5/28/2008

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION
VCP/BCP REMEDIAL ACTION WORK PLAN APPROVAL ROUTING SLIP

TO: Sal Ervolina, Assistant Division Director
FROM: Bob Schick, Bureau Director

NAME	APPROVAL SIGNATURE	DATE
Project Manager: Douglas Macneal		5/28/08
Section Chief/RHWRE: Gardiner Cross		5/28/08

DATE: 5/28/2008

RE: **Site Name** CE - Mt.Vernon MGP **Site Code** V00569
City MOUNT VERNON **County** Westchester

Attached is:
vSite Briefing Report
vNYSDOH Concurrence Letter

The selected remedy is protective of human health and the environment and complies with State requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable.

Approvals:

☒ Bureau Director Approval: _____ 5/29/08
Bureau Director's Name Date

☐ Division Director Approval:

A Briefing
☐ is not necessary for this project.
☐ has been scheduled for_____

cc: Sal Ervolina
Dale Desnoyers

_____ _____
Sal Ervolina Date

_____ _____
Dale Desnoyers Date

Final Distribution:
ec: Dale Desnoyers
Regional Director
Gardiner Cross
Project Attorney
DOH Project Manager
Douglas Macneal

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION
Site Briefing Report

Site Code	V00569	**Site Name**	CE - Mt.Vernon MGP		
Classification	A	**Address**	334-360 South 7th Ave.'s		
Region	3	**City**	MOUNT VERNON	**Zip**	10550
Latitude	40.90	**Town**	Mt Vernon (c)	**Project Manager**	Douglas Macneal
Longitude	-73.84	**County**	Westchester	**Estimated Size**	

Significant Threat - **Yes** - **No** - **NA**

Intended Use:

Site Description

The site is the location of a former manufactured gas plant. The plant was situated on West 5th street, between South 8th and South 9th Avenues.

The site is presently occupied by multi-unit apartment buildings and several two-family homes.

The Remedial Investigation work is complete and MGP residual contamination has been found across the site.

The Remedial Action Selection Report has been finalized and is approvable. DOH Concurrence was received on March 12, 2008. The public comment period closed on May 17. The local City Council were the only commenters. Their comments did not affect the remedy selection.

Materials Disposed at Site	Quantity Disposed
	UNKNOWN
BENZENE	UNKNOWN
NAPHTHALENE	UNKNOWN
	UNKNOWN

Analytical Data Available for :

Applicable Standards Exceeded for:

Assessment of Environmental Problems

During the site chartacterization, significant MGP impacts were encountered at the site. Coal tar has been observed in numerous soil borings. The site and several offsite areas are contaminted with MGP waste and MGP related contaminants, specically PAHs and BTEX. The contaminted media include surface soil, subsurface soil, soil vapor, and groundwater.

Assessment of Health Problems

Currently, private homes and apartment buildings occupy the site. One small area of low level, contaminated surface soils is fenced which restricts public access and prevents exposures. Exposure to site-related contaminants via drinking groundwater is not likely since homes and businesses near the site are connected to public water. Sub-slab soil vapor and indoor air samples collected from on- and off-site buildings indicate the presence of low level organic compounds in the indoor air at one

basement location where an open sump is located. The sump was sealed, thereby minimizing the potential for inhalation of contaminants. Once the site remedy has been fully implemented, potential exposures to site contaminants will be mitigated.

Remedy Description and Cost

Remedy Description for Operable Unit 01

The remedy for the overall site includes the excavation and backfill of source material around the existing buildings to depths reaching roughlky 18 feet BGS. Remaining contamination under the buildings would be addressed with ISCO technologies. Limited surface soil removals will also occur. Groundwater will be subject to oxygen injection and long-term monitoring. Sub-slab depressurization units will be installed in the apartment buildings on-site to prevent vapor intrusion. The private homes adjacent to the site are being examined for buy-out to facilitate a total removal underneath them. Institutional controls, in the form of an environmental easement, will include GW use restrictions, long-term monitoring and inspection, and land use restrictions.

Total Cost

Capital Cost

OM&M Cost

Issues / Recommendations

Remedy Description for Operable Unit 01A

IRM removal of purifier wastes from front yard conducted in 2003.

Total Cost

Capital Cost

OM&M Cost

Issues / Recommendations

VOLUNTARY CLEANUP PROGRAM
DECISION DOCUMENT

CE-Mount Vernon MGP Site
Mount Vernon, New York
Site No. V00569-3

Statement of Purpose and Basis

This Voluntary Cleanup Program (VCP) Decision Document presents the remedy identified by the Department of Environmental Conservation (Department) for the CE- Mount Vernon MGP site.

Description of the Site

The former manufactured gas plant (MGP) site is located in the city of Mount Vernon in Westchester County and is comprised of two parcels. Both parcels are located between South Eighth and South Ninth Avenues, with one parcel located on the north side of West Fifth Street and a second parcel on the south side of West Fifth Street. The site is in a residential neighborhood with several apartment buildings and two-family homes located on the footprint of the former MGP. An MGP operated at this location from about 1868 through 1918, the site and former MGP structures are shown on the attached Figure 1.

Nature and Extent of Contamination

Contamination was identified by the Remedial Investigation (RI) of this site, which represents a threat to public health and the environment, requiring the remedial program address the contamination identified below.

Nature of contamination: The RI identified the presence of coal tar in the subsurface soil. Contaminants of concerns in the tar include polycyclic aromatic hydrocarbons (PAHs) and the volatile compounds benzene, toluene, ethylbenzene and xylene (BTEX). There is further evidence of purifier waste, another by-product of manufactured gas production.

Extent of contamination: Significant amounts of coal tar, a non-aqueous phase liquid (NAPL), are present in the subsurface of the northern parcel in the area of the former gas holder, tar wells, tar ammonia wells and retort house. Some coal tar also extends to the southeast. Another area of coal tar contamination, along with purifier waste, was identified under private homes on South Ninth Avenue.

Groundwater sampling also identified groundwater contamination with MGP constituents in close proximity to the coal tar with VOC impacts extending off-site to the southeast beneath the West Fifth Street and South Eighth Avenue intersection. The extent of contamination is shown on the attached Figures 2 and 3.

Description of Remedy

Based on the results of the Remedial Alternatives Selection Report and the criteria identified for evaluation of alternatives, the Department has selected the remedy for this VCP site. The components of the remedy, shown on the attached Figure 4, are as follows:

1. Soil containing source material and related subsurface structures that are accessible will be excavated and removed from the site for proper disposal at a permitted facility. Coal tar was detected in and around the remnants of the foundations of several former MGP structures at the site. Specifically, the structures where coal tar was detected were the former 30,000 cubic foot gas holder, tar and ammonia wells and tar and ammonia structure. These structures were all located on the portion of the former gas works north of West 5th Street, referred to as the Northern Parcel. A demarcation boundary will be placed in the bottom of the excavation prior to backfilling with clean fill material, as defined by the Department..

2. Soil containing coal tar residue present in the subsurface beneath the private homes at 345, 347, 349 and 35 1 South 9th Avenue will be considered for excavation and removal, if access to sufficient area of these properties collectively is available. Under this contingency approach, it is anticipated that if Con Edison obtains the necessary access, the houses and related garage structures will be demolished, the affected soil excavated, and the excavation backfilled to grade with clean material, as defined by the Department. The intent of this alternative will be to achieve an "unrestricted use" cleanup. If, after the commencement of excavation, it is determined that this degree of cleanup is not feasible, then only soil exhibiting visible evidence of coal tar residue will be excavated and disposed off site and the excavation backfilled. In addition, engineering and institutional controls, as outlined in Items 7 ,8, and 9 below, will be implemented. Final disposition of the remediated property will be determined once the cleanup has been completed.

3. Remaining coal tar impacted soils that are not accessible, such as those beneath buildings and roadways, will be chemically degraded in place through in-situ chemical oxidation or ISCO. This process entails injecting an oxidizing agent into the affected subsurface soil, which then reacts with the contamination and oxidizes the more volatile and soluble organic components to carbon dioxide and water. The organic components that are not degraded, and which may remain in place after the oxidation process, would typically be heavy tar-like substances with low mobility, similar to those found in roofing tar and asphalt pavement. This material will be managed by the engineering and institutional controls, as outlined in Items 7, 8, and 9 below.

4. In efforts to enhance the biodegradation rate of the organic chemicals dissolved in the groundwater downgradient from the site, oxygen will be introduced through a series of injection wells aligned in a linear array across the plume. Application of this technology will effectively increase the dissolved oxygen concentrations in groundwater, which will stimulate microbes in the aquifer which use the oxygen as an energy source during cell metabolism breaking down the dissolved organic compounds, which they use as a source of carbon. The by-products of this natural process are carbon dioxide and water.

5. A soil vapor ventilation system will be installed beneath the foundation slab of the two buildings were coal tar impacts will remain in the sub surface, as a mitigation measure against the potential for organic chemical residues in soil and or groundwater to migrate from the subsurface and enter the overlying buildings. The venting system will consist of a vent pipe connected to a electric fan. The vent pipe will be installed through or beneath the slab. During operation of the venting system, the fan extracts the sub-slab soil vapor and vents it through a vent pipe outside the roof of the buildings.

6. Areas of on-site surface soil that contained concentrations of semi-volatile organic compounds (SVOCs) that were detected at concentrations above those detected in off-site or background surface soils, will be excavated and removed from the site and properly disposed. A demarcation boundary will be placed in the bottom of the excavation prior to backfilling with clean soil.

7. A site management plan which will include the following institutional and engineering controls: (a) management of the final cover system to restrict excavation below the soil cover's demarcation layer, pavement, or buildings. Excavated soil will be tested, properly handled to protect the health and safety of workers and the nearby community, and will be properly managed in a manner acceptable to the Department; (b) continued evaluation of the potential for vapor intrusion for any buildings developed on the site, including provision for mitigation of any impacts identified; (c) provisions for the continued proper operation and maintenance of the components of the remedy; and (d) groundwater monitoring for organic compounds will be performed to assess the progress of the oxygen enhanced natural attenuation mechanisms in reducing the concentrations of the dissolved organic compounds at and downgradient from the site.

8. Institutional controls, in the form of an environmental easement or deed restriction will be filed and will require (a) compliance with the approved site management plan; (b) restricting the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by NYSDOH; and (c) the property owner to complete and submit to the Department a periodic certification of institutional and engineering controls.

9. Con Edison will provide a periodic certification of institutional and engineering controls, prepared and submitted by a professional engineer or such other expert acceptable to the Department, until the Department notifies the property owner and or Con Edison in writing

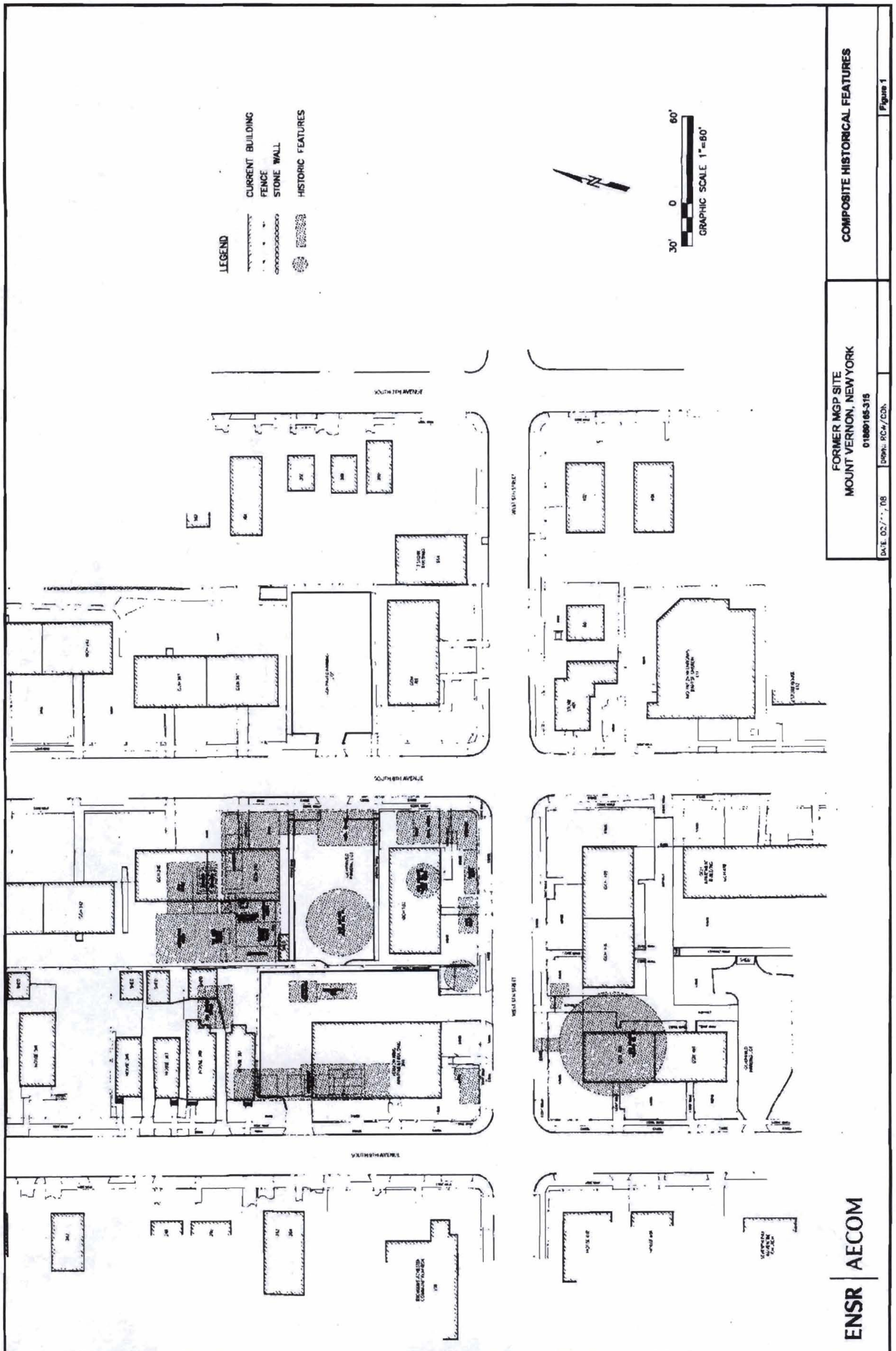
that this certification is no longer needed. This submittal will: (a) contain certification that the institutional controls and engineering controls put in place are still in place and are either unchanged from the previous certification or are compliant with Department-approved modifications; (b) allow the Department access to the site; and (c) state that nothing has occurred that would impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the site management plan unless otherwise approved by the Department.

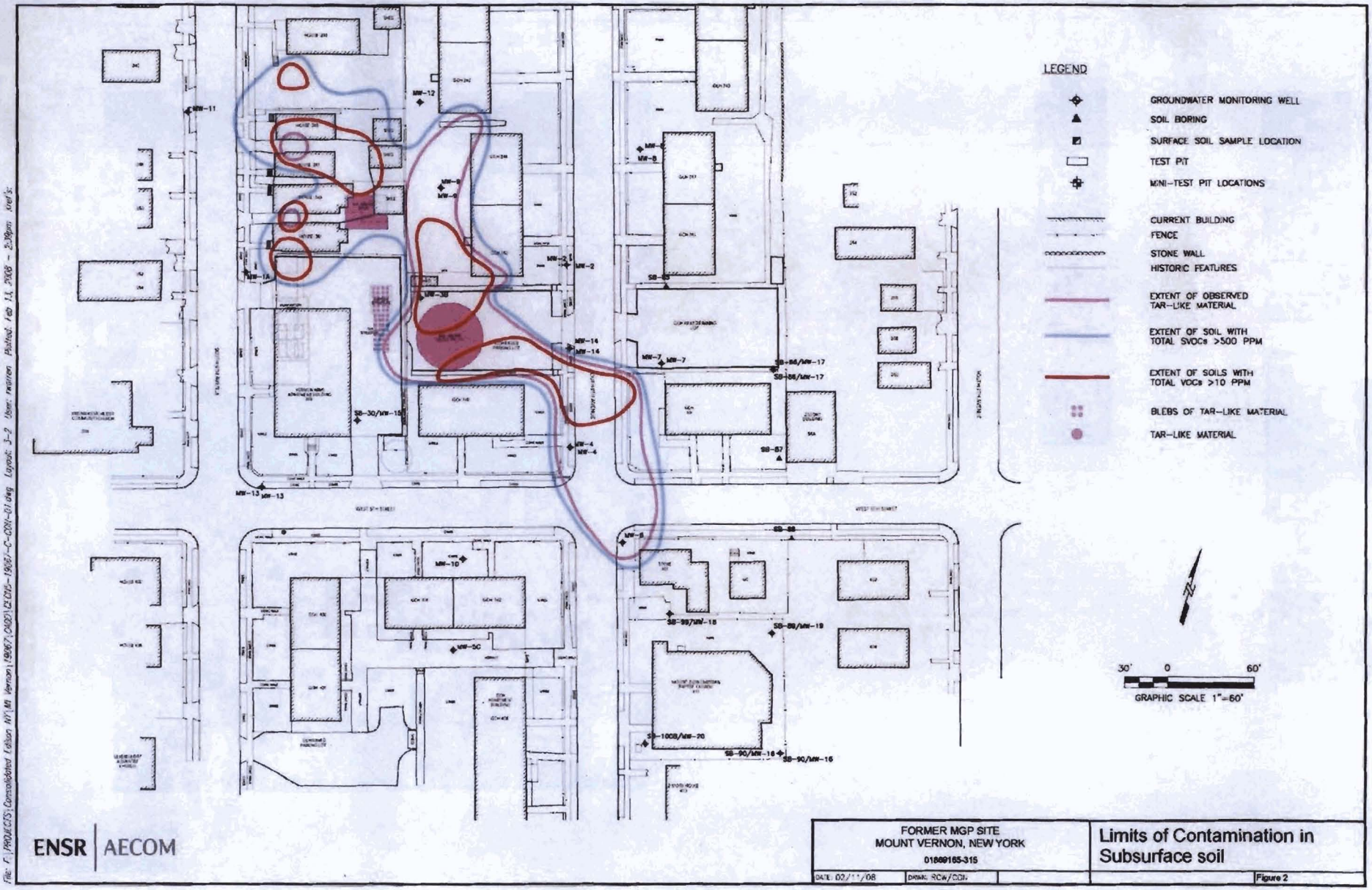
Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action and will allow for the identified use of the site. This remedy utilizes permanent solutions and alternative treatment to the maximum extent practicable, and satisfies the preference for remedies that reduce remove or otherwise treat or contain sources of contamination and protection of groundwater.

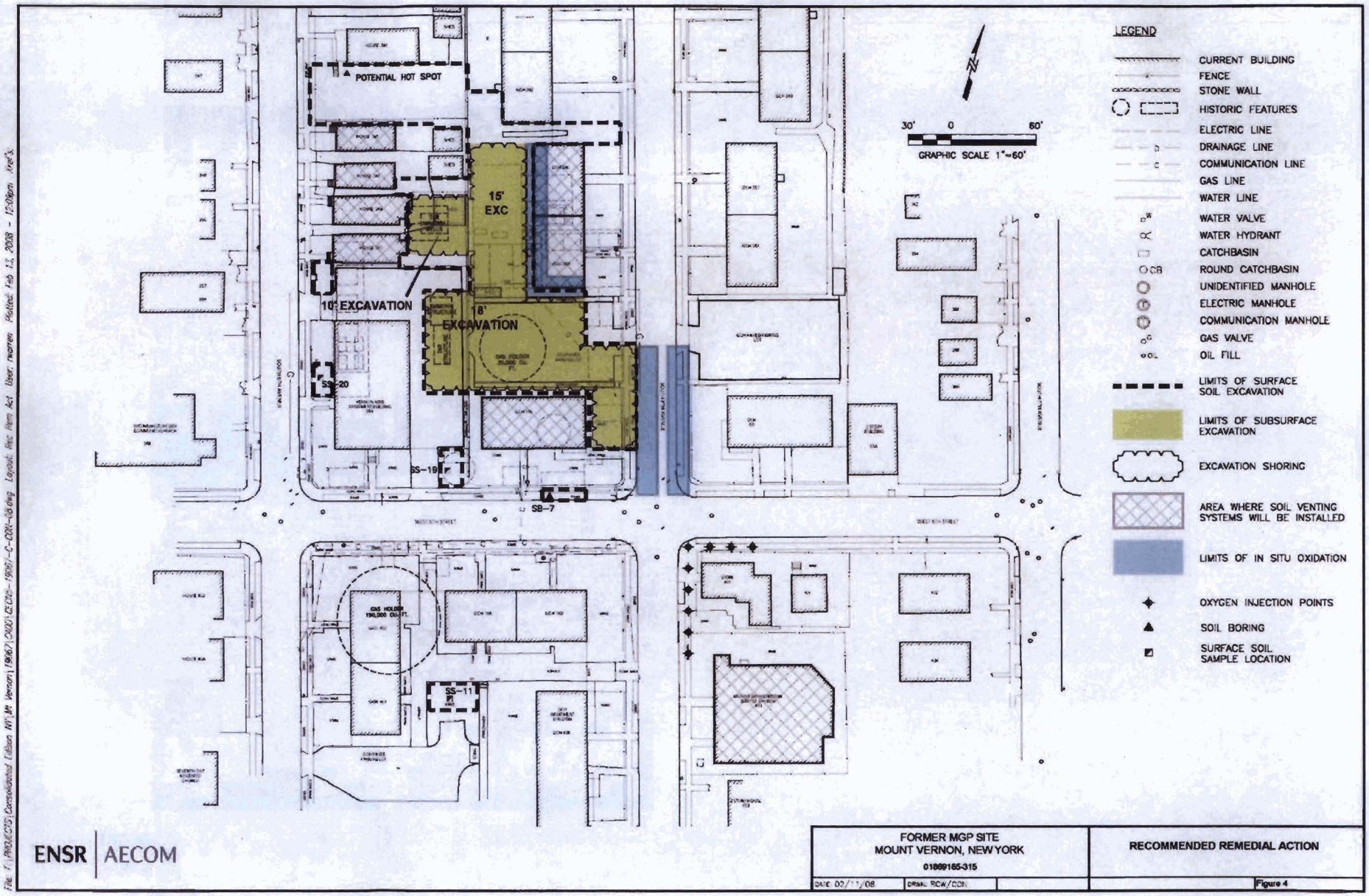
MAY 29, 2008
Date

Director
Remedial Bureau C
Division of Environmental Remediation


LEGEND
CURRENT BUILDING
FENCE
STONE WALL
HISTORIC FEATURES
30' 0 60'
GRAPHIC SCALE 1"=60'
SOUTH 7TH AVENUE
SOUTH 8TH AVENUE
SOUTH 9TH AVENUE
WEST 5TH STREET
ENSR | AECOM
FORMER MGP SITE
MOUNT VERNON, NEW YORK
01889165-315
COMPOSITE HISTORICAL FEATURES
Figure 1


LEGEND
GROUNDWATER MONITORING WELL
SOIL BORING
SURFACE SOIL SAMPLE LOCATION
TEST PIT
MINI-TEST PIT LOCATIONS
CURRENT BUILDING
FENCE
STONE WALL
HISTORIC FEATURES
EXTENT OF OBSERVED TAR-LIKE MATERIAL
EXTENT OF SOIL WITH TOTAL SVOCs >500 PPM
EXTENT OF SOILS WITH TOTAL VOCs >10 PPM
BLEBS OF TAR-LIKE MATERIAL
TAR-LIKE MATERIAL
30' 0 60'
GRAPHIC SCALE 1"=60'
ENSR | AECOM
FORMER MGP SITE
MOUNT VERNON, NEW YORK
01869165-315
Limits of Contamination in Subsurface soil
DATE: 02/11/08
DRAWN: RCW/CDL
Figure 2

LEGEND
GROUNDWATER MONITORING WELL
CURRENT BUILDING
FENCE
STONE WALL
HISTORIC FEATURES
LIMIT OF REQUIRED GROUNDWATER REMEDIATION VOCs
LIMIT OF REQUIRED GROUNDWATER REMEDIATION PAHs
30'
0
60'
GRAPHIC SCALE 1"=60'
FORMER MGP SITE
MOUNT VERNON, NEW YORK
01669105-315
Limits of Contamination in Groundwater
Figure 3
ENSR | AECOM


POTENTIAL HOT SPOT
15' EXC
10' EXCAVATION
8' EXCAVATION
SS-20
SS-19
SB-7
SS-11
30' 0 60'
GRAPHIC SCALE 1"=60'
LEGEND
CURRENT BUILDING
FENCE
STONE WALL
HISTORIC FEATURES
ELECTRIC LINE
DRAINAGE LINE
COMMUNICATION LINE
GAS LINE
WATER LINE
WATER VALVE
WATER HYDRANT
CATCHBASIN
ROUND CATCHBASIN
UNIDENTIFIED MANHOLE
ELECTRIC MANHOLE
COMMUNICATION MANHOLE
GAS VALVE
OIL FILL
LIMITS OF SURFACE SOIL EXCAVATION
LIMITS OF SUBSURFACE EXCAVATION
EXCAVATION SHORING
AREA WHERE SOIL VENTING SYSTEMS WILL BE INSTALLED
LIMITS OF IN SITU OXIDATION
OXYGEN INJECTION POINTS
SOIL BORING
SURFACE SOIL SAMPLE LOCATION
ENSR | AECOM
FORMER MGP SITE
MOUNT VERNON, NEW YORK
01869165-315
RECOMMENDED REMEDIAL ACTION
Figure 4

STATE OF NEW YORK
DEPARTMENT OF HEALTH
Flanigan Square 547 River Street Troy, New York 12180-2216

Richard F. Daines, M.D.
Commissioner

Wendy E. Saunders
Chief of Staff

March 10, 2008

Mr. Dale Desnoyers, Director
Division of Environmental Remediation
NYS Department of Environmental Conservation
625 Broadway
Albany, NY 12233-7016

RE: No Further Action
Technical Satisfactory Completion Memo
Former West 132nd Street Station Site
Site No. V005472
New York, New York

Dear Mr. Desnoyers,

Staff have reviewed the *Technical Satisfactory Completion Memo* for the above-referenced site. Based on that review, I understand that the site was the location of a former manufactured gas plant (MGP) remote holder station. I also understand a Site Characterization Report was completed at the site in December 2007. The analytical results presented in that report did not indicate the presence of MGP-related contaminants in on-site surface soil, subsurface soil, or groundwater. With exception of a concrete bottom of one gas holder being identified, no other physical evidence of the second holder, exhauster, or boiler house were discovered. On-site soil is contaminated with metals, semi-volatile organic compounds (SVOCs), chlorinated and petroleum-related volatile organic compounds (VOCs) as well as acetone. Groundwater is contaminated with metals and methyl tert-butyl ether (MTBE). Chlorinated and petroleum-related VOCs are also present in on-site soil vapor. However, in the absence of MGP contamination found in on-site soil and groundwater, the source of these compounds cannot be attributed to the former MGP. Currently NYSDEC Region 2 has assigned Spill #05-06154 to the area within the Columbia University building where the majority of the chlorinated and petroleum-related volatile organic compounds (VOCs) contamination exists. Staff requested that NYSDEC investigate the source of the chlorinated VOCs in soil vapor.

Mr. Dale Desnoyers
Site #V003262
March 10, 2008

Since former MGP contaminants were not found on-site, I concur that no further action is warranted for the voluntary cleanup agreement with Con-Edison. If you have any questions, please contact Mr. Geoffrey Laccetti or my staff at (518) 402-7860.

Sincerely,

Steven M. Bates, Assistant Bureau Director
Bureau of Environmental Exposure Investigation

cc: G. Anders Carlson, Ph.D./A. Salame-Alfie, Ph.D
G. Litwin / G. Laccetti / File
B. Devine – MDO
J. Prudhomme - NYCDHMH
R. Cozzy – NYSDEC
D. Walsh – NYSDEC, Region 2

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