Barrier Quality Control Package

The Laquila Group, in conjunction with the waterproofing/vapor barrier manufacturer, shall submit a comprehensive package including qualifications and experience installing the products proposed, and detailing the means of installation and methods of quality control to protect the membrane during all construction activities and verify optimum performance.

3.3 Water Treatment Quality Control Data and Discharge Permitting

Offsite disposal and/or onsite treatment and discharge to the NYCDEP sewer system under a NYCDEP permit will be performed based on site conditions and logistical considerations. The Laquila Group shall submit the proposed water storage and/or treatment system design and all data that was used for the design basis prior to mobilizing the equipment to the Site. The portable storage or treatment system will need to be equipped with an approved means of secondary containment as added control protection in the event that a spill occurs. Copies of the submitted NYCDEP Sewer Discharge application, NYCDEP-issued permits, and initial treatment sampling results (collected by the foundation contractor) shall also be submitted for review if discharge to the sewer system will be performed. Copies of all waste characterization sampling results from the wastewater and wastewater disposal facility requirements shall be submitted for review by the foundation contractor if offsite disposal will be performed.

3.4 Environmental Laboratories

Roux Associates shall provide formal laboratory qualifications and QA/QC information packages for Accutest and any other analytical laboratories proposed for the project to the NYSDEC or disposal facilities, as required.

4.0 CONSTRUCTION QUALITY CONTROL TESTING

Implementation of quality control testing and measurement will be performed by the contractors conducting the specific site tasks. The quality control officers, defined in Section 2.0, will be responsible for providing documentation of all testing and measurement results to Roux Associates. Roux Associates will be responsible for verifying that all quality control testing has been conducted in compliance with the RAWP and as specified herein.

Prior to initial quality control testing procedures:

1. Verify that the testing procedures are within the manufacturer's recommendations.
2. Verify that the facilities and testing equipment are available and comply with testing standards.
3. Check testing instrument calibrations against certified standards.
4. Verify the recording forms, including all the test documentation requirements have been prepared.

Qualifications of all independent environmental testing firms and laboratories will be submitted to Roux Associates and HRCG for approval prior to any quality control testing and/or lab analysis as an obligation of this CQAP.

Specific task-driven testing/certification obligations are as follows:

- The waterproofing/vapor barrier installation will be certified by the approved applicator that all work was performed in accordance with the manufacturer's recommendations on each day of installation. All barrier sections shall be re-inspected by the applicator following all installation of steel and concrete formwork and certified that no damage is present prior to pouring of concrete. The foundation contractor shall provide the construction manager any warranties for the product and installation.
- All excavated soil and construction-generated water will require waste characterization analyses prior to disposal. Some *in situ* characterization sampling and analysis will be conducted prior to excavation as the excavated impacted soils will be direct-loaded for waste transport and disposal. Waste characterization analysis parameters and frequency are determined by the waste disposal facility's acceptance requirements. All excavated soils will be tested in accordance with the soil disposal facility's analytical acceptance requirements found in Appendix A. Results will be provided to the disposal facility for review.
- The CAMP requires continuous real-time monitoring of VOCs and particulates during all intrusive site activities. This monitoring equipment will be inspected periodically

throughout each day to check and manually record the concentrations of VOCs and particulates and to ensure that the equipment is working properly. The equipment will be repaired, recalibrated, or replaced, as necessary. The periodic measurements will be used to identify any potential risks of offsite migration and potential onsite exposure risks to onsite workers. This monitoring data will be collected and logged for review daily by Roux Associates and made available for regulatory agency review. Action Limit Reports will be completed to document any and all action level exceedances, as defined in the CAMP.

All testing data will be managed in accordance with Section 6.0 and will be included in the Final Engineering Report to be prepared by Remedial Engineering and Roux Associates upon completion of all remedial objectives defined in the RAWP.

5.0 PROJECT COORDINATION

A weekly progress meeting will be conducted to assess the prior week's progress, overall progress to date, quality control requirements, environmental and construction health and safety requirements, and future progress expectations. All parties defined in Section 2.0, and possibly regulatory agency representatives, will be in attendance. This will provide the opportunity for all site tasks to be integrated and discussed collectively and provide for coordination of all site activities to maintain the overall construction schedule (Appendix B). The construction schedule may be modified, if necessary, based on the weekly project progress. Weekly meeting summaries will be distributed and maintained as part of the permanent project record. Routine task meetings will also be conducted on an as-needed basis to insure proper communication between the contractors, tradesman, and supervisory personnel.

6.0 RECORDKEEPING/REPORTS

A tracking system will be created for all project-related contract deliverables. The tracking system will include a unique filing and document numbering system, secure record storage system, and provide for maintaining the appropriate project forms, including:

- document log books;
- drawings;
- specifications;
- addenda;
- contracts;
- written field orders and/or instructions;
- daily activity reports;
- field test records;
- photographs;
- manifest and/or bills of lading;
- safety and accident reports; and
- community air monitoring reports.

Daily activity reports will be maintained by the various contractors for all construction activities. Daily activity reports will include:

- the date;
- the weather;
- personnel;
- major Equipment onsite;
- work activities; and
- future work activities.

Daily activity reports will be submitted to HRCG and Roux Associates electronically prior to the contractor leaving the Site.

In addition, Community Air Monitoring reports will be generated on a daily basis and maintained onsite.

Comprehensive daily activity reports and other above-referenced forms and documents will be included in the Final Engineering Report.

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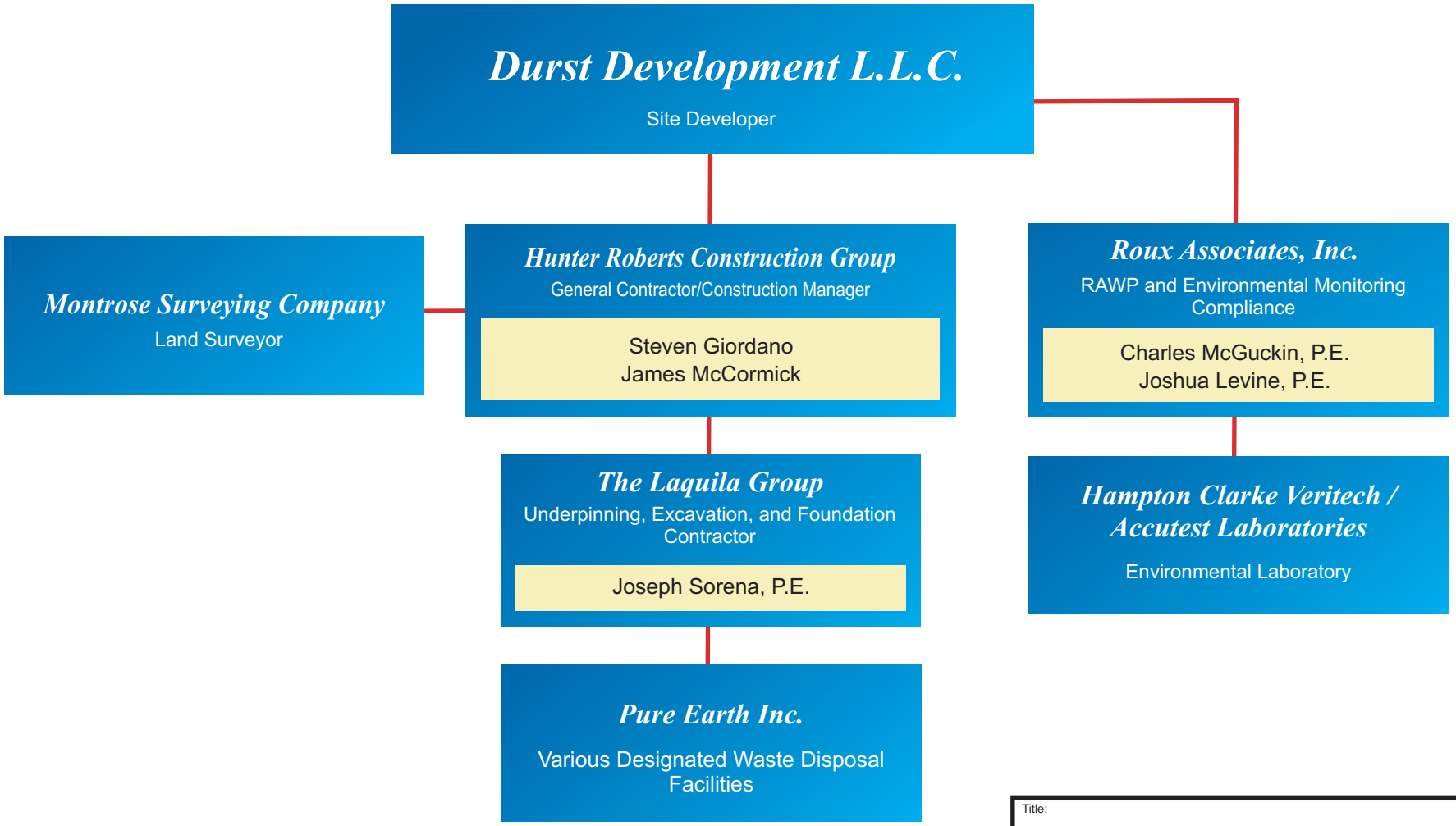


Title:

CONSTRUCTION QUALITY ASSURANCE ORGANIZATION CHART

MID BLOCK #57 PROJECT
NEW YORK, NEW YORK

Prepared for:

DURST DEVELOPMENT L.L.C.

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: J.L.	Date: 23FEB10	FIGURE
Prepared by: B.H.C.	Scale: NONE	1
Project Mgr.: J.L.	Office: NY	
File No.: DUR0314602.CDR	Project No.: 133803Y03	

APPENDIX A

Remediation Contractor's Designated Soil Disposal Facility Permits and Analytical Acceptance Requirements

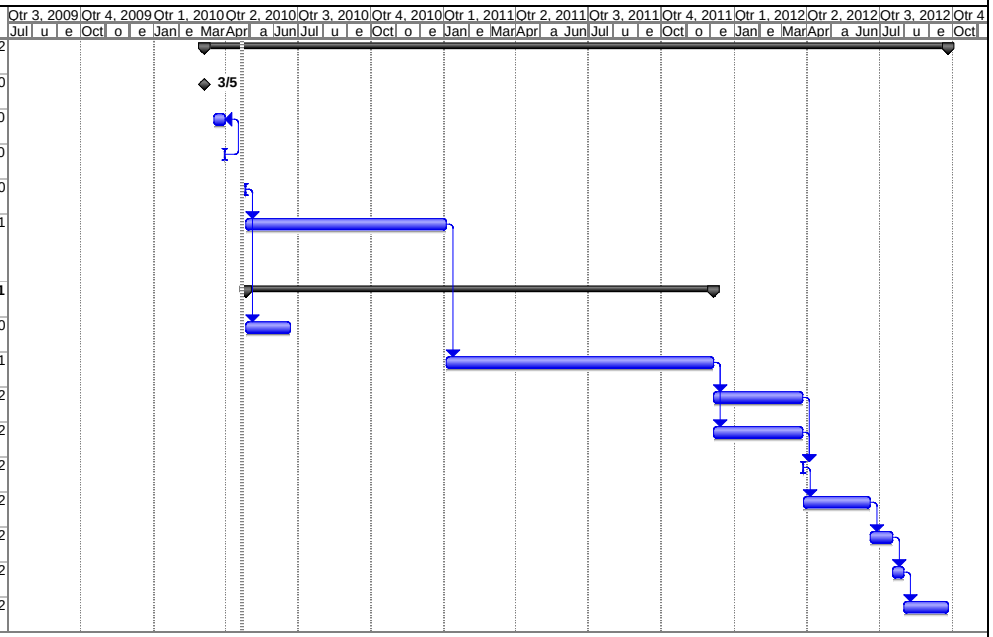
(To Be Provided Under Separate Cover)

APPENDIX B

Project Schedule

Mid Block #57 Project
West 57th Street
March 2010 Mobilization

ID	Task Name	Duration	Start	Finish
1	**ENVIRONMENTAL ENGINEERING FOR NYSDEC APPROVAL**	667 days	Fri 3/5/10	Tue 9/25/12
2	NYSDEC Approval of Final RAWP	0 days	Fri 3/5/10	Fri 3/5/10
3	Fence Permit and Site Mobilization	2 wks	Thu 3/18/10	Wed 3/31/10
4	DEC Kickoff Meeting	1 day	Wed 3/31/10	Wed 3/31/10
5	Foundation/Excavation Permit (1 level basement)	1 day	Mon 4/26/10	Mon 4/26/10
6	Amended Foundation/ Excavation Permit (1.5 level basement) - City Planning Minor Modification anticipated	9 mons	Tue 4/27/10	Mon 1/3/11
7	**Implement RAWP**	**420 days**	**Tue 4/27/10**	**Mon 12/5/11**
8	Sheeting	8 wks	Tue 4/27/10	Mon 6/21/10
9	Excavation, ground water treatment, foundation & vapor barrier	12 mons	Tue 1/4/11	Mon 12/5/11
10	Prepare Site Management Plan with OM&M Plan	4 mons	Tue 12/6/11	Mon 3/26/12
11	Prepare Environmental Easement with Envr. Counsel (if necessary)	4 mons	Tue 12/6/11	Mon 3/26/12
12	Submit Final Engineering Report (FER)	1 day	Tue 3/27/12	Tue 3/27/12
13	Receive NYSDEC comments to FER	3 mons	Wed 3/28/12	Tue 6/19/12
14	Resubmit FER to address comments	1 mon	Wed 6/20/12	Tue 7/17/12
15	Receive NYSDEC approval of FER	2 wks	Wed 7/18/12	Tue 7/31/12
16	Receive Certificate of Completion from NYSDEC	2 mons	Wed 8/1/12	Tue 9/25/12



Project: Mid Block Schedule 4.21.2010
Date: Wed 4/21/10

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

APPENDIX D

Stormwater Pollution Prevention Plan

(SWPPP)

STORMWATER POLLUTION PREVENTION PLAN

625 West 57th Street
Manhattan, New York

Prepared For:

The Durst Organization Inc.
One Bryant Park
New York, New York 10036

Prepared By:

Langan Engineering and Environmental Services, P.C.
21 Penn Plaza, 360 West 31st Street, 8th Floor
New York, New York 10001-2727

26 March 2010
005821601

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

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EXECUTIVE SUMMARY

This Stormwater Pollution Prevention Plan (SWPPP) has been prepared for the foundation construction of the proposed construction of 625 West 57th Street (between 11th Avenue and 12th Avenue), Borough of Manhattan, Block 1105, Lot 14. The proposed building will be six stories with two cellar levels. The building structure will occupy the entire lot with an approximate footprint of 59,000 square feet.

As requested, this SWPPP has been prepared as an appendix to the Remedial Action Work Plan (RAWP) submitted under the New York State Department of Environmental Conservation (NYSDEC) Brownfield's Cleanup Program application. The site storm runoff is tributary to City of New York combined sewers. The combined sewer flow is conveyed to the North River water pollution control plant (WPCP).

The project's scope of work addressed in this SWPPP includes:

- Excavation of cellar levels to footing and pile caps elevations.
- Installation of foundation piles for the future building.

The erosion and sediment control design for this project was prepared using criteria established in the New York State Standards and Specifications for Erosion and Sediment Control (August 2005).

Site Owner

Owner	Contact
The Durst Organization	Jody Durst
One Bryant Park	Telephone: 212-257-6682
New York, New York 10019	

Construction Manager

The construction manager for the construction activities is responsible to install and maintain all stormwater pollution prevention measures proposed in this plan.

Construction Manager	Contact
Hunter Roberts Construction Group	Steven Giordano
2 World Financial Center, 6th Fl.	Telephone: 212-321-6800
New York, NY 10281	Fax: 212-321-6990

SWPPP DEVELOPMENT, REVIEW, AND UPDATE

SWPPP Development

This SWPPP was developed in accordance with accepted engineering practices and provides the following:

- Offers protective measures to minimize sediment transport during construction activities.

- Describes the implementation of control measures that are to be used to reduce pollutant loadings from stormwater runoff during construction activities.

- Identifies potential sources of stormwater pollution from the construction site.

SWPPP Review

This SWPPP will be kept on-site and will be made available for review by the designer, construction manager, subcontractors, and applicable federal, state, and local regulatory agencies that have jurisdiction over the construction site. If necessary, any of these regulatory agencies may notify the owner that the SWPPP is not in compliance with required regulations. If the SWPPP is in need of revision, the construction manager of the project will make the required revisions to the SWPPP within 7 days of notification by the regulatory agency. In addition, the construction manager will submit a written certification that the revisions have been made and will be implemented.

SWPPP Update

When deemed necessary, the owner or construction manager may amend this SWPPP by making a change in design, construction, operation, maintenance, or other item that has an effect on the potential for discharge of pollutants from stormwater runoff associated with the construction activities. Amendment of the SWPPP by the owner or construction manager may also be deemed necessary under the following conditions:

- Field conditions render the erosion and sediment control measures to be ineffective in minimizing pollutants from stormwater discharges.

- To identify a new contractor that will implement any measure of the SWPPP.

The revised SWPPP should be marked as such with the revision date and shall be distributed by the owner or construction manager to the relevant parties.

EXISTING CONDITIONS

Existing Site Description

The site is a mid-block lot between 11th Avenue and 12th Avenue with 295 feet of frontage along West 57th Street and West 58th Street. The total site area is approximately 59,000 square feet.

The historic use of the site was vehicular sales and service conducted at multiple locations on the property until the demolition of these building. This site is currently vacant and covered by earth and concrete rubble surfaces with the exception of a ±3,500 square feet of asphalt paved parking lot in the southeast corner. Combined sewers fronting the site in West 57th Street and West 58th Street convey flow in a westerly direction. The combined sewers are tributary to the North River WPCP. The site generally slopes from the center of the property to the adjacent streets with an approximate range in elevation of +19 to +13, Manhattan Borough Datum (MBD).

Existing Soil Conditions

The following subsurface information was taken from our Geotechnical Engineering Study, dated 7 March 2008, based on 41 borings drilled in/or within 25-ft of the site.

The site is comprised of a surface layer (asphalt, concrete rubble, or topsoil depending on the boring location) followed by a layer of fill, underlain by organic clayey silt, sand and till, a thin layer of decomposed rock and finally bedrock. White and grey gneiss bedrock was encountered at depths varying from 3 to 55 feet below existing grade (+18 to el -41, MBD). Groundwater levels were observed at a depth varying from 10.5 to 15 feet below the existing ground surface (+5.5 to 0, MBD)

PROPOSED CONDITIONS

The proposed earth-moving activities will consist of excavating material for the building cellar level, foundation system, and a building parking area below West 57th street. Soil excavation and removal will follow the requirements included in the RAWP.

SOIL EROSION AND SEDIMENT CONTROL DESIGN

Temporary soil erosion and sediment control measures have been applied to this site to minimize the amount of sediment carried by stormwater runoff and truck hauling during construction activities. The soil erosion and sediment control measures have been designed in accordance with the New York State Standards and Specifications for Erosion and Sediment Control (August 2005). The following summarizes the planned soil erosion and sediment control practices as shown on Drawing C101.00.

Soil Erosion and Sediment Control Practices

- Stabilized Construction Entrance: A stabilized construction entrance will be installed at both entrances; one off West 57th Street and the other off West 58th Street, as shown on Drawing C101.00.

- Dust Control: Excessive dust shall be controlled by water sprinkling.

Construction Schedule

This construction schedule has been prepared to clearly outline the construction and the implementation of the soil erosion and sediment control measures. The construction schedule is also shown on Drawing C101.00.

1. Obtain all required local and state permits and approvals prior to commencing earthwork (e.g. NYCDOB preconstruction permits, sidewalk sheds, site safety, logistics, etc.).

2. Install erosion and sediment perimeter controls, such as construction fence and stabilized construction entrances as shown on Drawing C101.01.

3. Install excavation support and begin excavation in areas shown on C101.00.

4. Export material off-site and collect runoff as specified in the RAWP.

5. Sprinkle areas of exposed soil to control dust, as necessary.

6. Complete excavation and rough grading.

7. Only after the site is stabilized, remove temporary erosion and sediment control structural measures. "Stabilized" shall be defined as completion of the cellar level with the first floor slab installed, completion of the vault and associated backfill operations completed.

Maintenance Program

The construction manager shall be responsible for the installation and maintenance of all temporary erosion and sediment control measures. A log shall be kept, documenting the maintenance of the control measures. Inspections shall be done under the supervision of a licensed Professional Engineer or Landscape Architect, or a Certified Professional in Erosion and Sediment Control.

Any material removed from a temporary control measure shall follow specifications outlined in the RAWP.

All maintenance methods described below are in direct accordance with the New York State Standards and Specifications for Erosion and Sediment Control.

- Stabilized Construction Entrances: The stabilized construction entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment tRAWPping device. Periodic inspection and needed maintenance shall be provided after each rain.

- Dust Control: Maintain dust control measures through dry weather periods until all disturbed areas are stabilized.

NON-STORMWATER DISCHARGES

Possible sources of non-stormwater discharges associated with the construction activity are identified below. The Contractor is to follow specifications outlined in the RAWP for proper storage and removal of non-stormwater discharges. The following are additional stormwater pollution prevention measures for non-stormwater discharges.

1. Cleaning water for construction vehicles and equipment shall be diverted to the temporary and approved erosion and sediment control measures. Chemicals and detergents shall not to be used.

2. The construction manager is to coordinate with the owner for identifying areas on-site for construction vehicle transit (i.e. – haul roads, contractor trailers and parking areas, etc.) or equipment staging which shall be monitored and where runoff can be controlled.

3. Water used for dust control measures shall be applied using proper quantities and equipment. No chemical additives shall be used.

4. Water main flushings, hydrostatic test water, fire test water, and chlorination test water shall be directed to the control measures on the site. Turbid water is to be detained to allow sufficient sedimentation time (minimum of 24 hours). Chlorinated water is to be detained until the water is dechlorinated (minimum of 24 hours).

5. Concrete trucks shall be washed out in an area approved of by the owner or owner's representative. All runoff from these activities shall be directed to the on-site control measures.

INSPECTION DURING CONSTRUCTION

The construction manager is to provide a qualified professional to conduct an assessment of the site prior to the commencement of construction. The qualified professional is to be a person knowledgeable in the principles and practices of erosion and sediment controls. The qualified professional shall be under the supervision of a licensed professional engineer, Certified Professional in Erosion and Sediment Control (CPESC), or soil scientist qualified in these regards. The qualified profession shall certify in an inspection report that the appropriate erosion and sediment control measures described within this SWPPP have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction. These inspections are to be completed at least every seven days and within 24 hours of the end of a rainfall event of 0.5 inches or greater. A typical inspection report form for conducting the inspections is included in Appendix C. The construction manager is to post on-site a summary of site inspection activities on a monthly basis.

Generally the inspection report is to include the inspector's name, date, findings of the inspection, notes, and actions taken to repair or replace defective control measures. Copies of the inspection report are to be distributed by the construction manager to the owner and the owner's representative. Based on the results of the inspection, the pollution prevention measures identified in the Soil Erosion and Sediment Control Design, Non-Stormwater Discharges, and Inventory for Pollution Prevention Plan sections of this SWPPP are to be revised and implemented as appropriate by the construction manager within seven calendar days following the date of the inspection. Further mitigation measures are to be taken by the construction manager if warranted. Each inspection report is to remain on file at the site as part of the SWPPP. The construction manager shall post at the site, in a publicly accessible location, a summary of the site inspection activities on a monthly basis.

Prior to the completion of work, the general contractor shall have the qualified professional perform a final site inspection. The qualified professional shall certify that the site has undergone final stabilization using either vegetative or structural stabilization methods and that all temporary erosion and sediment control measures are no longer required.

Winter Conditions

During non-winter months, periodic inspections are to occur as described above until construction is completed and the site is stabilized. During winter operation (i.e. suspended soil disturbance, site stabilization), however, the owner may reduce inspection frequencies in accordance with the NYSDEC's Winter Site Stabilization/Site Inspections for Construction Sites. Under winter conditions, inspection are to be performed at least once every 30 days and within 24 hours of the end of a rainfall event of 0.5 inches or greater. Non-winter inspection frequencies are to resume upon resumption of construction activities, but no later than March 15th.

INVENTORY FOR POLLUTION PREVENTION PLAN

The following materials or substances listed below are expected to be present on-site during construction, but are not limited to:

- Concrete and concrete products
- Paints
- Bituminous concrete products
- Wood
- Diesel and gasoline fuels
- Silicon (sealants)
- Steel

Spill Prevention

The following are material management practices that are to be used by the construction manager to reduce the risk of spills or other accidental exposure of materials and substances to storm water runoff during construction.

1. Materials stored on-site with potential for spillage are to be stored in a neat and orderly manner in their appropriate containers. Materials with a potential for spillage shall be stored under a roof or other enclosure when possible.

2. Products are to be kept in their original containers with the original manufacturer's label.

3. Substances are not to be mixed with one another unless recommended by the manufacturer.

4. Prior to disposal, a product is to be completely used up or its container is to be resealed whenever possible.

5. Manufacturers' recommendations for proper use and disposal are to be followed.

6. During periodic inspections, the proper use and disposal of materials is to be recorded on the inspection form.

7. On-site vehicles are to be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage of petroleum products. Petroleum products are to be stored in closed containers that are clearly labeled. Used oils are to be disposed of properly.

8. Materials are to be brought on-site in the minimum quantities required to limit on-site storage.

9. Paint containers are to be tightly sealed and properly stored when not required for use. Excess paint, solvents, and other similar products shall not be discharged to the storm sewer system. These items are to be properly disposed of according to manufacturers' instructions or state and local regulations.

10. Proper precautions are to be taken so materials do not spill onto public thoroughfares. If materials are spilled in these areas they are to be removed immediately so that they do not enter the surface and subsurface drainage systems.

11. Oil containers are to have appropriate secondary containment. If total oil storage on-site exceeds a cumulative total of 1,320 gallons, then a Spill Prevention Control and Countermeasure (SPCC) plan must be prepared by the owner.

If necessary, the contractor is to prepare a SPCC plan to cover proposed activities.

Spill Control Practices

The following practices are to be adhered to by the construction manager for spill prevention and cleanup, in addition to requirements set forth in the RAWP.

1. Spills of petroleum, toxins, or hazardous material are to be reported to the owner and appropriate state or local government agencies immediately, regardless of size.

2. Manufacturers' recommended methods for spill cleanup are to be clearly posted at the site. Site personnel are to be made aware of the procedures and the location of the information and cleanup supplies.

3. Materials and equipment necessary for spill cleanup are to be kept in designated material storage areas on-site. Equipment and materials are to include but not be limited to brooms, dust pans, mops, rags, gloves, goggles, spill control materials, sand, sawdust, and trash containers specifically for this purpose.

4. Spills are to be cleaned up immediately after discovery.

5. The spill area is to be kept well ventilated and personnel are to wear appropriate protective clothing to prevent injury from contact with hazardous substances.

6. A spill report is to be completed and filed in the SWPPP and is to include a description of the spill, the cause of the spill, and the corrective actions taken.

Additional Stormwater Controls

The following is a description of additional controls and measures that are to be implemented at the site by the construction manager to minimize pollutant transport.

1. Solid waste disposal dumpsters and containers are to be covered and emptied regularly. Solid waste is to be disposed of properly in accordance with local regulations.

2. Portable toilets are to be installed and cleaned regularly with their contents properly disposed of.

3. Building materials are to be properly stored and contained on-site.

CERTIFICATIONS AND FORMS

The following certifications forms are to be reviewed, understood, filled out, and signed by the appropriate personnel at the appropriate time:

- The Pre-Construction Meeting Documents provided in Appendix B shall be filled out by the owner.

- The Operator's Certification provided in Appendix B is to be signed by the owner.

- The Qualified Professional's Credentials & Certification provided in Appendix B is to be signed by the qualified professional that will supervise site inspections and oversee installation of erosion control measures for this project.

- The Construction Duration Inspections form provided in Appendix C is to be filled out and signed by the qualified professional that will perform site inspections and oversee installation of erosion control measures for this project.

- The Monthly Summary of Site Inspection Activities form provided in Appendix D is to be filled out and signed by the owner.

- The Contractor's Certification Statement provided in Appendix E is to be filled out and signed by the construction manager.

- The Erosion and Water Quality Control Identification form provided in Appendix E is to be filled out by the construction manager.

- The Certificate of Issuance provided in Appendix E is to be filled out and signed by the construction manager prior to performing any site work.

- Records of site work and site stabilization are to be kept on the Construction Stabilization form provided in Appendix E and is to be filled out by the construction manager as necessary.

- The Certificate of Change by the Contractor provided in Appendix E is to be filled out and signed by the construction manager upon implementation of any requested changes to the SWPPP by the owner, owner's representative, or any local authority having jurisdiction over the project site. Changes to the SWPPP are only to be made when the plan or contractor's implementation proves to be ineffective in eliminating or significantly minimizing pollutants from the construction activity.

- The Post-Construction Owner's Certification Statement provided in Appendix F is to be filled out and signed by the owner after construction of all permanent erosion and sediment control structures and permanent water quality structures have been completed.

- The Final Stabilization and Retention of Records form provided in Appendix F is to be filled out and signed by the qualified professional that will perform site inspections and oversee installation of erosion control measures for this project.

- The Certificate of Return provided in Appendix F is to be filled out and signed by the construction manager after final stabilization of the site has been completed.

RETENTION OF RECORDS

The following are to be retained by the owner at the site and for a period of three years from the date the site is finally stabilized:

- SWPPP

- Contract Documents including contract drawings and technical specifications

- Stormwater inspections and maintenance reports

- Contractor Certification

- SWPPP Certification Statement of Satisfactory Completion

Correspondence regarding stormwater practices

REFERENCES

New York State Standards and Specifications for Erosion and Sediment Control. New York State Department of Environmental Conservation, August 2005.

New York State Stormwater Management Design Manual, New York State Department of Environmental Conservation, August 2003.

APPENDIX A

Instructions to the Owner and Construction Manager

Instructions to the Owner

The following are instructions to be adhered to by the owner:

- Read this entire document to become familiar with all aspects of the SWPPP associated with this project.

- The owner shall fill out all forms with the appropriate information and sign all certifications in the appendices of this SWPPP as required. The owner shall read these forms and certifications carefully, prior to construction, and fill out and sign at the appropriate time.

- The owner has the ultimate responsibility to make sure that all items specified in this document are carried out properly.

- This document needs to be kept on file at the work trailer on-site.

- The owner shall retain the final copy of this document, complete with all plans, reports and records for at least 3 years from the date that the site is stabilized.

Instructions to Construction Manager

The following are instructions to be adhered to by the construction manager:

- Read this entire document to become familiar with all aspects of the SWPPP associated with this project.

- Retain a copy of this SWPPP at the construction site from the date of initiation of construction activities to the date of final stabilization.

- The construction manager shall fill out all forms with the appropriate information and sign all certifications in the appendices of this SWPPP as required. The construction manager shall read these forms and certifications carefully, prior to construction, and fill out and sign at the appropriate time. Each certification is to be completed and signed by a president, treasurer or vice president or any person who performs similar policy or decision making functions and by the on-site individual having responsibility for the firm and each one of the subcontractors implementing erosion control measures. Each subcontractor shall complete their portion of the forms and certifications as necessary.

- Inspect the disturbed and stabilized areas as indicated on the Construction Duration Inspection form throughout the course of the project.

- The construction manager shall at all times properly operate and maintain all facilities and systems of treatment and control which are installed or used at the work site to achieve compliance with the SWPPP. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures and proper operation and maintenance requires the operation of backup or auxiliary facilities or similar systems, installed when necessary to achieve compliance with the conditions of the SWPPP.

- The construction manager and subcontractors shall complete the enclosed information within this SWPPP and implement the measures contained herein and in the associated contract documents. The construction manager is responsible for all subcontractors employed by the construction manager and must oversee compliance with the SWPPP.

- Changes to the SWPPP are to be recorded in the on-site copy of the SWPPP and implemented by the construction manager within seven days of notification that the plan or the construction manager's implementation of the plan does not meet one or more minimum requirements. Any revision in design, construction, operation, maintenance, or any new contractor or subcontractor identified to implement a measure is to be reflected by the construction manager in the on-site plan records on the same day that the changes take place.

- Should the owner, owner's representative, state director (or authorized representative) or any local authority having jurisdiction deem that the plan or the construction manager's implementation proves to be ineffective in eliminating or significantly minimizing pollutants or achieving the general objectives of controlling pollutants from

the construction activity the construction manager shall take any necessary action to correct the problem. If not provided, the construction manager is to request a written identification of the provisions of the plan or permit not being met and which provision of the plan require modification. Upon implementation, the construction manager is to provide a Certification of Change form that the requested changes have been made to the individuals providing the identification. The written notification and a copy of the certification of change are to be incorporated in the on-site plan records.

- The contractor shall allow the state director or an authorized representative of EPA, the state, or an authorized representative of a local municipality with jurisdiction regarding storm discharges, upon presentation of credentials and other documents as may be required by law, to:

    1. Enter the premises.
    2. Have access to and copy at reasonable times any records.
    3. Inspect at reasonable times all facilities or equipment.

APPENDIX B

Pre-Construction Meeting Documents

PRE-CONSTRUCTION MEETING DOCUMENTS

Project Name __Avenues School - 625 West 57th Street _____
Name of Owner __ The Durst Organization Inc_____
Construction Manager __Hunter Roberts Construction Group_____

Preamble to Site Assessment and Inspections

The Following Information to Be Read by All Person's Involved in The Construction of Stormwater Related Actives:

The Construction Manager agrees to have a qualified professional[1] conduct an assessment of the site prior to the commencement of construction[2] and certify in this inspection report that the appropriate erosion and sediment controls described in the SWPPP have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction.

Prior to the commencement of construction, the Preparer shall certify in this site logbook that the SWPPP has been prepared in accordance with the State's standards and meets all Federal, State and local erosion and sediment control requirements.

When construction starts, site inspections shall be conducted by the qualified professional at least every 7 calendar days within 24 hours of the end of a storm event of 0.5 inches or greater (Construction Duration Inspections), except as otherwise required during "winter frequency". The construction manager shall maintain a record of all inspection reports in this site logbook. The site logbook shall be maintained on site and be made available to the permitting authorities upon request. The construction manager shall post at the site, in a publicly accessible location, a summary of the site inspection activities on a monthly basis (Monthly Summary Report).

The construction manager shall have a qualified professional perform a final site inspection. The qualified professional shall certify that the site had undergone final stabilization[3] using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed. In addition, the construction manager must identify and certify that all permanent structures described in the SWPPP have been constructed and provide the owner(s) with an operation and maintenance plan that ensures the structure(s) continuously functions as designed.

1 "Qualified Professional means a person knowledgeable in the principles and practice of erosion and sediment controls, such as a Certified Professional in Erosion and Sediment Control (CPESC), soil scientist, licensed engineer or someone working under the direction and supervision of a licensed engineer (person must have experience in the principles and practices of erosion and sediment control).
2 "Commencement of construction" means the initial removal of vegetation and disturbance of soils associated with clearing, grading or excavating activities or other construction activities.
3 "Final stabilization" means that all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

Owner's Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. Further, I hereby certify that the SWPPP meets all Federal, State, and local erosion and sediment control requirements. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to Section 210.45 of the Penal Law.

Name (please print): _____
Title: _____ **Date:** _____
Address: _____
Phone: _____ **Email:** _____
Signature: _____

Preparer's Certification

"I certify that the SWPPP has been prepared in accordance with the State's standards and meets all Federal, State and local erosion and sediment control requirements."

Name (please print): _____
Title: _____ **Date:** _____
Address: **_360 West 31st Street, 21 Penn Plaza** _____
Phone: **__212-479-5437**_____ **Email:** _____
Signature: _____

Qualified Professional's Credentials & Certification

"I hereby certify that I meet the criteria set forth in the SWPPP to conduct site inspections for this project and that appropriate erosion and sediment controls described in the SWPPP and as described in the following Pre-Construction Site Assessment Checklist have been adequately installed or implemented, ensuring the overall preparedness of this site for the commencement of construction."

Name (please print): _____
Title: _____ **Date:** _____
Address: _____
Phone: _____ **Email:** _____
Signature: _____

APPENDIX C

Construction Duration Inspections

CONSTRUCTION DURATION INSPECTIONS

Directions:
Inspection Forms will be filled out during the entire construction phase of the project.
Required Elements:

(1) On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14-day period;

(2) Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization;

(3) Indicate all disturbed site areas that have not undergone active site work during the previous 14-day period;

(4) Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of sediment storage volume (for example, 10 percent, 20 percent, 50 percent);

(5) Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and containment systems (sediment basins and sediment RAWPs). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated risers pipes to pass water; and

(6) Immediately report to the Owner any deficiencies that are identified with the implementation of the SWPPP.

CONSTRUCTION DURATION INSPECTIONS **PAGE 1 OF _____**

SITE PLAN/SKETCH

_____ _____

Inspector (Print name) **Date of Inspection**

_____ _____

Qualified Professional (print name) **Qualified Professional Signature**

The above signed acknowledges that, to the best of his/her knowledge, all information provided on the forms is accurate and complete.

Maintaining Water Quality

Yes No NA

[ ] [ ] [ ] Is there an increase in turbidity causing a substantial visible contrast to natural conditions?

[ ] [ ] [ ] Is there residue from oil and floating substances, visible oil film, or globules or grease?

[ ] [ ] [ ] All disturbance is within the limits of the approved plans.

[ ] [ ] [ ] Have receiving lake/bay, stream, and/or wetland been impacted by silt from project?

Housekeeping

1. General Site Conditions

Yes No NA

[ ] [ ] [ ] Is construction site litter and debris appropriately managed?

[ ] [ ] [ ] Are facilities and equipment necessary for implementation or erosion and sediment control in working order and/or properly maintained?

[ ] [ ] [ ] Is construction impacting the adjacent property?

[ ] [ ] [ ] Is dust adequately controlled?

Runoff Control Practices

1. Excavation Dewatering

Yes No NA

[ ] [ ] [ ] Upstream and downstream berms (sandbags, inflatable dams, etc.) are installed per plan.

[ ] [ ] [ ] Clean water from upstream pool is being pumped to the downstream pool.

[ ] [ ] [ ] Sediment laden water from work area is being discharged to a silt-tRAWPping device.

[ ] [ ] [ ] Constructed upstream berm with one-foot minimum freeboard.

Soil Stabilization

1. Topsoil and Spoil Stockpiles

Yes No NA

[ ] [ ] [ ] Stockpiles are stabilized with vegetation and/or mulch.

[ ] [ ] [ ] Sediment control is installed at the toe of the slope.

2. Revegetation

Yes No NA

[ ] [ ] [ ] Temporary seedings and mulch have been applied to idle areas.

[ ] [ ] [ ] 4 inches minimum of topsoil has been applied under permanent seedings.

CONSTRUCTION DURATION INSPECTIONS **PAGE 3 OF ____**

Sediment Control Practices

1. Stabilized Construction Entrance

Yes No NA

[ ] [ ] [ ] Stone is clean enough to effectively remove mud from vehicles.
[ ] [ ] [ ] Installed per standards and specifications?
[ ] [ ] [ ] Does all traffic use the stabilized entrance to enter and leave site?
[ ] [ ] [ ] Is adequate drainage provided to prevent ponding at entrance?

2. Silt Fence

Yes No NA

[ ] [ ] [ ] Installed on Contour, 10 feet from toe of slope (not across conveyance channels).
[ ] [ ] [ ] Joints constructed by wRAWPping the two ends together for continuous support.
[ ] [ ] [ ] Fabric buried 6 inches minimum.
[ ] [ ] [ ] Post are stable, fabric is tight and without rips or frayed areas.

Sediment accumulation is ___% of design capacity.

Note: Not all erosion and sediment control practices are included in this listing. Add additional pages to this list as required by site specific design. Construction inspection checklists for post-development stormwater Management practices can be found in Appendix F of the New York Stormwater Management Design Manual.

CONSTRUCTION DURATION INSPECTIONS

Modifications to the SWPPP (To be completed as described below)

The Construction Manager shall amend the SWPPP whenever:
1. There is a significant change in design, construction, operation, or maintenance which may have a significant effect on the potential for the discharge of pollutants to the waters of the United States and which has not otherwise been addressed in the SWPPP; or
2. The SWPPP proves to be ineffective in;
    a. Eliminating or significantly minimizing pollutants from sources identified in the SWPPP and as required by this permit; or
    b. Achieving the general objectives of controlling pollutants in stormwater discharges from permitted construction activity; and
3. Additionally, the SWPPP shall be amended to identify any new contractor or subcontractor that will implement any measure of the SWPPP.

Modification & Reason:

APPENDIX D

Monthly Summary Reports

Monthly Summary of Site Inspection Activities

Name of Facility: **625 West 57th Street**	**Today's Date:**	**Reporting Month:**
Location:		
Name and Telephone Number of Site Inspector:		

Date Of Inspection	Regular / Rainfall Based Inspection	Name of Inspector	Items of concern

Owner Certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to Section 210.45 of the Penal Law."

_____ _____

Signature of Owner Name of Owner Date

APPENDIX E

Construction Manager & Subcontractor Certifications and Forms

CONSTRUCTION MANAGER & SUBCONTRACTOR CERTIFICATION STATEMENT

I. SITE INFORMATION

Construction Site Name:

Site Location: 625 West 57th Street

II. CONTRACTORS INFORMATION

Contracting Firm _____

Contracting Firm Address _____

Telephone Number (s) _____
_____

Contact (s) 1) _____

2) _____

3) _____

III. STORMWATER MEASURES

Contractor is responsible for but not limited to the following storm water measures.

1. _____ 4. _____ 7. _____

2. _____ 5. _____ 8. _____

3. _____ 6. _____ 9. _____

IV. CERTIFICATION

"I certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP for the construction site identified in such SWPPP as a condition of authorization to discharge storm water. I also understand that it is unlawful for any person to cause or contribute to a violation of water quality standards."

V. SIGNATURE: _____ Date: _____

Name (print): _____

Title : _____

EROSION AND WATER QUALITY CONTROL IDENTIFICATION

The construction manager and/or subcontractors that will implement each erosion control measure must be identified:

IDENTIFICATION

NAME OF CONSTRUCTION MANAGER AND/OR SUBCONTRACTOR	MEASURE TO BE IMPLEMENTED

The construction manager and subcontractor identified must sign a copy of the certification statement on page 32.
This identification does not reassign or remove responsibility for all measures as agreed to the contract documents. The construction manager is responsible for all subcontractors.

CERTIFICATE OF ISSUANCE

As directed by the Owner's representative, a copy of the storm water pollution prevention plan will be retained at the site, along with all signed statements, reports and schedules contained herein for completion by the construction manager. Upon completion the storm water pollution prevention plan and all records shall be returned to the owner.

Date of issuance:

_____

Name:

_____

Title:

_____

Firm:

_____

Signature:

_____

Received from:

Name/ Title:

_____

Address/ Phone No:

_____

Signature:

_____

Inquiries in regards to copies of pollution prevention plan by either the State Director or any local agency having jurisdiction to be directed to owner's project representative.

CONSTRUCTION STABILIZATION

The Construction Manager shall initiate stabilization measures as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. When construction activity is precluded by snow cover, stabilization measures shall be initiated as soon as practicable. When construction activity will resume within 21 days from when activity ceased, then stabilization measures do not have to be initiated on that portion of the site by the 14th day after construction activity temporarily ceased.

THE CONSTRUCTION MANAGER IS RESPONSIBLE TO KEEP THE FOLLOWING RECORDS:

MAJOR GRAVITY ACTIVITY	PORTION OF THE SITE	DATE COMMENCED	DATE CEASED (PERMANENTLY OR TEMPORARILY)	DATE STABILIZATION MEASURES INITITATED

THESE MUST BE KEPT UP TO DATE AND ON-SITE FOR INSPECTION AT ANYTIME.

CERTIFICATE OF CHANGE BY THE CONSTRUCTION MANAGER

To:

Langan Engineering & Environmental Services

_____

_____

Project: Avenues School

Site Address: _____

_____

_____

Enclosed, please find your written notification of the following provision(s) of the SWPPP not being met:

_____

_____

_____

_____

Provisions of the plan requiring modification:

_____

_____

_____

Action taken to modify plan to bring project into compliance:

_____

_____

_____

_____

Date Completed: _____

Name: _____

Title: _____

Contracting Firm: _____

Address: _____

_____

_____

Phone Number: _____

Signature: _____

Received By:

Name: _____

Title: _____

Firm: _____

Address: _____

_____

_____

Phone Number: _____

Signature: _____

APPENDIX F

End of Construction Documents

Post-Construction Owner's Certification Statement

Project: Avenues School

Location: 625 West 57th Street

"I certify to the best of my knowledge and belief that the permanent erosion and sediment control structures along with all permanent water quality structures have been constructed as described and in conformance with the SWPPP and all requirements set forth in the SWPPP have been met."

Signature: _____

Print Name: _____

Company: _____

Address: _____

_____

_____

FINAL STABILZATION AND RETENTION OF RECORDS

A. Qualified Professional Certification - The construction manager shall have the qualified professional perform a final site inspection.

Yes No NA

[ ] [ ] [ ] Final site drainage will prevent erosion, concentrated flows to adjacent properties,
uncontrolled overflow, and ponding.

[ ] [ ] [ ] Conveyance systems are stabilized.

[ ] [ ] [ ] Channels and streambanks are seeded at the outlet points.

"I hereby certify that the site has undergone final stabilization. Final stabilization means that all soil disturbing activities have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures. Further, all temporary erosion and sediment controls (such as silt fence) not specified for permanent erosion control have been removed.

Name of Qualified Professional:

_____

Signature:

_____

B. Retention of Records - The Owner shall retain copies of SWPPPs and any reports and records of all data for a period of at least three years from the date that the site is finally stabilized.

C. Maintenance of SWPPP and any reports at the construction site – The construction manager shall retain a copy of the SWPPP at the construction site from the data of initiation of construction activities to the date of final stabilization.

CERTIFICATE OF RETURN

As directed by the Owner's representative, the copy of the storm water pollution prevention plan retained at the site, along with all signed statements, reports and schedules contained herein for completion by the contractor are to be returned to the owner. The owner shall retain the plan, reports and records of all data for a period of three years from the date that the site is stabilized. This period may be extended by the State director at any time upon written notification.

Date of site stabilization:

_____

Name:

_____

Title:

_____

Firm:

_____

Signature:

_____

Received by:

Name/ Title:

_____

Address/ Phone No:

_____

Signature:

_____

Inquiries in regards to copies of pollution prevention plan by either the State Director or any local agency having jurisdiction to be directed to owner's project representative.

SOURCE: PORTION OF USGS CENTRAL PARK QUANDRANGLE MAP, 1967, PHOTOREVISED 1979.

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES
21 Penn Plaza, 8th Floor New York, NY 10001
P: 212.479.5400 F: 212.479.5444
www.langan.com
NEW JERSEY PENNSYLVANIA **NEW YORK** CONNECTICUT FLORIDA NEVADA
NJ Certificate of Authorization No: 24GA27996400

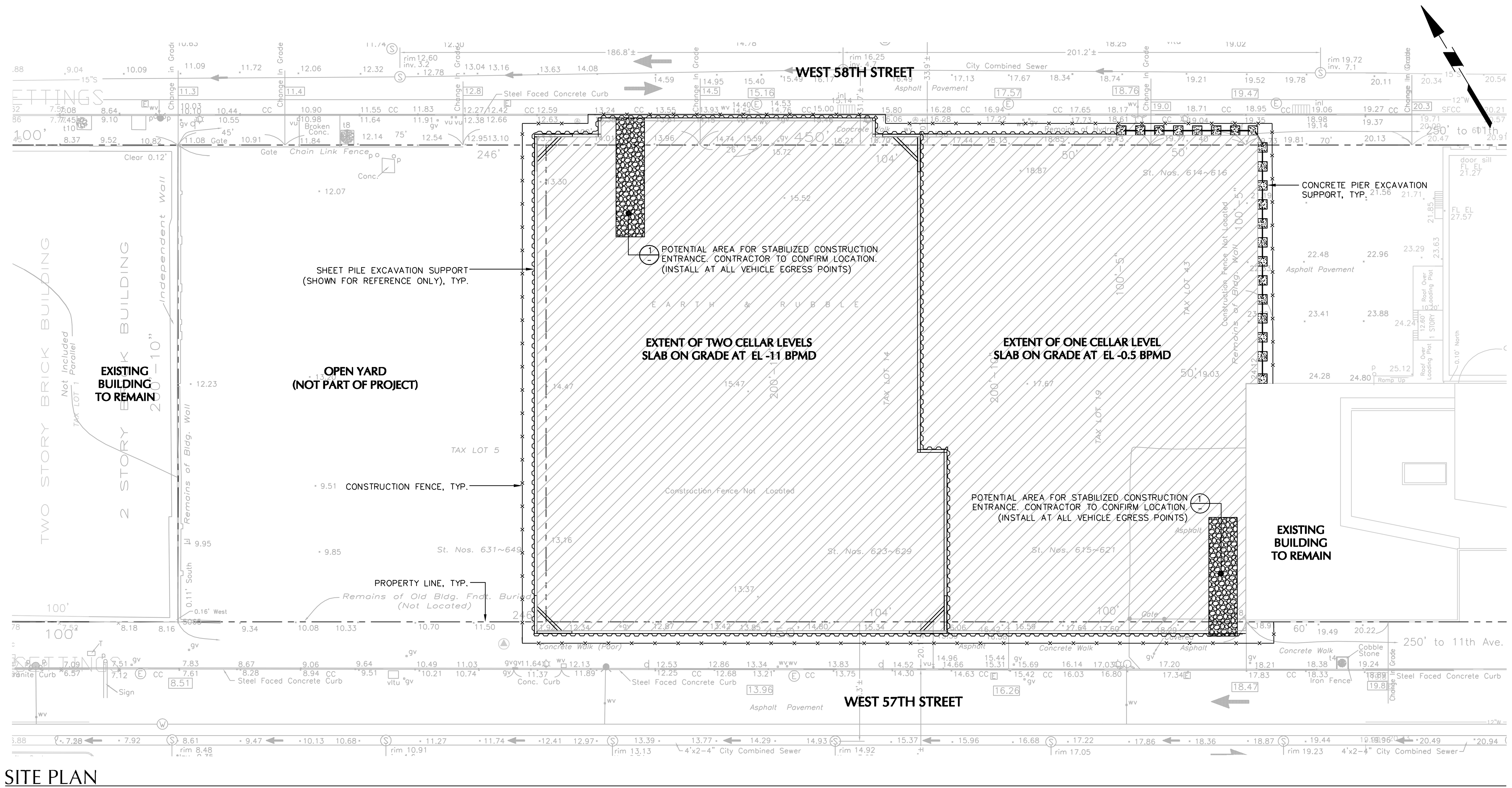
Project 625 West 57th Street

SITE LOCATION MAP

MANHATTAN NEW YORK

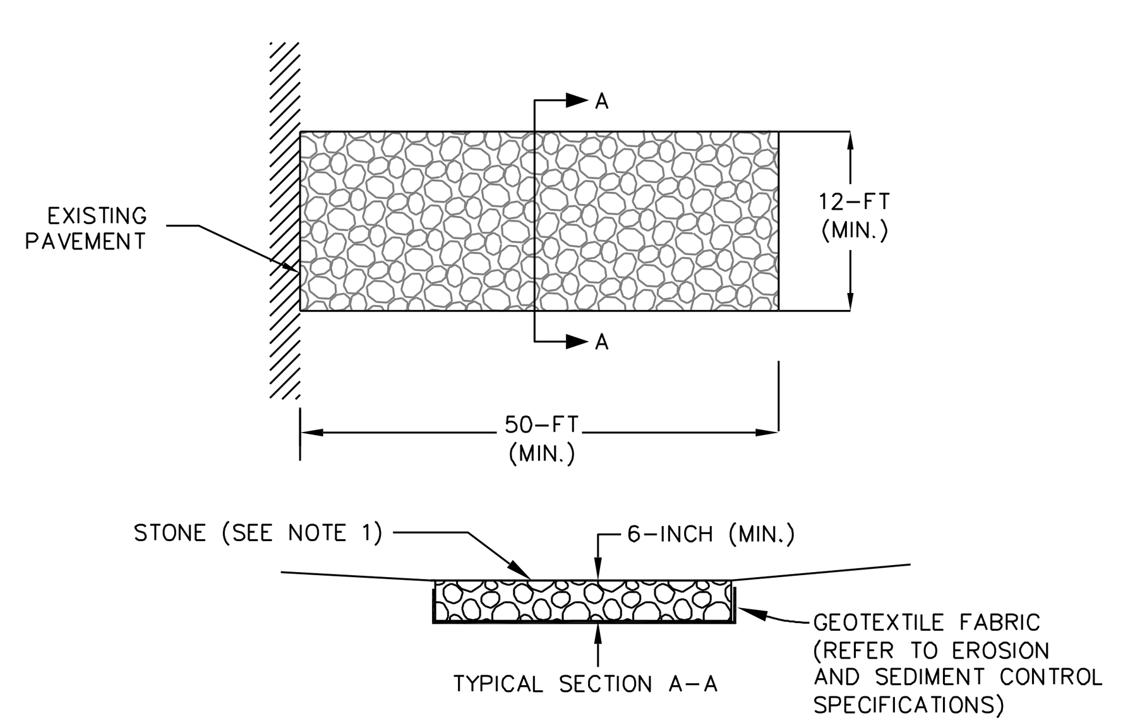
Project No.	Date	Scale	Dwg. No.
170086501	10/01/09	N.T.S.	1

Filename: U:\data5\170086501\Cadd Data – 170086501\Dwg\Site Location Map.dwg Date: 3/26/2010 Time: 18:08 User: jrauscher Style Table: Langan.stb Layout: A Size Sheet (Bottom)



SITE PLAN

SCALE 1"=30'



STONE SIZE – USE 1-4 INCH STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.

THICKNESS OF STONE – NOT LESS THAN SIX INCHES.

LENGTH OF STABILIZED CONSTRUCTION ACCESS – NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY)

WIDTH – TWELVE FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR FOOT IF SINGLE ENTRANCE TO SITE.

GEOTEXTILE – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE. (REFER TO EROSION AND SEDIMENT CONTROL SPECIFICATIONS)

SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.

MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO THE PUBLIC RIGHT-OF-WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.

WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

1/- STABILIZED CONSTRUCTION ACCESS DETAIL

SCALE: NTS

EROSION AND SEDIMENT CONTROL GENERAL NOTES

1. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE PROPER CONSTRUCTION, STABILIZATION, AND MAINTENANCE OF ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENTATION CONTROL MEASURES AND RELATED ITEMS INCLUDED WITHIN THIS PLAN.
2. ALL EROSION AND SEDIMENT CONTROLS SHALL REMAIN IN PLACE UNTIL THE TRIBUTARY AREA TO THE CONTROL IS COMPLETELY STABILIZED. THE SITE IS DEFINED AS STABILIZED WHEN THE FOUNDATION SLAB IS COMPLETELY INSTALLED AND THERE IS NO EXPOSED SOIL.
3. ALL CONTROLS SHALL BE CHECKED DAILY AND AFTER STORM EVENTS TO ENSURE THEY ARE IN PROPER WORKING ORDER.
3. CONTRACTOR SHALL REPLACE AT NO EXTRA PAYMENT ANY CONTROL DEVICE THAT IS NOT FUNCTIONING PROPERLY AS DIRECTED BY CONTRACTING OFFICER OR AUTHORIZED REGULATORY PERSONNEL.
5. ALL CONSTRUCTION VEHICLES HAULING MATERIALS EITHER INTO OR OUT OF THE CONSTRUCTION AREA SHALL HAVE A SECURED TARP OVER MATERIALS TO PREVENT SEDIMENT POLLUTION OF PUBLIC ROADWAYS, IN ACCORDANCE WITH LOCAL REGULATIONS.
6. OBTAIN ALL REQUIRED LOCAL AND STATE PERMITS AND APPROVALS PRIOR TO COMMENCING EARTHWORK OPERATIONS.
7. THE CONTRACTOR SHALL AT ALL TIMES MAINTAIN THE SITE, ADJACENT SIDEWALK, AND ROADWAY IN A CLEAN MANNER FREE FROM MUD AND SEDIMENT.

CONSTRUCTION SCHEDULE

1. OBTAIN ALL LOCAL AND STATE PERMITS AND APPROVALS PRIOR TO COMMENCING WORK.
2. INSTALL STABILIZED CONSTRUCTION ENTRANCES AT ALL ENTRY/EXIT POINTS TO/FROM THE SITE.
3. PERFORM EXCAVATION AND FOUNDATION CONSTRUCTION.
4. IMPLEMENT DUST CONTROL, AS NECESSARY, THROUGHOUT CONSTRUCTION
5. TEMPORARY CONTROLS SHALL BE REMOVED WHEN THE SITE IS STABILIZED. THE SITE IS DEFINED AS STABILIZED WHEN THE FOUNDATION SLAB IS COMPLETELY INSTALLED AND THERE IS NO EXPOSED SOIL.

EROSION AND SEDIMENT CONTROL MEASURES

THE NYSDEC REQUIRES THE IMPLEMENTATION OF PROTECTIVE MEASURES TO MINIMIZE THE EFFECT OF EROSION AND SEDIMENT MOVEMENT DUE TO CONSTRUCTION ACTIVITIES INVOLVING SOIL DISTURBANCE. TEMPORARY SOIL EROSION AND SEDIMENT CONTROL MEASURES WILL BE APPLIED TO MINIMIZE THE AMOUNT OF SEDIMENT TRACKED FROM THE SITE. WHERE APPLICABLE, THE TEMPORARY MEASURES HAVE BEEN DESIGNED IN ACCORDANCE WITH THE NYSDEC STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (AUGUST 2005). THE FOLLOWING SUMMARIZES THE PROPOSED MEASURES:

STABILIZED CONSTRUCTION ENTRANCES: STABILIZED CONSTRUCTION ENTRANCES WILL BE INSTALLED AT LOCATIONS DETERMINED BY THE GENERAL CONTRACTOR. LIKELY LOCATIONS FOR THE CONSTRUCTION ENTRANCES HAVE BEEN SHOWN ON THIS PLAN, HOWEVER THE GENERAL CONTRACTOR MAY RELOCATE THEM IF NECESSARY.

DUST CONTROL: DUST CONTROL SHALL BE APPLIED TO THE SITE TO PREVENT MOVEMENT OF DUST FROM DISTURBED SOIL SURFACES. THE CONTRACTOR SHALL SPRINKLE WATER, APPLY POLYMER ADDITIVES, OR USE AN EQUIVALENT, NYSDEC-APPROVED PRACTICE, WHEN NECESSARY TO CONTROL DUST.

MAINTENANCE SCHEDULE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.

ALL CONTROL MEASURES SHALL BE MAINTAINED ON A DAILY BASIS AND AFTER EACH SIGNIFICANT RAINFALL EVENT. THIS DAILY PROCEDURE SHALL BE DOCUMENTED IN A LOG BOOK. ANY MATERIAL REMOVED FROM A TEMPORARY CONTROL MEASURE WILL BE INCORPORATED BACK INTO THE EARTHWORK AS FILL ON THE SITE. SUCH MATERIAL SHALL BE DISTRIBUTED ON-SITE IN SUCH A WAY AS TO NOT CHANGE DRAINAGE PATTERNS AS THEY EXIST ON THAT DAY.

ALL MAINTENANCE METHODS DESCRIBED BELOW ARE IN DIRECT ACCORDANCE WITH THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL.

STABILIZED CONSTRUCTION ENTRANCES: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY OR STREETS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL AGGREGATE. ALL SEDIMENT SPILLED, DROPPED, OR WASHED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.

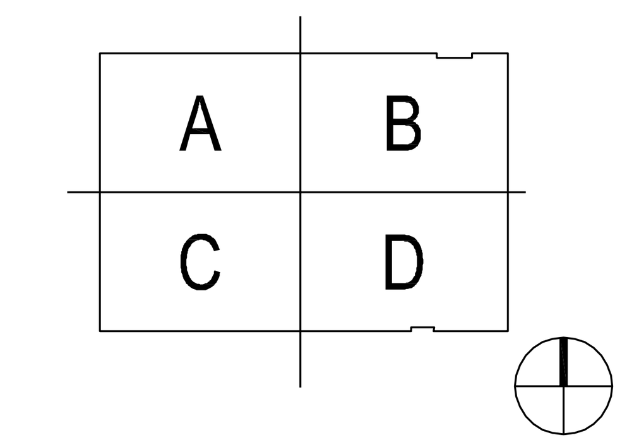
VEHICLE WASH-DOWN: WHEN NECESSARY, WHEELS MUST BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH AGGREGATE, WHICH DRAINS ON-SITE OR DISCHARGED TO AN APPROVED SEDIMENT TRAPPING DEVICE.

DUST CONTROL: MAINTAIN DUST CONTROL MEASURES THROUGH DRY WEATHER PERIODS UNTIL ALL DISTURBED AREAS ARE STABILIZED.

REFERENCES

1. TOPOGRAPHIC AND BOUNDARY SURVEY PERFORMED BY MONTROSE SURVEYING, LAST UPDATED 8/27/09.
2. LOGISTICS PLAN, AVENUES SCHOOL, BY HUNTER ROBERTS CONSTRUCTION GROUP, DATES AUGUST 18, 2008.

NO.	DATE	REVISION
2	12.15.09	PROGRESS SET
1	10-27-2009	ADDENDUM NO. 1



KEY PLAN

Perkins Eastman
115 FIFTH AVENUE
NEW YORK, NY 10003
T. 212.353.7200
F. 212.353.7676

Owner:
Avenues
767 3rd Avenue, 31st Floor
New York, NY 10017

Construction Manager:
Hunter Roberts Construction Group
2 World Financial Center
New York, NY 10281

Civil:
Langan Engineering and Environmental Services
21 Penn Plaza
360 West 31st Street, 8th Floor
New York, NY 10001

Structural / MEP:
Buro Happold Consulting Engineers
100 Broadway
New York, NY 10005

Expeditor:
Milrose Consultants, Inc.
498 Seventh Avenue, 8th Floor
New York, NY 10018

Landscape:
Dirtworks
200 Park Avenue South
New York, NY 10003

Curtain Wall Consultant:
Israel Berger & Associates
232 Madison Avenue
New York, NY 10016

Acoustics:
JaffeHolden
114-A Washington Street
Norwalk, CT 06854

Security:
Schirmer Engineering
1000 Milwaukee Avenue
Glenview, IL 60025

Theatre:
Schuler Shook
750 N. Orleans Avenue
Chicago, IL 60610

LEED Consultant:
Viridian Energy & Environmental, LLC
50 Washington Street
Norwalk, CT 06854

Food Service:
Cini-Little International, Inc.
211 East 43rd Street, Suite 304
New York, NY 10017

PROJECT TITLE:

Avenues THE WORLD SCHOOL

57th Street
New York, New York

PROJECT No.: 34990.00

DOB No.:

DRAWING TITLE:

SOIL EROSION AND SEDIMENT CONTROL PLAN

SCALE: 1"=30' PAGE: OF

C-101.00

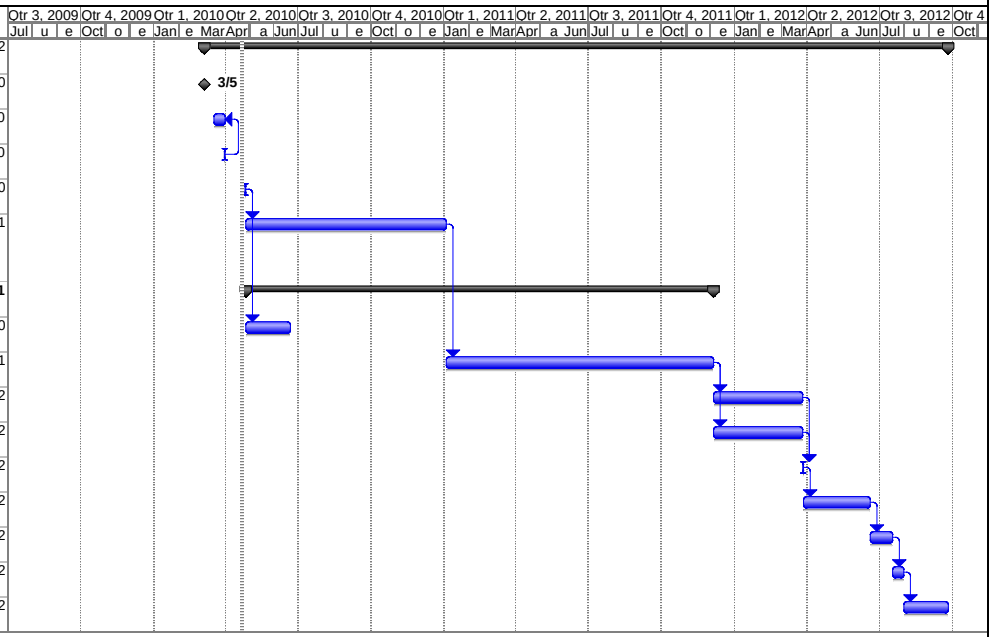
SEAL

APPENDIX E

Construction Schedule

Mid Block #57 Project
West 57th Street
March 2010 Mobilization

ID	Task Name	Duration	Start	Finish
1	**ENVIRONMENTAL ENGINEERING FOR NYSDEC APPROVAL**	667 days	Fri 3/5/10	Tue 9/25/12
2	NYSDEC Approval of Final RAWP	0 days	Fri 3/5/10	Fri 3/5/10
3	Fence Permit and Site Mobilization	2 wks	Thu 3/18/10	Wed 3/31/10
4	DEC Kickoff Meeting	1 day	Wed 3/31/10	Wed 3/31/10
5	Foundation/Excavation Permit (1 level basement)	1 day	Mon 4/26/10	Mon 4/26/10
6	Amended Foundation/ Excavation Permit (1.5 level basement) - City Planning Minor Modification anticipated	9 mons	Tue 4/27/10	Mon 1/3/11
7	**Implement RAWP**	**420 days**	**Tue 4/27/10**	**Mon 12/5/11**
8	Sheeting	8 wks	Tue 4/27/10	Mon 6/21/10
9	Excavation, ground water treatment, foundation & vapor barrier	12 mons	Tue 1/4/11	Mon 12/5/11
10	Prepare Site Management Plan with OM&M Plan	4 mons	Tue 12/6/11	Mon 3/26/12
11	Prepare Environmental Easement with Envr. Counsel (if necessary)	4 mons	Tue 12/6/11	Mon 3/26/12
12	Submit Final Engineering Report (FER)	1 day	Tue 3/27/12	Tue 3/27/12
13	Receive NYSDEC comments to FER	3 mons	Wed 3/28/12	Tue 6/19/12
14	Resubmit FER to address comments	1 mon	Wed 6/20/12	Tue 7/17/12
15	Receive NYSDEC approval of FER	2 wks	Wed 7/18/12	Tue 7/31/12
16	Receive Certificate of Completion from NYSDEC	2 mons	Wed 8/1/12	Tue 9/25/12



Project: Mid Block Schedule 4.21.2010
Date: Wed 4/21/10

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone