Summary of Public Comments and Department Responses

A public meeting was held on May 12, 2009, which included a presentation of the Remedial Investigation (RI), Alternatives Analysis and Site Management Plan (SMP) as well as a discussion of the proposed remedy. The meeting provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed remedy. These comments have become part of the Administrative Record for this site. The public comment period for the Decision Document ended on June 12, 2009.

Due to the sites status as a public school with a changing student population, this summary of public comments was prepared which responds to all questions and comments raised during the public comment period, in order to provide a record. The following are the comments received, with the Department's responses. Some comments were repeated in subsequent communications, and have been consolidated to avoid duplication:

Comment 1: Who is responsible for cleaning up non-MGP contamination?
Response 1: The NYSDEC has initiated an investigation into the perchloroethene (PCE) impacts observed under the northern portion of the school.

Comment 2: Who is financially responsible for training staff and long-term operating and maintenance?
Response2: ConEdison is responsible for the remediation of the site, including the long-term site management. ConEdison and the NYC Department of Education are actively involved in discussions regarding site management details.

Comment 3: When can the remedy take place?
Response3: Installation of the sub-slab depressurization system is expected in the summer of 2010 or 2011. The schedule for other components of the remedy will be established as a component of the engineering design. The remedial design, including the schedule, will be presented to the public when available.

Comment 4: The sub-slab depressurization system (SSDS) shown in the Alternatives Analysis covers only the southern half of the school. We feel that the system should be expanded to cover entire school footprint due to presence of PCE.
Response 4: ConEdison is only responsible for MGP-related contamination and MGP contamination co-mingled with another contamination, pursuant to their voluntary cleanup agreement with the Department. Although not all areas below the school where sampled, benzene, ethylbenzene, xylene and toluene, were identified in all sub-slab samples that were collected. These chemicals are found in MGP contamination, as well as gasoline and other common contaminants. Consequently, the SSDS will be designed to extend to those areas beneath the school building where these compounds are identified, unless ConEd can demonstrate during the design that some portions of the building are effectively isolated from MGP related soil vapor impacts.

Comment 5: We suggest that the remedy should excavate as much as possible outside of school to remove contamination, including surface soil, which has been characterized as "urban fill".
Response 5: When selecting a remedy the Department is seeking to eliminate or control public

exposure to contaminants and any impacts on the environment. Sampling has also shown that the surface soil (zero to 2 inches below ground surface) between the school and the FDR Drive does not appear to be impacted by MGP-related contamination. The main body of MGP related contamination is located beneath the building or in the subsurface from 10 to 40 feet below the ground surface. There are localized areas of MGP impacts that are less than 10 feet below the surface which are associated with the subsurface remnants of historic MGP structures. The selected remedy will excavate MGP tar and tar-contaminated soil above the water table which could be expected to cause an exposure risk or nuisance odors. Removal of all soil representing historic fill is not ConEdison's responsibility.

The Department's statutory and regulatory preference is to permanently remove contamination to the maximum extent practicable. At this site, practicability considerations are paramount, and the extent to which removal can be achieved is greatly limited. Fortunately, the same factors that prevent full removal (the presence of a well-constructed school building and a major highway) also greatly limit the potential for public exposure to any contaminants that will remain. The area identified for excavation is where these structures don't exist, and where routine maintenance, site work, or future infrastructure construction would be reasonably expected to occur and persons conducting that work may come into contact with contaminated soil. While it is possible to address this contamination with institutional controls to prohibit excavation of this material, it is far more reliable to remove the contamination in a controlled manner.

Comment 6: We would like to see periodic monitoring of the sediments in the Harlem River. What would be the legal mechanisms to make sure future, potential dredging projects were notified of contamination?

Response 6: The conditions in the Harlem River sediment do not warrant periodic monitoring. The MGP-related contamination in the river sediments is located at substantial depths below the river bottom. Contaminant levels near the sediment surface, which could reasonably be encountered by organisms on the river bottom, are consistent with what would be expected in an urban harbor environment. Any dredging would be subject to review by the Army Corps of Engineers, as part of a public process.

Comment 7: What are the provisions for long-term monitoring? Who is responsible? Are there contingency plans for major weather events?

Response 7: ConEdison is responsible for long term monitoring. The specific details of the monitoring (including contingency provisions) will be addressed in the site management plan (SMP) which will be developed during the construction phase of the project.

Comment 8: How deep is contamination? Where is it under school?

Response 8: The contamination is generally between 5 and 20 feet below the floor surface under the school. Beneath the school, the heaviest contamination is in the foundation of a former gas holder, located under the cafeteria. The shallowest contamination is 5 feet below the floor in this location.

Comment 9: A neighbor from near Pleasant and E. 114th St. discussed the flooding in her basement and expressed her concern as to whether any contamination was getting in.

Response 9: No MGP contamination is present in the vicinity of this location. Sampling in front of the school, established a "clean line" that bounded the extent of MGP contamination to the

east. Storm water does not generally mix with groundwater during flooding events, so it would be doubtful that stormwater would be impacted by the deeper contaminated groundwater at this site.

Comment 10: What is the problem with the chemicals? Are children more at risk?
Response 10: Students, staff and visitors of the school are not being exposed to the contaminants. However, utility or construction workers who dig may come into direct contact with MGP tar or tar contaminated soil. Because no wastes are left at the surface, students, staff, or visitors would not come into contact with them. The risk for adverse health effects from exposure to a chemical depends on the toxicity of the chemical, and also on the amount, duration and frequency of the exposure. Adverse health effects associated with long-term exposure to large amounts of PAHs and BTEX include cancer and effects on the liver, kidney and nervous system. The remedy will effectively prevent future exposures.

Comment 11: Was the adjacent construction site (a COSTCO store) effected by the contamination at this site?
Response 11: The contamination under this site does not extend to the COSTCO property. There was some contamination at COSTCO (related to the former Washburn Wire plant which was located there), which was addressed under the site name"East River Plaza" (ID #C231045) by the Department's Brownfield Cleanup Program.

Comment 12: Was any contamination released into the air from that construction?
Response 12: No. Air monitoring was performed during that work to assure that air quality was not impacted.

Comment 13: How long would the complete remedy take?
Response 13: A complete remedy would require demolition of the school building, which is not planned at this time. The work planned will be completed in phases. We anticipate that the sub slab depressurization system will be installed in the summer of 2010 or 2011. The time frame for the other remedial components will be established during the remedial design..

Comment 14: Is there a way to prepare students if there were an exposure event?
Response 14: MGP contaminants produce strong odors. In the unlikely event of a release of contamination, the building could be evacuated in accordance with existing procedures.

Comment 15: How long would it take to accomplish the proposed excavation?
Response 15: Based on our current expectations, it is expected to require several weeks. This projection is subject to refinement during the remedial design. The excavation could be done during the summer vacation, but could also safely be completed during the school year.

Comment 16: How can we ensure the soil is not re-contaminated following excavation?
Response 16: While we do not currently anticipate having significant contamination present adjacent to the proposed excavations, it is a possibility. As such, the remedial design will include provisions to prevent re-contamination of the clean fill in addition to providing a demarcation layer below the clean fill to indicate where the undisturbed (and potentially contaminated) soil remains.

Comment 17: What are the long term plans, besides the active remediation described so far?
Response 17: ConEdison will review available technologies every 10 years to determine whether any

new developments would enable them to more throughly remediate the remaining contamination at the site. ConEdison would remain responsible for the remaining contamination and, if the property ceases to be used as a school, will be required to again assess the full remediation of this site. There will also be monitoring of the groundwater, maintenance of the barrier wall, operation of the depressurization system and periodic certification that the remedy remains functional and effective.

The following questions and comments were submitted by Manhattan Center for Science and Mathematics H.S. Parents' Association, 280 Pleasant Avenue, New York, NY 10029, via e-mail on June 12, 2009.

Comment 18: The documents mention groundwater contamination in several places. What is meant by this – water at the surface, water below ground, or both? With what is it contaminated – NAPL and/or other MGP-related contaminants? If this is moving or flowing water, where is it going, is it spreading the contaminants elsewhere, and how is this problem being addressed?

Response 18: The term "groundwater" refers to water below the ground surface, in the void spaces between soil particles. At the site, groundwater moves slowly through the soil, in general towards the Harlem River. Groundwater which comes into contact with the coal tar will dissolve some of the chemicals contained in the tar (particularly the BTEX compounds: benzene, toluene, ethylbenzene and xylene) , and carry the chemicals along as the groundwater moves. However, sampling of monitoring wells on site have shown that the groundwater contamination does not spread far beyond the tar, and it is likely the BTEX compounds are being readily broken down by microorganisms in the soil. PAHs are also present in coal tar, but have relatively low solubility in water, and bind more strongly to the soil, so these compounds also do not extend far beyond the extent of coal tar.

Comment 19: The Alternatives Analysis Report (AAR), Section 1.2, Page 1-1 describes the school building as having over 1500 students. This is noticeably understated. As of the March 19, 2009 DOE Register, MCSM had 1,654 students and Isaac Newton MS had 338, for a total of 1,992 students. Better phrasing would be "nearly 2000" instead of "over 1500." Additionally, MCSM continues to grow, and these numbers should be adjusted accordingly for the number of students expected to attend in Fall 2009.

Response 19: We will pass this information on to ConEdison to allow them to update this information in the final version of the Alternatives Analysis.

Comment 20: The Alternatives Analysis appears to operate under the stated assumption that MCSM operates and must continue to operate a summer school, limiting construction or mitigation-related access to just two weeks in the summer. No summer school has operated in the building for at least the past two years, and there may be no reason this could not continue for the sake of building improvement or health and safety. Have any alternatives not been considered, or considered but rejected, based on the assumption that the building could not be made empty and available for remediation work for a full (school-term) summer? Are any of the alternatives or recommendations affected by the removal of this assumption?

Response 20: No alternatives were rejected, or otherwise not considered, which could be reasonably completed during a single summer or over a series of summers. The elimination of this assumption would not change the results of the evaluation.

Comment 21: Page 4-18 of the AAR and following raises the option of limited excavation of "shallow NAPL and MGP structures." The area of interest appears to be a triangular wedge of outdoor property at the southeastern-most edge of the MCSM grounds. Page 14 of the Conceptual Site Management Plan (CSMP) states that "two gas holders, remains of the purifier house, remains of tar wells, and various utilities..." are found and that "removal of portions of these structures is planned as part of the overall site remedy." What is the motivation for this particular excavation, particularly given that an impermeable barrier fence will be installed along the same area? What problem does it solve? Can this really be done in two months, and is the time and effort worth the community disruption, noise, dust, heavy equipment and truck movement? Will it be a nuisance or worse during school operation or to children using the nearby basketball and handball courts just east of Thomas Jefferson Park? The excavation area is already a low-risk, virtually zero-use area that is highly unlikely to be disturbed or even accessed by students or community members. Is there a rationale in this recommendation that supercedes the notion of, "If it ain't broke, don't fix it?" Since this question was originally asked and answers given, we think this area of excavation should actually be enlarged/deepened, allowing for the greatest amount of contaminated soil to be safely removed.

Response 21: See Comment #5

Comment 22: Several diagrams showing the current school building overlaid on the facilities of the original manufactured gas plant show a "tar tank" in the triangular wedge area in the southeastern corner of the site, as well as two similar objects in the yard, closer to 116th Street. More such objects appear under the FDR Drive (labeled as Naptha Oil Tanks) and two more under the Harlem River. Have the areas around these tanks been tested for contaminant leakage? How much risk of leakage do they pose, and how will their presence and risk levels be addressed in the proposed remediation?

Response 22: The two circular objects in the yard are identified as "scrubbers." Test pits excavated in the area of these structures did not encounter any contamination. MGP structures located under FDR Drive could not be accessed safely during the investigation. Likewise, the risk of human exposure to contamination in this area is minimal due to the presence of the highway. Structures located under the current location of the river are assumed to have been removed when the river channel was relocated.

Comment 23: Has anyone considered in-situ oxidation via ozone gas injection as a remedy for the source contamination under the school? My company, Piper Environmental Group, has been involved with the clean-up of several MGP sites using this remedy, including the Bayshore, LI site (a National Grid property).

Response 23: Ozone technology was assessed in the pilot study work plan, and was determined to not be appropriate at this site. Ozone is typically employed for the treatment of dissolved phase contaminated groundwater (such as at the Bay Shore site); however, it has not proven effective at treating heavily NAPL-impacted soils such as the ones found here.

Comment 24: The AAR and CSMP are not entirely clear as to Con Edison's long-term clean-up responsibilities under the proposed deed restriction. Will Con Edison remain responsible for eventual clean-up of the 115th Street site at whatever future date it becomes feasible, whether through discontinuance/demolition of the school or available new technology. What provisions will be provided for reassessing the current recommendations in light of future available technologies?

Response 24: This Decision Document clearly defines ConEd's long-term responsibilities for the

remedial program at this site . ConEd will remain responsible for the eventual remediation and site management of this site. This document also defines ConEd's responsibility to assess new technologies every 10 years.

Comment 25: The AAR refers several times to non-MGP contaminants of unknown source, apparently located to the north and west of the school building. While these substances are not necessarily related directly to the MGP VCA and hence not necessarily Con Edison's responsibility, how can we find out more about what these chemicals are, how pervasive are they, what if any health threats they pose, and what was their origin? To what extent is DOE responsible for clarifying these non-MGP issues and making sure they do not pose a second, alternatively-sourced threat?

Response 25: See Response #1.

Comment 26: Given the recent soil disturbances and backhoe operation by DOE contractors, performed directly over the site of the known contaminant plume in order to rebuild a decorative retaining wall at Mayor Bloomberg's orders, what can be done to ensure that the right hand (DOE SCA) knows what the left hand (DEC, DOH, and Con Edison) is doing. Even the CSMP states on Page 22 that "All future activities on the property that will disturb remaining contaminated material will be prohibited unless they are conducted in accordance with the SMP." Current work on the FDR Drive side of the school yard could already have violated that proposed institutional control. After over seven years of investigation, formal reporting, analysis, and planning at the MCSM site by Con Edison and its remediation contractors, it is both absurd and unconscionable that DOE could appear on the school building site and begin excavations directly over the NAPL plume without the knowledge and involvement of Con Edison's MGP remediation unit, NYS DEC, and NYS DOH. This should NEVER happen again, regardless who gave the orders that the work be performed.

Response 26: DOE and the SCA did contact ConEdison before the work in question. However, they did not clearly communicate the extent of work which would take place. While ConEdison and the NYSDEC were not satisfied with the level of communication leading up to that work, we believe that we have clarified the expectations of both the Department and ConEdison, and we expect DOE and the SCA to provide clear and timely notification in the future and to proceed with the work in accordance with the provisions of the SMP.

Comment 27: We insist on continued indoor air quality monitoring, particularly during the cold weather months. If Con Edison will not be providing continued indoor air quality monitoring after one year following installation of the sub-slab depressurization system, will DOE commit to doing so at least once per year during the heating system to reassure parents, students, and staff that the air quality remains safe?

Response 27: Once a subslab depressurization system is in place and operational, the NYSDOH and NYSDEC do not consider it necessary to continue monitoring indoor air unless there is a reason to question the effective operation of that system. If concerns are raised in the future regarding the operation of the system or the effectiveness of the slab as a barrier, the Site Management Plan provides for monitoring in those circumstances. Regular sampling will continue until the system is in place and is demonstrated to be effective.

Comment 28: It was our understanding that the public comments by our consultants, Lenny Siegel and Peter Strauss and the community in response to the draft AAR would be considered and incorporated in the draft Remedial Action Work Plan (RAWP). We now have a question

regarding how the draft AAR and public comment process was carried out. Our understanding was that after the release of the draft RAWP, we would review the document and submit comments based on an assessment of how the work plan addresses the full range of contamination issues at the site. This would then be followed by a final RAWP. At the public meeting on May 12th, we were informed by Con Ed that the draft AAR would be followed by a Final Decision Document that would be the functional equivalent of a RAWP. When asked how DEC would ensure that the public comments are considered, DEC said that they would issue a summary of public comments and the Department's responses at the same time they release the Final Decision Document. Mr. Siegel and Mr. Strauss expressed concern that the community would be short changed because this new process (which we were not informed about prior to the public meeting) would not adequately incorporate their feedback on the draft AAR before Con Ed comes up with a final work plan.

Response 28: Public input has been sought out and considered carefully as this project has proceeded. ConEdison, the NYSDEC and the NYSDOH chose to significantly expand the level of documentation and community participation in the remedy selection process at this site, and we remain committed to keeping the School community informed and listening to the community's concerns and suggestions as the design of the remedy selected proceeds.

Under the Voluntary Cleanup Program, a Remedial Action Work Plan (RAWP) is not required to evaluate multiple remedial alternatives, but instead can recommend a single remedy and describe why it is protective of human health and the environment for the proposed use. At this site, the NYSDEC and ConEdison agreed that an additional level of analysis and communication with the public was appropriate, so an Alternatives Analysis Report (AAR) was provided for this site. The AAR provides a level of analysis similar to the Feasibility Study which is required for Superfund sites. The Department then prepared a Decision Document, similar to the Record of Decision used for Superfund sites, which provides a summary of the site remedy. While a comment period is required for project in the Voluntary Cleanup Program, there is no requirement for a formal response to the comments made. Nonetheless, the Department again went a step further and prepared this summary of public comments with the Department's responses. The Remedial Design will be presented to the public at an informational session and the documents will be made available to the public. Note that separate reports are anticipated for separate phases of the site remediation, starting with the design of the subslab depressurization system this summer.

Comment 29: We are concerned about the lack of detail in the SMP and selected remedies.

Response 29: By its nature, a site management plan needs to consider observations made as remediation proceeds, since these observations provide significant detail regarding the contamination which is left behind when remediation is complete. As a SMP is not required to be prepared until the Final Engineering Report, additional details will be provided as the engineering design and construction is completed. The SMP will be presented to the public at an informational session and the documents will be made available to the public

Comment 31: The Manhattan Center for Science and Mathematics High School will continue to explore meaningful course work that will include students having access to the river for the purpose of research. The Chair of the Science Department is in the process of creating a class such as this for the Fall, 2009.

Response 31: None of the remedial actions planned for the site are anticipated to permanently limit river

front access beyond the limited access that is currently available. However, due to the tight confines of the work areas, some access restrictions will be necessary during the remedial construction.

The following additional comments were submitted by Peter M. Strauss and Lenny Siegel on behalf of the Parents Association' of the Manhattan Center for Science and Mathematics by email on June 12, 2009:

Comment 32: For the remedies to be properly implemented, there must be a complete, transparent, detailed, unambiguous, enforceable workplan or Decision Document, defining the extent and timing of each element of the remedy, together with performance objectives for each element.

Response 32: While this Decision Document defines the selected remedy, much of what is described above (extent and timing of the remedy, performance objectives, and schedules) will be provided as part of the Remedial Design. The design will be presented to the public in a meeting held at the school just as all elements of the remedial program for this site have been to date. ConEdison and the NYSDEC are committed to keeping the school community informed of the status and schedule for the site remedy, and will provide a status report and projected schedule to the school at least annually.

Comment 33: We urge the creation of a final Conceptual Site Management Plan that requires long-term monitoring to ensure that the performance objectives in the decision document are sustained, and which also contains contingency plans that call for specific actions if those objectives are not met.

Response 33: The SMP, which is required as part of the Final Engineering Report prepared at the end of the construction will address long term monitoring, operation and maintenance, as well as periodic certification that the remedy remains in place and is effective.

Comment 34: We agree that major remediation beneath the school might not be practical at this time. But Con Ed should remain responsible for addressing sub-school contamination should the school ever be demolished or undergo reconstruction.

Response 34: Such a re-opener is specifically included in this Decision Document, also see Response #24.

Comment 35: We believe that DEC should ensure that the subslab depressurization system (SSDS) be extended under the entire slab, because the health of the students, teachers, and other staff necessitates it.

Response 35: See Response #4.

Comment 36: We suggest that the subslab depressurization at MCSM be designed to keep MGP and non-MGP vapors levels in the indoor air, including the basement, below both New York State and federal inhalation levels associated with an excess lifetime cancer risk of 10-6 (one in a million).

Response 36: See Responses #1 and 4. Furthermore, we use the "Guidance for Evaluating Soil Vapor Intrusion in New York State" and the included background databases to help us evaluate soil vapor intrusion and make decisions about monitoring or remediating structures.

Comment 37: We strongly recommend that indoor air sampling continue annually as long as the subsurface remains contaminated and there are students in the school.

Response 37: See Response #27.

Comment 38: Strict removal criteria need to be established prior to excavation, focusing on the levels of contamination and their proximity to the surface. We suggest that coal tar be investigated to eight feet below the surface, and if found, either in globules or staining, that it be removed. We recommend that the areas around Test Pit 2 and Test Pit 5 undergo further investigation and any contamination (down to approximately eight feet) be removed.

Response 38: Overall, this comment appears to reflect the intent of the excavation presented in the decision document. The removal criteria and other details of the excavation will be addressed in the Remedial Design. Also see response #5.

Comment 39: We recommend removal of surface soil hot spots to a depth of two feet, replacement with clean fill, and confirmatory sampling.

Response 39: No such hot spots have been identified. Also see Response #5.

Comment 40: We recommend the inclusion of clear performance objectives for the Barrier Wall in the Final Decision Document. The barrier should prevent the eastward flow of contaminated groundwater, and extraction wells (or other mechanisms) should eliminate the mounding of water and contamination on the west side of the wall.

Response 40: These concepts will be considered and addressed in the remedial design. However, the principal purpose of the wall will be to prevent the migration of NAPL toward the river. This represents highly contaminated material with the greatest potential to cause environmental impacts in the sediments on the river bottom. Migration of far lower concentrations of contaminants dissolved in groundwater is not the goal.

Comment 41: We request that the Final Decision Document include Monitored Natural Recovery as part of the remedy, with a performance objective of zero bioavailability to benthic organisms.

Response 41: Monitored natural recovery of dissolved phase groundwater contamination is a reasonable remedial technology to consider following removal of all source material. However, the Department avoids assigning the label of "natural recovery" to sites such as this where NAPL will remain in place, either on the site or below the river. The NAPL is not expected to break down to any significant degree over time, although dissolved phase impacts to the groundwater will occur, thus limiting the area of impact. Remediation of this source material is based on preventing human exposures or impacts to ecological receptors.

Comment 42: We recommend that an inspection checklist be developed now.

Response 42: We consider it premature to develop a checklist prior to design or construction, this is left to the SMP.

Comment 43: To implement the Site Management Plan, the Department of Education should designate a school employee as Environmental Site Manager. Furthermore, the deed restriction called for in the CSMP should ensure that the lines of responsibility for training, long-term management, financial obligations, and unintended events are clear. We also recommend that the draft deed restriction be subject to public review and comment.

Response 43: The items of concern in this comment would be specifically addressed in the SMP, and only indirectly referenced in the deed restriction. The SMP will be presented to the public at an informational session and the SMP and deed restriction will be made available to the public. The Department of Education and ConEdison will be responsible for implementation of the SMP. The management structure by which that implementation is

achieved will not be specified by the Department.

Comment 45: We recommend that the latest version of the Site Management Plan, as well as reports generated under the Plan, be made available and remain available to the public.

Response 45: These are public documents and will be available in the document repositories.

Comment 46: Furthermore, each year the school facilities department should engage an independent environmental professional to review the annual report submitted under the SMP on behalf of the school community.

Response 46: The NYSDEC would cooperate if the school district chose to conduct such a review.

Comment 47: We urge ConEdison and NYSDEC to work with the MCSM faculty to create a class that each term focuses on the environmental management of the school property and the adjacent Harlem River.

Response 47: The NYSDEC would be open to providing information to MCSM faculty to incorporate the MGP site into class work. Contact William Ottaway at wsottawa@gw.dec.state.ny.us.