



Foreword to Final Scope – September 16, 2003
World Trade Center Memorial and Redevelopment Plan
Generic Environmental Impact Statement

This Final Scope for the World Trade Center Memorial and Redevelopment Plan responds to all substantive comments made on the Draft Scope, which was distributed for public review starting on June 20, 2003. Lower Manhattan Development Corporation noticed two public meetings that were held on July 23, 2003 at the Tribeca Performing Arts Center at the Borough of Manhattan Community College to receive oral and written comments on the Draft Scope. The public comment period remained open for written comments through 5 PM Eastern Daylight Time on August 4, 2003.

This foreword summarizes the substantive changes made between the Draft Scope and Final Scope after review of all public comments and other considerations. The principal changes respond to significant public comments and are as follows:

- In addition to the 16-acre World Trade Center site, several adjacent sites are now part of the project site for the Proposed Action.
- A new section has been added on the “Purpose and Need for the Proposed Action.”
- Two new tasks have been added: Task 17 (Natural Resources) and Task 18 (Electromagnetic Fields).
- The remaining original tasks following the newly-added tasks have been renumbered, beginning with Task 19 (Construction Impacts).
- In light of the redefined project site, the alternatives have been modified and one has been replaced in Task 22 (Alternatives): the WTC Site Only Alternative, reflecting the project site described in the Draft Scope, replaces the Distributed Bulk Alternative.
- A fuller description has been added to certain tasks to clarify their content, as noted throughout the marked version of the Final Scope.
- An Appendix of Acronyms has been added.

All revisions to the Final Scope are marked in this version for clarity. New text is indicated by underlining. Deleted text is indicated with ~~strike through~~. Minor editorial changes have been made as well and are noted throughout this marked version of the Final Scope.

In addition to the marked changes, LMDC’s “Response to Comments on the Draft Scope” has been attached as Exhibit A to the marked version of the Final Scope to address both oral and written comments received on the Draft Scope.



FINAL SCOPE

World Trade Center Memorial and Redevelopment Plan Generic Environmental Impact Statement

A. INTRODUCTION

The Lower Manhattan Development Corporation (LMDC), a subsidiary of the New York State Urban Development Corporation doing business as Empire State Development Corporation (ESDC, a political subdivision and public benefit corporation of the State of New York), is proposing to undertake, in cooperation with the United States Department of Housing and Urban Development (HUD) and The Port Authority of New York and New Jersey (Port Authority, a municipal corporate instrumentality of the States of New York and New Jersey), a World Trade Center Memorial and Redevelopment Plan (the Proposed Action) that includes the construction of a World Trade Center Memorial and memorial-related improvements, as well as commercial, retail, museum and cultural facilities, new open space areas, new street configurations, and certain infrastructure improvements at the World Trade Center Site (WTC Site) and the adjacent sites as shown in the attached Figure 1 (the Adjacent Sites), including (a) the two City blocks south of the WTC Site and a portion of Liberty Street (collectively, the Southern Site) and (b) possibly the below-grade portions of Site 26 at Battery Park City (Site 26). The WTC Site and the Adjacent Sites are referred to, collectively, in this Final Scope as the "Project Site."

LMDC is conducting a coordinated environmental review of the Proposed Action, pursuant to federal statute, as the recipient of HUD Community Development Block Grant program funds (42 USC § 5304(g)) and as lead agency under both the National Environmental Policy Act (NEPA) and the New York State Environmental Quality Review Act (SEQRA) and its implementing regulations (6 NYCRR Part 617). LMDC will prepare a Generic Environmental Impact Statement (GEIS) as part of that review. As a first step in that process, LMDC ~~has prepared this a~~ draft Scope for the draft GEIS (DGEIS), which was made and has made it available to agencies and the public for review and comment. ~~LMDC invites comments on this draft Scope.~~ Written comments ~~should be~~ were addressed to:

Lower Manhattan Development Corporation
Attention: Comments WTC Memorial and Redevelopment Plan/DGEIS
One Liberty Plaza
New York, NY 10006

Comments ~~may also be~~ were also submitted through the comment form on LMDC's website – www.RenewNYC.com – in the section on Planning, Design & Development.

In addition, public scoping meetings ~~will be~~ were held at Tribeca Performing Arts Center at the Borough of Manhattan Community College, 199 Chambers Street, New York, New York on Wednesday July 23, 2003, from 2 PM to 5 PM Eastern Daylight Time (EDT) and from 6 PM to 9 PM EDT. Public comments ~~will be~~ were solicited at the meetings. The public comment period ~~will then remained~~ open for submission of further written comments, which ~~must be~~ were received by LMDC at the above addresses by 5 PM EDT on Monday, August 4, 2003.

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This document is the ~~draft~~ Final Scope for the DGEIS. It contains a description of the Proposed Action, ~~and~~ outlines the studies to be conducted to analyze the potential environmental impacts of the Proposed Action and identifies the alternatives to be assessed as part of those studies. ~~The final Scope will be issued following the public review and comment period referred to above.~~

LMDC will continue to involve the public as it conducts its environmental review of the Proposed Action. An opportunity for public comment and a public hearing will be provided upon LMDC's release of a DGEIS. In addition, information about the project and opportunities for public review will continue to be provided on LMDC's website at www.RenewNYC.com.

B. BACKGROUND

1. WORLD TRADE CENTER

In 1962 the States of New York and New Jersey authorized and directed the Port Authority to acquire the Hudson Tubes (now known as "PATH"), to construct the World Trade Center ("WTC") complex and to cooperate with other governmental agencies for the purpose of reviewing and improving the WTC area as part of the Port Authority's mission to develop the port. Construction on a 16-acre site owned by the Port Authority (the "WTC Site") began in 1966 and was completed in 1981. Occupancy of One World Trade Center commenced in December 1970 and of Two World Trade Center in April 1972. In July 2001, the Port Authority entered into long-term leases for the office and retail spaces at the WTC Site (not including the hotel at Three World Trade Center or the United States Customs House at Six World Trade Center) with affiliates of Silverstein Properties and Westfield America (the "Net Lessees").

The WTC Site is bounded generally by Church Street on the east, Liberty Street on the south, West Street on the west and Vesey Street on the north. It was best known for its "Twin Towers," One and Two World Trade Center, two 110-story buildings that rose over 1,350 feet. One World Trade Center also had a 351.5-foot mast supporting television and FM radio antennae for major public and private broadcasters in New York City. One and Two World Trade Center and the two 9-story buildings (Four and Five World Trade Center), an 8-story United States Customs House (Six World Trade Center) and a 22-story hotel (Three World Trade Center), surrounded the Austin J. Tobin Plaza (the "Plaza"). Directly below the Plaza was the Concourse, consisting of a retail mall and transportation hub that provided pedestrian connections to PATH as well as seven subway lines operated by the Metropolitan Transportation Authority/New York City Transit. There were six below-grade floors, which included parking for 2000 cars, a system of freight servicing and loading, and significant infrastructure and utilities supporting the operation of the WTC's buildings and transportation facilities, including PATH. The six below-grade floor slabs also provided critical lateral stability for the slurry wall of the "bath tub."

Pursuant to an agreement between the Port Authority and New York State's Battery Park City Authority (BPCA), a pedestrian bridge was built connecting the northern part of the WTC complex with the commercial core of the Battery Park City project constructed by the BPCA west of the WTC. A 47-story office building, known as Seven World Trade Center (7WTC), was located north of the WTC Site across Vesey Street, on a site over two electrical sub-stations occupied by Con Edison, and was a part of the WTC complex.

All told, the WTC complex included over 12 million square feet of office space, of which over 10 million square feet were located on the WTC Site. The WTC Site also included approximately 500,000 square feet of retail space and a 22-story hotel with conference facilities.

2. SEPTEMBER 11, 2001

On September 11, 2001, terrorists hijacked three commercial jetliners and used them to destroy the WTC and damage the Pentagon. A fourth hijacked plane subsequently crashed in Pennsylvania. These terrorist attacks resulted in substantial destruction of property and loss of life, including the loss of approximately 2,800 people at the WTC complex. In addition to the destruction of the Church of St. Nicholas to the south of the WTC Site, other buildings surrounding the WTC Site, 90 West Street, 130 Liberty Street, the Hilton Hotel and the Federal Office Building/US Post Office on Church Street, Fiterman Hall on Barclay Street, the NY Telephone Building on West Street, and the Winter Garden, and the World Financial Center, and Gateway Plaza in Battery Park City, were severely damaged. Material covered a larger area, and much of Lower Manhattan became a restricted area and was cordoned off in the days and weeks following the attacks. Some streets remain closed or occupied by safety installations and construction equipment. As described below, over the next 10 months, approximately 1.8 million tons of material were removed from the WTC and surrounding areas. Many of the businesses and residents in the surrounding area were temporarily displaced and others have not returned.

3. RECOVERY AND INITIAL RECONSTRUCTION*

WTC AREA

Rescue and recovery operations began immediately. Work on the WTC Site continued 24 hours a day and 7 days a week. During the period ending on June 30, 2002, the City of New York (the “City”) controlled the WTC Site and was responsible for material removal, including contracting with private entities to provide such services in coordination with various Federal and New York State entities. Control of the portion of the WTC complex Site upon which 7 WTC was located was returned by the City to Port Authority control on May 7, 2002, with the balance of the WTC Site returned to Port Authority control on June 30, 2002.

As material was cleared in nearby areas and the safety of standing structures was verified, workers and residents were generally allowed to return to the surrounding area. By the beginning of 2002, the restricted area was pushed back west of Broadway and south of Barclay Street, and a public viewing platform was constructed on Fulton Street just east of Church Street. The platform remained in place until Church Street was opened and a wide sidewalk/viewing area on the west side of the street (on the edge of the WTC Site) was created. Today Liberty, Vesey, and Barclay, and Park Place Streets surrounding the WTC complex are closed to vehicular traffic, and pedestrian paths have been created across Vesey and Liberty Streets from Church Street to West Street. However, some buildings to both the south and the north of the WTC Site remain unoccupied. Some are being repaired or reconstructed, but the fate of at least two, 130 Liberty Street and Fiterman Hall, is uncertain.

* These projects are assumed as part of the future without the Proposed Action in the Current Conditions Scenario. See description under “Analysis Format” page 108.

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Construction of a temporary WTC PATH station began in July 2002, upon completion of WTC Site recovery and material removal operations, and is expected to be completed in November 2003. The temporary WTC PATH station ~~will be~~ is being constructed in substantially the same configuration as existed prior to September 11, 2001, except that the tracks and platforms will not be fully enclosed, and the station will not be heated or air-conditioned, will have fewer pedestrian and transit connections, and will have only one entrance/exit that will be located on Church Street near Vesey. The temporary WTC PATH station is expected to be in operation until a permanent WTC PATH Terminal is constructed.

7 WTC

In 2002 ESDC approved the first redevelopment at the WTC complex, the 7 World Trade Center Civic and Land Use Improvement Project. The project was undertaken in cooperation with the Port Authority, the City, LMDC, Consolidated Edison Company of New York, Inc., and Silverstein Properties. The replacement structure, now in construction, will have a gross floor area of approximately 1.685 million square feet (240,000 square feet smaller than the original 7 WTC building), including approximately 76,500 square feet dedicated to the Con Edison substations and their support facilities to replace the substations destroyed on September 11. The first substation is expected to be completed during ~~the summer of 2004~~3, and the 7 WTC replacement building is expected to be completed in 2005. The replacement building is configured on the west end of the original 7 WTC site in order to preserve the option of opening a Greenwich Street corridor to pedestrians and possibly vehicular access.

PERMANENT WTC PATH TERMINAL

The Port Authority is currently completing construction of a temporary outdoor WTC PATH station to permit the resumption of PATH commuter service to Lower Manhattan by late 2003. The Port Authority is also completing plans for a permanent WTC PATH Terminal that would restore full PATH operations to the WTC Site and provide year-round indoor passageways to surrounding streets while improving passenger egress on platforms and permitting use of 10-car PATH trains. Subject to its own environmental review, construction of the permanent WTC PATH Terminal is expected to begin in 2004/5 and be complete by 2008/9. It would have one more track than the temporary WTC PATH station (for a total of five) and its platforms would be longer to the north and south than the interim station. The level above the tracks would be devoted to mezzanine and fare collection facilities. Above the mezzanine would be a concourse connecting the mezzanine, surrounding streets, the World Financial Center, and Battery Park City. The Federal Transit Administration (FTA) will be the federal lead agency for all environmental reviews for the permanent WTC PATH Terminal, which is a project independent of the Proposed Action and is undergoing a separate environmental review.

FULTON STREET TRANSIT CENTER

The Fulton Street Transit Center is a project being undertaken by FTA, Metropolitan Transportation Authority (MTA), and MTA/New York City Transit. It will rehabilitate, reconfigure, and enhance the multilevel complex of subway stations serving nine different lines, with improved platforms, mezzanines and connecting corridors, and a new central concourse with a new above-ground presence. That facility has a proposed below grade concourse connection under Dey Street to the permanent WTC PATH Terminal. The Fulton Street Transit Center is projected to be completed in 2007. The Fulton Street Transit Center is a project

independent of the Proposed Action, ~~which~~ and is undergoing a separate environmental review by MTA and FTA.

Route 9A

The New York State Department of Transportation (NYSDOT) and the Federal Highway Administration (FHWA) are currently considering the reconstruction of Route 9A south of Chambers Street, with either at-grade improvements or a short below-grade bypass for vehicular through traffic. Reconstruction of Route 9A is a project independent of the Proposed Action and will undergo its own environmental review by NYSDOT and FHWA.

LMDC

LMDC was created in November 2001 by Governor George Pataki and then-Mayor Rudolph Giuliani to help plan and coordinate the rebuilding and revitalization of Lower Manhattan south of Houston Street. LMDC is a subsidiary of ESDC; it is governed by a 16-member Board of Directors, half of whom are appointed on recommendation of the Governor of New York and half of whom are appointed by the Mayor of New York City. LMDC is the state instrumentality responsible for administering the HUD funding for the WTC Memorial and Redevelopment Plan.

LMDC efforts are directed at more than just physical reconstruction projects. The Residential Grant Program provides financial incentives to encourage individuals to remain in, or move to, housing in Lower Manhattan. LMDC is also sponsoring History and Heritage in Downtown NYC, a joint initiative of nine cultural institutions located in Lower Manhattan that is intended to encourage tourists and visitors to explore Downtown's unique cultural identity.

Starting in March 2002, LMDC helped establish and finance the interim WTC Memorial in Battery Park. The "Sphere", which formed the highest element of the "Plaza Fountain Sculpture" at the WTC and was damaged as a result of the events of September 11, was made available by the Port Authority for public display as part of this interim memorial.

GOVERNOR'S IMMEDIATE ACTION PLAN

On April 24, 2003 Governor Pataki identified a series of short-term capital projects that are independent of the Proposed Action and have two over-arching objectives: to improve accessibility in and around Lower Manhattan and to enhance the quality of life in Lower Manhattan, making it a more attractive place to live, work, and visit. ~~Specifically, At the Governor's request, called for the~~ LMDC is currently proposing to provide funding, with HUD assistance, for the following projects identified with the help of the Mayor's Office and business and community leaders:

- Pedestrian Crossings across West Street—Improvements to the Liberty Street pedestrian crossing bridge and the pedestrian walkway connecting to Church Street will be made, and ~~a new~~ temporary Vesey Street pedestrian access and crossing to be completed by the fall when the temporary PATH station opens.
- Streetscape Improvements—The Downtown Alliance's Streetscape program will be put into place along Broadway between City Hall Park and Battery Park.
- Greenmarket—The Greenmarket that operated at the WTC ~~will~~ opened in June 2003 at ~~on~~ Liberty Plaza.

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- New York Stock Exchange Area Security—Improvements will be made to maintain the security of the area while beautifying the area and making it more accessible.
- Millenium High School—A contribution to the planned school ~~will make~~ supported its opening in Lower Manhattan in early September 2003 ~~possible~~.
- Open Spaces—Contributions will be made to fund enhancements of open spaces throughout Lower Manhattan—in Chinatown, the Lower East Side, Tribeca and elsewhere as called for ~~in the~~ by Mayor Michael Bloomberg's Vision for a 21st Century Lower Manhattan.
- Hudson River Park—LMDC will work with the State and the City to move forward completion of certain recreational facilities in the park in its segment near Tribeca.

Other initiatives announced by the Governor include a marketing campaign by ESDC for Lower Manhattan shopping, restaurants and cultural institutions.

LMDC is currently assessing each of these proposals and expects to complete its environmental reviews by the fall of 2003. In addition, LMDC is considering a plan with ESDC, with HUD assistance, to provide certain infrastructure and utility improvements in Lower Manhattan.

4. PLANNING FOR REDEVELOPMENT

On April 9, 2002, LMDC released its Preliminary Principles for Development and Blueprint for Renewal. This document presented planning concepts for traffic and transportation, commercial and residential development, open space, and other principles to be considered in the formulation of a plan for the redevelopment of the WTC Site and surrounding area.

Six initial concept plans were released to the public on July 16, 2002. LMDC and the Port Authority conducted an extensive outreach program to solicit public comment. The plans were available for comment on the LMDC's website, in an exhibit at Federal Hall on Wall Street and at public meetings in the five boroughs and New Jersey. On July 20 and July 22, 2002, Town Meetings attended by a total of over 4,000 people were held at the Javits Center. Leading comments from the public called for recognizing the Tower footprints for a Memorial, filling the void in Lower Manhattan's skyline with a powerful symbol, and reducing the required amount of commercial space on the WTC Site. In response to the strong public sentiment for more exciting concepts, LMDC and the Port Authority called for a new round of design proposals.

Seven teams were selected from 406 submissions to take part in a new Innovative Design Study for the WTC Site. On December 18, 2002, nine designs for the WTC Site were released. Each design was subjected to rigorous analysis based on a combination of factors, including feasibility, context for the Memorial, phasing and public comment collected during an unprecedented outreach campaign, "Plans in Progress." Although all of the designs had positive elements, the THINK World Cultural Center and Studio Daniel Libeskind design concepts were found to best satisfy the criteria. After additional design efforts by the remaining teams, discussion and evaluation by the LMDC, the Port Authority and other officials, Governor Pataki and Mayor Bloomberg announced on February 27, 2003, that the Studio Daniel Libeskind design, Memory Foundations, had been selected as the basis for the proposed World Trade Center Memorial and Redevelopment Plan, the Proposed Action.

5. PURPOSE AND NEED FOR THE PROPOSED ACTION

PUBLIC OBJECTIVES

The rebuilding of the WTC Site as a mixed use center of commerce, public spaces, and culture with a Memorial at its heart is planned to advance the goals of the UDC Act, the objectives of the LMDC, the mission of the Port Authority and the goals articulated by the Governor and the Mayor: to remember and honor the victims of the terrorist attacks while revitalizing Lower Manhattan.

REMEMBERING THE VICTIMS OF THE TERRORIST ACTS

A Memorial will be created at the WTC Site to ensure that future generations never forget the thousands of people who died on September 11 in New York, in Shanksville, Pennsylvania, and at the Pentagon, as well as those who died in the terrorist bombing at the WTC on February 26, 1993. The Memorial would be set in a context that bustles with the activity of Lower Manhattan, yet provides a quiet and respectful setting for remembrance and contemplation. Visitors from around the world are expected to come to the WTC Site to learn about the events of September 11, 2001 and February 26, 1993 and to remember those who died and those whose lives were changed forever. Currently, LMDC is conducting a WTC Site Memorial Competition to identify the preferred Memorial design. The selection will be made by a memorial competition jury. The Guidelines for the WTC Site Memorial Competition are available on the web at www.wtcsitememorial.org.

REVITALIZING LOWER MANHATTAN

The current conditions of the Project Site impair the sound growth and development of Lower Manhattan. In addition to the restoration of commercial and other uses at the site, there is a need for the development of cultural, recreational, community and other civic facilities in Lower Manhattan.

Restoring the Project Site as a functioning part of Lower Manhattan is a priority objective for the Proposed Action. This project is intended to re-establish the Project Site as a locus of commerce, civic space and amenities, including appropriate commercial and retail uses, as well as supporting utilities and infrastructures, for the downtown area. While Lower Manhattan has long been a center of world finance and a major economic engine for the entire region, it has more recently become the fastest growing residential neighborhood in the city and a major destination of regional, national, and international travelers. For these reasons, revitalization of Lower Manhattan should include cultural and other amenities that help make the area a lively environment all day, every day.

The long-term presence of an essentially empty, excavated space in the heart of New York's Financial District would also be a blight that makes the area less attractive for businesses, residents and visitors. It is important to New York City's economy that businesses have the confidence that the Project Site will be redeveloped as quickly as possible to reduce its blighting effect on the immediate area.

C. THE PROPOSED ACTION

~~On the 16-acre WTC Site,~~ The Proposed Action provides for the construction on the Project Site of a World Trade Center Memorial and memorial-related improvements, up to 10 million square

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feet of commercial office space, up to 1 million square feet of retail space, up to 1 million square feet of conference center and hotel facilities, new open space areas, museum and cultural facilities and certain infrastructure improvements (see Figure 2).

The Proposed Action would provide retail uses flanking the pedestrian concourse of the permanent WTC PATH Terminal. The pedestrian concourse would thus become active retail space linking the several uses on the WTC Site Project Site and providing a further link to street-level retail activity on the WTC Site Project Site and its surrounding streets.

The proposed design for the 16-acre former WTC Site would divide it into unequal quadrants in the context of new street configurations. Specifically, Fulton Street would run east-west through the WTC Site and Greenwich Street would run north-south through the WTC Site.

The Memorial District area would encompass ~~the area~~ the footprints where the Towers once stood in the southwest quadrant. It would be a sunken area revealing the “slurry” wall on the west side of the WTC Site (see Figure 3). The preferred Memorial design will be identified in the fall of 2003 and will be described ~~in more detail~~ in the DGEIS. Pedestrian access would be provided from September 11 Place at the southwest corner of Fulton and Greenwich Streets, from Greenwich Street halfway down the block south to Liberty Street, and from Liberty Street near West Street. A museum and other cultural facilities would be located on the southwest quadrant.

The northwest quadrant would be the location of the 1776 Freedom Tower (with an observation deck at 1,776 feet ~~foot-tall structure~~ and a broadcast antennae reaching 2,100 feet), Heroes Park, office space, ground floor retail, and the performing arts center (see Figure 4). Trucks (and buses) would enter the complex from Vesey Street at Washington Street or from Liberty Street at West Street.

The northeast corner of the WTC Site would be the location of a hotel and office building with ground floor retail. In the southeast quadrant there would be two office towers with lower level retail on either side of a pedestrian passageway, Cortlandt Way, extending the view corridor of Cortlandt Street west through the WTC Site. They would be south of the permanent WTC PATH Terminal as it rises above grade on the south side of the Wedge of Light plaza (see Figure 5). In the southeast quadrant the Proposed Action would include retail space.

A fifth office tower with ground floor retail would be located on the portion of the Southern Site bounded by Albany, Greenwich, Cedar and Washington Streets. New open space would be located on the portion of the Southern Site between Liberty and Cedar Streets. St. Nicholas Greek Orthodox Church would be rebuilt.

The Proposed Action also provides for infrastructure and utilities to support the operations of the Project Site as a whole, including below-grade freight servicing and loading, a below-grade bus garage serving the Memorial, a parking garage for building tenants and safety and security-related facilities. Site 26 is being considered as a potential location for the bus garage.

The portions of the Proposed Action scheduled for initial development include the Memorial, memorial-related improvements and museum and cultural facilities, the 1776 Freedom Tower, and the retail uses described above. LMDC, the Port Authority, the Port Authority’s Net Lessees, and Studio Daniel Libeskind are working together to develop design guidelines for these structures and the others, ~~which would follow in subsequent years~~. These design guidelines will address building design, safety and security, energy efficiency, environmental and operational performance, and sustainable strategies to implement overall plans for the Proposed Action.

In addition to examining the environmental impacts of the Proposed Action, the DGEIS will also assess the comparative environmental impacts of a wide range of alternative development plans, as set forth in Task 22 below. It is possible that the agencies may decide to select another alternative (or elements of other alternatives) analyzed in the GEIS.

D. AGENCY ACTIONS AND APPROVALS

The Proposed Action may require or involve, among others, the following regulatory agency notifications, actions, permits and/or approvals:

FEDERAL

HUD—funding and action plan approval

Department of Transportation, Federal Aviation Administration (FAA)—review of building heights

Department of Transportation, Federal Transit Administration (FTA)—possible funding and appropriate related reviews and approvals ~~determination of conformity with transportation plans~~

Department of Transportation, Federal Highway Administration (FHWA)—possible approval of pedestrian passageway

Federal Emergency Management Agency—possible funding approval and possible flood map amendment

United States Army Corps of Engineers—possible permits under Section 404 of the Clean Water Act and Section 10 of Rivers and Harbors Act

Advisory Council on Historic Preservation—review under Section 106 of National Historic Preservation Act

Federal Communications Commission—licensing of broadcast antennae

BI-STATE

~~The Port Authority~~—plan approval and implementation

NEW YORK STATE

LMDC—General Project Plan approval and implementation; possible acquisition of the Adjacent Sites

ESDC—possible acquisition of the Adjacent Sites

Office of Parks Recreation and Historic Preservation (OPRHP)—possible review pursuant to National Historic Preservation Act and State Historic Preservation Act

Department of State—Coastal Zone Consistency review

Department of Environmental Conservation (NYSDEC)—possible stationary source and indirect source air permits; possible Phase II stormwater permit, State Pollutant Discharge Elimination System permit, protection of waters and tidal wetlands permits and water quality certifications

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New York State Department of Transportation (NYSDOT)—possible approvals for pedestrian passageway and appropriate related transportation approvals (with the New York Metropolitan Transportation Council)

Battery Park City Authority (BPCA)—possible approval of Site 26 as a location for a below-grade bus garage

LOCAL

New York City Planning Commission—Coastal Zone Consistency determination

E. PREPARATION OF A GENERIC ENVIRONMENTAL IMPACT STATEMENT (GEIS)

The Proposed Action would result in substantial redevelopment, introduction of new non-commercial land uses, reconfiguration of various traffic and transit services, the return of businesses with thousands of employees, and increases in the number of visitors and residents in Lower Manhattan. Redevelopment at the Project Site will require extensive construction lasting for an extended period of time in a neighborhood sensitized by the effects of the recovery effort. Consequently, there is potential for impacts on a broad range of resources during both construction and operation of the project. The proposed approaches to assessing the impacts in the GEIS are discussed below. A GEIS is a particularly appropriate way to evaluate the environmental impacts the Proposed Action with its many components.

ANALYSIS FORMAT

The analyses in the GEIS will evaluate a variety of services and resources accounting for future conditions with and without the Proposed Action in two separate analysis years. The first analysis year, 2009, was chosen to represent a time frame in which the initial phases of the Proposed Action will have been completed, but when major construction is still on-going. The second year, 2015, was chosen for environmental analysis purposes as the time when full build-out and occupancy of the Proposed Action are assumed. In addition, a construction analysis year will be identified and included in the DGEIS.

The customary approach to presenting an impact analysis under NEPA and SEQRA is to start with a baseline of existing conditions in the relevant study areas and then forecast those conditions forward to a time in the future that is appropriate for assessing project impacts. Future year conditions with and without the Proposed Action are then compared as a basis for presenting incremental change and identifying impacts. The reference point of conditions without the project is established by adjusting existing conditions to account for other known developments, policy initiatives, and trends that are expected to influence future conditions in the study area. This future condition without the project is then modified by overlaying the development and activity expected from the proposal under review to form a depiction of future conditions with the project in place. This comparison of future conditions with and without the project identifies the project impacts and the need, if any, for mitigation.

In the case of the Proposed Action, because of the unique historical circumstances, the complexity of the planning context and the scale of the project, the GEIS will present a range of potential conditions, thereby providing a framework for depicting a full consideration of impacts associated with the Proposed Action. Two reference points of conditions without the Proposed Action will be established: one begins with the ~~WTC Site~~ Project Site in its current condition,

while the other is based on the previous development that existed at the WTC and surrounding areas before September 11, 2001.

The first scenario (“Current Conditions Scenario”) will start with conditions today in 2003, with the ~~WTC Site~~ Project Site in its post-September 11 ~~excavated~~ state—i.e., the WTC Site vacant except for the temporary WTC PATH station ~~construction~~ and the 1/9 subway lines crossing the site—and then modify the baseline to forecast a profile of the future analysis years of 2009 and 2015. This scenario will account for anticipated construction and public initiatives in the larger study area along with background growth trends to depict a “Future Without the Proposed Action—Current Conditions Scenario” in which other expected development activity moves forward, but the ~~WTC Site~~ Project Site remains in its current state. The other development activity considered here would include not only specific office, residential, institutional and retail development, but also expected transportation improvements such as the Fulton Street Transit Center and the permanent WTC PATH Terminal. This framework will then form the basis for adding the overlay of development and activity associated with the Proposed Action and formulating a depiction of the “Future With the Proposed Action.” This redevelopment condition would incorporate the specific envelope of redevelopment proposed for the ~~WTC Site~~ Project Site.

The second scenario (“Pre-September 11 Scenario”) reflects a reasonable depiction of conditions that would have been expected in the study area absent the events of September 11. It accounts for the development and activity that were present on the ~~WTC Site~~ Project Site prior to September 11, 2001, and then adjusts that baseline to account for projects that had been initiated at that time and would likely have been completed by the 2009 and 2015 analysis years (“Future Without the Proposed Action—Pre-September 11 Scenario”). This Pre-September 11 Scenario of the Future Without the Proposed Action will be a benchmark against which expected impacts of the Proposed Action are assessed. That is, impacts will be identified by comparing the Future With the Proposed Action to the Pre-September 11 Scenario of the Future Without the Proposed Action.

As noted above, two separate analysis years—2009 and 2015—would be established for assessing environmental impacts under both the Current Conditions Scenario and Pre-September 11 Scenario, as carried forward and adjusted for each of those years. The interim conditions in 2009 and the full build-out conditions in 2015 would then be compared to these Scenarios to depict expected environmental impacts from the Proposed Action.

To mitigate any adverse impacts from the Proposed Action, the Future with the Proposed Action would be compared to the Pre-September 11 Scenario of the Future Without the Proposed Action in both 2009 and 2015. To the extent practicable, mitigation will be considered with the objective of returning conditions to the levels that would have existed in that analysis year absent the events of September 11. Where appropriate and feasible, further mitigation measures may also be formulated to address additional adverse impacts identified by comparison with the Current Conditions Scenario for those years.

Impact assessments will be completed for several study areas defined in the scope of work below. Primary study areas will be described in a greater level of detail and will be the subject of more quantitative assessment than secondary study areas, which will generally receive more qualitative assessments.

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The GEIS will contain:

- A description of the Proposed Action and the environmental setting;
- A statement of the environmental impacts of the Proposed Action, including its short- and long-term effects, and typical associated environmental effects;
- An identification of any adverse environmental effects that cannot be avoided if the Proposed Action is implemented;
- An identification of potential cumulative effects of the Proposed Action with other relevant projects;
- A discussion of alternatives to the Proposed Action;
- An identification of any irreversible and irretrievable commitments of resources that will be involved in the Proposed Action should it be implemented; and
- A description of mitigation measures identified to minimize adverse environmental impacts for the Proposed Action.

~~The analyses will include the short term and long term cumulative impacts of other projects that may affect conditions in the study area.~~ The specific tasks are described below.

TASK 1: PROJECT DESCRIPTION

The first chapter of the GEIS introduces the reader to the Proposed Action and sets the context in which to assess impacts. The chapter will contain a project identification (description and location of the project); the background and/or history of the project, including the Port Authority's role in the original development of the WTC Site, the lease arrangements with the Net Lessees, September 11 and its aftermath, creation and purpose of LMDC, collaborative planning effort between LMDC and the Port Authority leading to the development of the Proposed Action, and the public involvement program. A statement of purpose and need as well as a detailed description of the Proposed Action will be provided. The project description will include a discussion of elements of the Proposed Action, such as site plans and elevations, access and circulation, and other project components.

The Memorial will be a central focus of the Proposed Action. A Memorial Mission Statement and Memorial Program were developed to guide the development of the Memorial design and are the core of the Guidelines for the WTC Site Memorial Competition. The preferred Memorial design is scheduled to be selected in the fall of 2003 by a distinguished jury and will be described in this chapter of the DGEIS.

The section on required approvals will describe all federal, State, and City actions required to implement the redevelopment. The roles of LMDC, the Port Authority, and other public agencies in the approval process will also be described. The role of the GEIS as a full disclosure document to aid in decision-making will be identified and its relationship to any other approval procedures will be described.

TASK 2: LAND USE AND PUBLIC POLICY

Construction on the ~~WTC Site~~ Project Site will bring redevelopment and new non-commercial land uses to the WTC and Adjacent Sites. These include the Memorial and memorial-related improvements and the museum and cultural facilities that are expected to attract millions of

visitors. For assessing impacts, a primary study area surrounding the WTC project area will include the area south of Chambers Street and north of Battery Place/Beaver Street from the Hudson River east to Centre/Nassau/Broad Streets (see Figure 6). The larger secondary study area will include all of Lower Manhattan south of Canal Street and west of Pike Street from river to river. Both study areas will be divided geographically for ease of description. The land use section will include the tasks listed below.

- a. Provide a brief development history of Lower Manhattan focusing in particular on the WTC Site, the Financial District, and Tribeca.
- b. Describe the Project Site, both its current condition and its pre-September 11 development.
- c. Describe predominant land use patterns in the study area, including both current and pre-September 11 development trends. Sensitive uses such as schools and places of worship will also be identified.
- d. Describe zoning and other land use policies that are relevant to the study area, including specific development projects and plans for public improvements.
- e. Determine future No Action conditions in the build analysis years based on both a Current Conditions scenario and a Pre-September 11 scenario, as described above in “Analysis Format.” Prepare a list of future projects in the study area and describe how these projects might affect land use patterns and development trends in the study area in the future without the project. These projects would include the Fulton Street Transit Center, the WTC PATH Terminal, Route 9A reconstruction, and other transportation projects as well as development projects, the Mayor’s Vision for Lower Manhattan, and other studies and possible initiatives. Also identify pending zoning actions (including those associated with the proposed No Build projects) or other public policy actions that could affect land use patterns and trends in the study area as they relate to the Proposed Action.
- f. For each of the analysis Build Years, assess impacts of the Proposed Action on land use and land use trends, and public policy. Impacts will be assessed based on a comparison of the Proposed Action with the future No Action scenarios identified above. Consider the short-term and long-term cumulative effects on the study area of the Proposed Action along with other reasonably foreseeable actions.

TASK 3: SOCIOECONOMIC CONDITIONS

The objective of the socioeconomic analysis will be to analyze the impacts of the Proposed Action on the existing commercial office and retail activity in the study area, as well as existing residential resources and socioeconomic characteristics of the study area.

The analysis will focus on potential impacts on commercial office and retail uses in the study area, including potential indirect displacement as well as beneficial impacts that may result from the redevelopment of the large amount of office and retail space previously located on the site, as well as the associated economic benefits that may accrue from the redevelopment.

Study areas are expected to conform to submarkets commonly used by major real estate brokerage companies to report leasing and construction data. These submarkets typically include districts known as World Trade, City Hall, Insurance, Financial East and Financial West, and roughly conform to an area south of Canal Street and the ramps to the Manhattan Bridge. Adjustments will be made where necessary to conform to census tracts in this same area.

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Tasks will include:

Commercial Office/Retail Analysis

Existing Conditions

- a. For both current conditions and pre-September 11 conditions, develop an inventory of commercial office space and retail space in the study area. This will be based on existing studies of the area, and supplemented as necessary by estimates from the city's Real Property Assessment Division (RPAD) data or other published real estate industry sources, such as quarterly reports from major real estate brokerage firms.
- b. Analyze employment characteristics in the study area for current conditions as well as pre-September 11 conditions, based on available NYS Department of Labor data. The analysis will include employment trends in pre- and post-September 11 conditions, with emphasis on the type of jobs in the study area, as indicated by major categories of Standard Industrial Classification (SIC) codes.

Future Without the Proposed Action/Future With the Proposed Action

- c. For each Build Year, describe future conditions with and without the Proposed Action, based on both a current conditions scenario and a pre-September 11 scenario. This will include known commercial office and retail developments in the study area, as well as likely employment in the study area.
- d. An estimate of average commercial office and retail rents will be determined with the assistance of major real estate development, management, and brokerage firms in the city.
- e. Impacts on the commercial office and retail inventory will be assessed, based on the rents and occupancy factors discussed above. Potential for indirect displacement of or beneficial effects on existing tenants will be discussed, based on a comparison of estimated office and retail rents in the Build Scenario, as well as a comparison of the quality of available office and retail space, and likely tenancy.
- f. Impacts on employment in the study area will be evaluated, as well as potential consequences for employment opportunities throughout Manhattan.
- g. Impacts on retail sales will be evaluated in the context of the anticipated increase in employment in the study area, as well as anticipated demand that would likely be generated by tourists visiting the Memorial and museum and cultural facilities.
- h. Economic benefits of the construction and operation of the Proposed Action will be estimated, using the Regional Input-Output Modeling System (RIMS II) or other available economic impact models. This will include estimates of direct and indirect employment, wages and salaries, a range of business and sales taxes (excluding real property taxes), and total economic output (or demand for goods and services) generated by the Proposed Action in New York City and New York State.
- i. Public sector costs associated with the redevelopment of commercial office and retail components of the project will be estimated, such as infrastructure costs related to the Proposed Action and increased police and fire safety costs that would be required to service the Proposed Action.

Socioeconomic and Residential Analysis

Existing Conditions

- j. Demographic characteristics of the study area will be described for current and pre-September 11 conditions, based on Census 2000 data and other relevant and current data.
- k. Housing characteristics in the study area will be described for current and pre-September 11 conditions, based on Census 2000 data and other relevant and current data.
- l. Recent sales and leasing trends will be described, based on interviews with real estate developers, managers, and brokers who are working in the study area.

Future Without the Proposed Action

- m. Determine future No Action conditions in the build analysis years, based on both the current conditions scenario and a pre-September 11 scenario. Residential development projects that have been planned or proposed within the study area will be identified and described, including location, number of units, approximate sizes, tenure (if known), and estimated rents or sales prices (if known).

Future With the Proposed Action

- n. The potential for indirect displacement of and benefits to existing residential tenants will be analyzed, based on the potential for the Proposed Action, i.e., a critical mass of non-residential use, to make the surrounding area more attractive as a residential neighborhood.

TASK 4: COMMUNITY FACILITIES AND SERVICES

This chapter of the GEIS will evaluate the need for community services likely to result from the Proposed Action. In general commercial development is not expected to generate significant demand for most community facilities.

- a. Based on the proposed building program, determine the types of community facilities for which an assessment is warranted.
- b. For both current conditions and pre-September 11 conditions, describe the community facilities that serve the Project Site, including services provided, capacity, and utilization. As appropriate, conduct phone interviews and/or written communication with department representatives.
- c. For 2009 and 2015, identify conditions for community facilities in the study area in the future without the Proposed Action. This will include future No Action conditions based on both a current conditions scenario and a pre-September 11 scenario (as described above in “Analysis Format.”) Changes may include addition or removal of facilities, administrative changes that alter capacity, and policy changes that may increase or decrease services and capacity.
- d. For the build years, discuss the Proposed Action’s potential to result in impacts to community facilities. The analysis of impacts will account for the cumulative effects of related projects, and will be based on a comparison of the Proposed Action with both of the future No Action scenarios.

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TASK 5: OPEN SPACE AREAS AND RECREATIONAL FACILITIES

The Proposed Action would provide some new open space areas on the ~~WTC Site~~ Project Site while returning thousands of workers and bringing millions of visitors to Lower Manhattan. These visitors could generate a new demand for open space areas in the Financial District and Lower Manhattan, which in general have traditionally been lacking in open space amenities. The following tasks will be performed to determine whether the Proposed Action may affect the quantitative and qualitative measures of open space adequacy. The analysis will also include general safety and security measures related to the open space at the Project Site and the wind effects from the Proposed Action on such open space. This task will include:

- a. Inventory open space and recreational facilities in a ¼-mile radius for current and pre-September 11 conditions. Tally open space acreage for active and passive, publicly accessible recreational facilities.
- b. Estimate employment and residential population of the open space study area using 2000 Census data on population and 2000 reverse journey-to-work data as well as information available from the Alliance for Downtown New York and other relevant and current data. Population estimates will be presented for current as well as pre-September 11 conditions.
- c. Assess the adequacy of publicly accessible open space facilities. The assessment of adequacy may be based on a comparison of the ratio of total passive space per 1,000 workers and residents to city guidelines.
- d. For both analysis years and for both future No Action conditions, assess expected changes in future levels of open space supply and demand in the analysis years based on other planned development projects within the study area. Develop open space ratios for future conditions and compare them with existing ratios to determine changes in future levels of adequacy.
- e. Based on the population associated with the Proposed Action and accounting for any new open space areas to be created, assess the potential effects of the Proposed Action on open space supply and demand by comparing open space ratios with the project to open space ratios in both scenarios for the future without the project.
- f. An examination of the effects of the proposed buildings and other structures to be developed as part of the Proposed Action on wind levels at publicly available open space areas, including sidewalks, building plazas, and park areas based upon a consideration of historical meteorological data. The analysis will utilize airport meteorological data, wind flow fundamentals, and the results of wind tunnel studies performed in Battery Park City and other locations on the west side of Manhattan near the Hudson River.

TASK 6: SHADOWS

A shadow impact assessment will be prepared for any publicly accessible open space areas or historic resource with a significant sun-sensitive feature that is within the path of the shadow of a building in the Proposed Action. Open space areas and the Memorial created on the ~~WTC Site~~ Project Site as well as nearby existing open spaces areas such as the yard at St. Paul's Chapel, the WFC lawn area, the bikeway/walkway along the west side of Route 9A, and the ballfields in Battery Park City will be considered. The significance of sun/shadow sensitivity will be determined based on the nature of the resource at issue in accordance with appropriate environmental review standards.

- a. In coordination with the open space task above and the historic resources task below, identify potential sensitive receptors within the shadow range of the proposed structures. Determine whether identified historic resources have significant sun-sensitive features. Map features of potentially affected open spaces including new open space areas created on the ~~WTC Site~~ Project Site.
- b. Prepare shadow diagrams showing the extent of shadows on sensitive receptors for the four analysis dates: March/September 21, May/August 6, June 21 and December 21. Diagrams will be prepared for conditions pre-September 11 and for the Proposed Action.
- c. Prepare duration tables for each of the sensitive receptors.
- d. Assess potential impacts on sensitive receptors.
- e. Identify mitigation measures, if necessary.

TASK 7: HISTORIC RESOURCES

Lower Manhattan is home to many of New York City's most important historic resources, including over 15 National Historic Landmarks south of Chambers Street. LMDC will serve as lead agency for review under Section 106 of the National Historic Preservation Act (16 USC § 470 et seq.) and its implementing regulations (36 CFR Part 800). The GEIS will examine whether proposed construction could cause damage to historic resources; whether a number of large structures might alter the context of historic resources; and whether changes in traffic flow might affect the context of historic resources. The primary study area for historic resources will be bounded by the Hudson River bulkhead, Murray and Spruce Streets, Broad and Nassau Streets, and Exchange Place and Joseph P. Ward Street. The secondary study area will extend along routes with important changes in traffic volumes or direction.

This task will involve both historic and archaeological resources.

- a. Map and briefly describe designated historic resources (properties listed on the State and National Registers of Historic Places and New York City Landmarks). Resources under consideration for Landmarks designation and resources that have been determined eligible for listing on the Registers will also be identified based on information from Landmarks Preservation Commission (LPC) and the New York State Office of Parks, Recreation and Historic Preservation (OPRHP).
- b. Based on consultation with OPRHP and LPC, compare the Proposed Action to both scenarios in the future without the Proposed Action and assess the project's impacts on historic resources, any visual and contextual changes as well as direct physical alterations—including construction impacts, demolition or alteration, and street changes. Identify potential mitigation measures.
- c. Prepare a disturbance analysis comparing existing basement or previous excavation depths to planned excavation to identify areas that may be newly disturbed by the Proposed Action. This work will be done in coordination with both LPC and OPRHP and in consultation with these two agencies, the need for further archaeological analysis will be determined.
- d. If necessary, prepare Stage IA Archaeological Resources Analysis. This may be necessary for the streets immediately surrounding the ~~WTC Project Site~~ Project Site. ~~if they would be disturbed by project activity~~. Summarize the results of those studies for inclusion in the GEIS.

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TASK 8: URBAN DESIGN/VISUAL RESOURCES

Urban design issues and considerations, such as the restoration of view corridors and enlivening sidewalk activity, have played an important role in developing the Proposed Action. Creating anew the built fabric and open space areas for ~~16~~ 18.5 acres in a highly visible portion of the City is a major urban design effort. This task will be coordinated with the Historic Resources analysis, above, and have the same study area definition. It will also consider open space design and use, street activity, street walls, and building materials, as described below.

- a. Provide a brief urban design history of the ~~WTC Site~~ Project Site including the street network and buildings prior to the construction of the WTC. Discuss the urban design and visual characteristics of the ~~WTC Site~~ Project Site in its current condition and its pre-September 11 condition. The text will be supplemented with photographs and maps as appropriate.
- b. Describe in photographs and text the urban design characteristics and significant visual resources in the study area(s) both in their current conditions and their pre-September 11 condition.
- c. Describe any anticipated changes to the urban design characteristics and visual resources in the study area by the analysis years, based on the current conditions scenario and the pre-September 11 scenario.
- d. Describe the development anticipated with the Proposed Action in terms of building height, Floor-Area Ratio (FAR), and massing. Based on drawings, model photographs, or computer simulations from the project architects, describe effects of the Proposed Action on the streetscape and urban design characteristics of the area, including the buildings' relationship to street-level activity. Describe the open space areas provided and the visual linkages across the ~~WTC Site~~ Project Site. Compare the Proposed Action to the No Action condition of both the current conditions scenario and the pre-September 11 scenario and discuss its effect on the New York City skyline.

TASK 9: NEIGHBORHOOD CHARACTER

The Proposed Action would return elements of the neighborhood, lost on September 11 and would restore some elements of the neighborhood that existed prior to the construction of the WTC. The character of a neighborhood is established by numerous factors, including land use patterns, the scale of its development, the design of its buildings, the presence of notable landmarks, and a variety of other physical features that include traffic and pedestrian patterns, noise, etc. These elements are covered in depth in other GEIS sections, but are brought together here considering their cumulative impacts on the neighborhood. The elements of this task are as follows:

- a. Drawing on other GEIS chapters, describe the predominant factors that contributed to defining the character of the neighborhood pre-September 11 and today. Address the role of current traffic patterns as they affect (or do not affect) neighborhood character near the ~~WTC Site~~ Project Site and in the surrounding area.
- b. Based on planned development projects, land use policy initiatives (not defined as being part of this project), and planned public improvements, summarize changes that can be expected in the character of the neighborhood in the future without the Proposed Action. Future No

Action conditions for 2009 and 2015 will be projected based on both current conditions and pre-September 11 conditions.

- c. The analysis of the impacts of the Proposed Action in various GEIS chapters will serve as the basis for assessing and summarizing the Proposed Action's impacts on neighborhood character. In addition, describe the potential for an increased level of activity, the return of office and retail workers, and the increased numbers of visitors coming to Lower Manhattan.

TASK 10: HAZARDOUS MATERIALS

Considering both construction and operations, this section of the document will assess the potential effects of exposure to any hazardous materials found and describe any required disposal/remediation means and locations.

- a. Review available studies and test data and consult with the appropriate federal, state and local agencies (including the New York City Fire Department).
- b. Perform appropriate environmental assessments for all portions of the Project Site that may be excavated or demolished.
- c. Discuss possible means of disposal of materials and types of available disposal facilities.

TASK 11: INFRASTRUCTURE, SOLID WASTE AND SANITATION, AND ENERGY

The infrastructure that once existed was sufficient to handle the demands of the WTC complex. That infrastructure is being or is expected to be reconstructed (e.g., the Consolidated Edison substation at 7 WTC). This chapter will include the following.

- a. Steps to reconstruct infrastructure services to the project area will be described.
- b. Green building and sustainability principles developed by LMDC in cooperation with the Port Authority and others for the ~~WTC Site~~ Project Site will be considered, including potential benefits with respect to energy efficiency, enhanced indoor environmental quality, conservation of materials and environmentally friendly operations and maintenance, water conservation, and waste management and recycling.
- c. Amounts of water and energy consumed will be estimated and disclosed.
- d. Sewage and solid waste generation will be estimated and disclosed.
- e. The effects of stormwater runoff from the Proposed Action will be assessed. This assessment will consider both potential construction and operational effects.

TASK 12: TRAFFIC AND PARKING/TRANSIT AND PEDESTRIANS

The traffic and transportation analysis component of the GEIS will address the potential for significant impacts of the Proposed Action on traffic, parking, transit, and pedestrian conditions in the study area, and the improvements to mitigate such impacts. It is expected that the Memorial and other new uses on the Project Site will result in increased pedestrian and vehicular traffic around and at the Project Site. Issues that will be addressed by the traffic and transportation impact studies, include the following:

- Potential impacts of the project on traffic flows and levels of service in the area, given potential increases in activity levels and in the context of a new street configuration at

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the ~~WTC Site~~ Project Site, involving the extension of Greenwich and Fulton Streets through the WTC Site, and potential changes of access points to underground levels of the ~~WTC Site~~ Project Site for truck deliveries, and parking. Other traffic considerations will include charter/tour bus activity associated with the proposed Memorial and memorial-related improvements and museum and cultural facilities on the WTC Site.

- The adequacy of parking in the area to accommodate generated traffic, including cars and buses.
- Potential below-grade bus garage parking facilities ~~under~~ at the WTC Project Site will also be analyzed.
- Potential changes in transit passenger and pedestrian flows due to the two proposed street extensions.
- Activity associated with the proposed Memorial, memorial-related improvements and museum and cultural facilities on the WTC Site, as well as additional activity generated by increased retail development.
- Potential increase in ferry trips due to the Proposed Action.
- Independent projects that will be considered as part of the No Action condition will include:
 - Potential creation of a below-grade tunnel section for Route 9A between Liberty and Vesey Streets or the reconstruction of Route 9A at grade.
 - A permanent WTC PATH Terminal and the proposed Fulton Street Transit Center that will connect subway lines to the east with the WTC Site and the World Financial Center.

The analysis will also examine the potential impacts of the project on traffic flows and levels of service in the area if the proposed extensions of Greenwich and Fulton Streets through the Project Site are closed to vehicular traffic (except emergency and service vehicles and, possibly, buses) or if street screening for security purposes significantly affects traffic. Other potential environmental impacts from such street closures or security screening will also be examined in such tasks as air quality, noise, open space and other relevant areas.

As available, information from other on-going traffic and transportation studies in Lower Manhattan including Route 9A, Fulton Street Transit Center, and LMDC Chinatown traffic study will be used in this analysis.

Traffic and Parking

- a. Define a traffic study area, preliminarily assumed to cover a primary area bounded by Chambers Street, Broadway, Rector Street, and West Street to the west (with most, but not all, intersections within this area to be considered) (see Figure 7). It will also include major intersections that could be significantly impacted in a secondary study area outside the primary area, including key intersections along major approach routes such as the West Street / Route 9A corridor, Broadway north and south of the primary study area, Wall, Liberty or Fulton Streets extended east to Water Street, and other key analysis locations. It may also be warranted to address potential effects at the major bridge and tunnel entry points to Lower Manhattan, such as the Brooklyn-Battery Tunnel, Brooklyn and Manhattan Bridges, and the Holland Tunnel. Up to 30 intersections will be analyzed within the primary

- traffic study area, and up to 10 additional locations will be analyzed within the secondary traffic study area.
- b. Inventory street widths, sidewalk widths, traffic flow directions, lane markings, parking regulations, and other items required for traffic analyses. Obtain signal timings from DOT to update the field inventory of traffic control devices in the study area.
 - c. Establish both current conditions and pre-September 11 conditions traffic flow networks in the study area for the weekday AM, midday, and PM peak hours (and for a weekend midday analysis period, if required once the trip generation analysis is completed, but not expected to represent a critical traffic condition). The traffic flow networks will be established using a blend of existing data and new count data, including a blend of Automatic Traffic Recorder (ATR) to establish daily and hourly patterns, and manual intersection turning counts. Collect vehicle classification counts and conduct travel time and delay runs along key corridors to be used for air quality studies.
 - d. Analyze the capacity of the street system in the study area for existing conditions using *2000 Highway Capacity Manual* (HCM) procedures and determine the existing levels of service (LOS), volume-to-capacity (v/c) ratios, and delays on streets in the traffic study area for each peak hour. Congested locations will be highlighted.
 - e. Determine future No Action conditions in the build analysis years based on the current conditions scenario and the pre-September 11 scenario (see “Analysis Format,” above). Estimate future traffic volumes using existing volume information and by adding incremental increases in traffic from discrete projects plus an appropriate background growth rate.
 - f. Determine the volume of person trips and vehicle trips that would be generated by the amount and type of development envisioned as the reasonable worst-case under the Proposed Action. Appropriate trip generation rates, modal splits, and average vehicle occupancies will be used. Independent research will be conducted for new uses that are expected to be included in the Proposed Action, e.g. the proposed Memorial and memorial-related improvements and museum and cultural facilities on the WTC Site.
 - g. Assign the generated vehicle trips through the traffic study area based on the specific origins and destinations of trips, and develop build condition traffic volume networks for each of the traffic analysis hours. Traffic volumes expected to be generated as a result of the new street configuration at the WTC Site will be identified.
 - h. Assess the potential significant impacts of the Proposed Action’s traffic volumes on the street network in terms of potentially significant impacts on levels of service, v/c ratios, and/or average vehicle delays. Potential impacts will be identified through a comparison with both scenarios of future No Action conditions.
 - i. Identify and evaluate traffic improvement measures that would mitigate significant impacts under the Proposed Action. These measures could include signalization modifications, parking regulation modifications, intersection channelization improvements, signage changes, street widenings, one-way streets, turn prohibitions, traffic calming measures, or other ~~comparable~~ mitigation measures.
 - j. Prepare traffic inputs for analysis of air quality in the study area, including volumes, speeds, and vehicle classifications for principal study area corridors, as well as the arrival/departure and auto/taxi/heavy vehicle splits for the project increment.

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- k. Past, current and future parking conditions in the area will be analyzed, including a survey/update of existing public parking facilities to assess available capacity and average utilization within one-quarter and one-half mile distances from the Project Site ~~WTC Site~~. A curbside parking inventory will be performed for streets immediately adjacent to the Project Site ~~WTC Site~~. In the analysis of future conditions, changes in the parking supply and in accumulated parking demand generated in the future with and without the Proposed Action will be identified.

Transit and Pedestrians

- l. Define a transit study area that includes the following subway lines and stations: the Seventh Avenue #1/9, 2 and 3 lines and their stations at Chambers Street, the former Cortlandt Street station, and Rector Street; the A, C, and E lines and their station at Chambers Street/WTC; the N and R lines and their stations at Cortlandt Street and Rector Street; and the Lexington Avenue #4 and 5 lines, Seventh Avenue #2 and #3 lines, and the A, C, J, M, and Z lines and their station at Fulton Street.
- m. Obtain station utilization counts as available from MTA New York City Transit records or other available study reports, including turnstile registration counts, stairwell counts and line-haul ridership data. Conduct additional counts where needed to fill in missing data gaps.
- n. Prepare a detailed quantitative analysis of both current conditions and pre-September 11 conditions 8-9 AM and 5-6 PM peak hour conditions including line-haul capacity utilization, stairwell levels of service for key stairwells, and turnstile area levels of service.
- o. For both analysis years, analyze the future No Action conditions that will be based on the current conditions scenario as well as the pre-September 11 scenario. An appropriate background ridership growth rate and major new developments in the area will be accounted for.
- p. Analyze future conditions with the Proposed Action, and determine potentially significant impacts and mitigation measures, if needed.
- q. Inventory bus routes serving the study area including hours of operation, frequency of service, and load levels within the study area and at peak load points if they exist just outside the study area. Local bus service will be examined qualitatively. Charter/tour bus demands for activity at the proposed Memorial and museum and cultural facilities will be prepared and evaluated.
- r. Define pedestrian analysis locations that focus on key sidewalks, crosswalks, and corner reservoir areas immediately adjacent to development sites envisioned as part of the Proposed Action.
- s. Assemble available pedestrian count data and supplement it with new counts where needed for an analysis of weekday AM, midday, and PM peak hour conditions (and weekend conditions, if needed as per trip generation estimates).
- t. Evaluate pedestrian level of service conditions for current conditions and pre-September 11 conditions, future No Action conditions, and future conditions with the Proposed Action. For potential extension of the area's street grid (including pedestrian routes) through the WTC Site, pedestrian volume projections will be developed for those new sidewalks and crosswalks.

- u. Document PATH system ridership and capacity characteristics under pre-September 11 conditions and projected future no action conditions based on information to be provided by the Port Authority. Capacity utilization and/or level of service characteristics will be documented from the information provided.
- v. Document ferry system ridership and capacity characteristics under pre- and post-September 11 conditions and projected future conditions based on information to be provided by the Port Authority. Capacity utilization will be documented from the information provided.
- w. Identify significant pedestrian level of service impacts and identify and evaluate improvements that would be needed to mitigate those impacts.

TASK 13: AIR QUALITY

The air quality studies for the Proposed Action will focus on mobile sources. ~~Emissions generated from stationary sources on the WTC Site will be insignificant since the Proposed Action will utilize steam from Consolidated Edison for heating purposes.~~ The mobile source air quality impact analysis will address two potential issues:

- Effect of traffic-generated emissions—including those related to queuing and possible tunnel and parking garages—on pollutant levels (e.g., carbon monoxide concentrations) at locations within the study area, and also at peripheral locations along the major feeder roadways to and from the project area; and
- Consistency with the applicable State Implementation Plan (SIP).

If the Proposed Action is anticipated to significantly increase the numbers of ferries, the mobile source air quality impact analysis will also examine increased emissions generated from such ferries.

The Proposed Action could generate new and restored traffic and create new routes to carry existing and project-generated traffic. At peripheral locations, along major feeder roadways to and from the study area, there are a number of locations that currently have high traffic volumes and congested flow conditions. These locations will be subjected to detailed mobile source air quality impact modeling studies since the Proposed Action is expected to add traffic and may have the potential for causing significant air quality impacts.

In addition, the Proposed Action could generate emissions of criteria pollutants (i.e., sulfur dioxide, carbon monoxide, particulate and/or nitrogen dioxide) from backup emergency generators at the site. As a conservative measure, emissions from such emergency generators will also be considered in the DGEIS. If the Proposed Action utilizes steam from Consolidated Edison for heating purposes, no new steam generating combustion sources would be required, and potential impacts from such sources need not be analyzed in the DGEIS.

The air quality analyses will also consider the existing pre-September 11 air monitoring data as well as the post-September 11 air monitoring data available from NYSDEC and the United States Environmental Protection Agency (EPA).

Mobile Source Analysis

The work program will consist of determining (using computerized dispersion modeling techniques) the effects of the Proposed Action on carbon monoxide and particulate matter levels at intersection locations within the study area, and, if significant project impacts are predicted to occur, identifying feasible traffic measures to alleviate those impacts.

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The analysis methodology is relatively straightforward—selection of appropriate receptor sites, calculation of vehicular emissions, calculation of pollutant levels using dispersion models that have been approved by the applicable air quality review agencies (i.e., ~~the U.S. Environmental Protection Agency [EPA]~~, NYSDEC, and the New York City Department of Environmental Protection [DEP]), and the determination of impacts. At locations where exceedances may occur, EPA's refined simulation model will be used.

As described above under "Analysis Format," the air quality analysis will discuss existing conditions (with both current conditions and pre-September 11 conditions), estimate future conditions without the Proposed Action for 2009 and 2015, and evaluate impacts through a comparison of the Proposed Action with No Action conditions.

The specific work program for the mobile source air quality studies is as follows:

- a. Gather existing air quality data. Collect and summarize existing ambient air quality data for the study area. This will include data collected pre-and post-September 11. Air quality monitoring data from EPA and other sources post-September 11 will also reviewed and disclosed in this section.
- b. Determine receptor locations for microscale analysis. Select critical intersection locations in the study area based on data obtained from the project's traffic analysis as well as traffic planners and engineers for the project. It is anticipated that up to 10 intersections will be analyzed for carbon monoxide (CO) and up to five locations will be analyzed for particulate matter (PM₁₀ and PM_{2.5}).
- c. Select the dispersion model for the microscale CO and PM₁₀/PM_{2.5} analyses. It is anticipated that the EPA's mobile source CAL3QHC dispersion model will be used. However, due to the congested nature of the study area traffic network, coupled with the expected number of new vehicle trips, EPA's CAL3QHCR refined intersection model may be used at selected intersections.
- d. Select "worst case" meteorological conditions. Worst-case conditions to be assumed for the CAL3QHC analysis are 1.0 meter/second wind speed, Class D stability, 50°F temperature, and a 0.77 persistence factor. The latest five years of meteorological data collected at LaGuardia Airport will be used for the CAL3QHCR analysis.
- e. Select background levels. Background levels for the study area, which will be obtained from EPA and NYSDEC, will be added to modeled results to determine total pollutant concentrations. For the microscale CO analysis, projected future background CO levels for the study area will be based on recommended values from the DEP.
- f. Select an appropriate emission calculation methodology. Select the methodology and input parameters needed to compute emission source strengths. The task will involve computing vehicular emissions using the emission factor model most recently recommended by EPA for New York. Use DEP- and/or NYSDEC-supplied information regarding credits to account for the state vehicle inspection and maintenance (I&M) program (including any applicable future I&M programs), and the state anti-tampering program. In addition, the most recent New York City vehicle age and mileage distribution data will be used. CO vehicular emissions will be computed using the EPA-developed MOBILE5b model (or MOBILE6 model if available) reflecting changes to the emission factor model and its inputs, released by DEP in September 2000. Particulate emissions will be computed using EPA's PART5 (or MOBILE6 if available). While the latest EPA emissions model is MOBILE6, the

- NYSDEC and DEP have not yet agreed on all the input variables for MOBILE6. Therefore, the scope assumes that the MOBILE5b model will still be used for this study. However, if guidance for MOBILE6 becomes available in a timely fashion, MOBILE6 will be used.
- g. Determine CO pollutant levels. At each microscale analysis site, calculate maximum 1- and 8-hour CO concentrations for the 2009 and 2015 build condition analysis years. The 2009 analysis will also consider impacts from projected construction-related traffic. The analyses will be conducted for peak traffic periods at critical intersections.
 - h. Quantitatively assess the potential impacts associated with proposed parking garage facilities. Impacts from on-street sources and emissions from enclosed parking garages will be calculated.
 - i. Assess impacts from enclosed queuing areas, and/or covered roadways and cumulative impacts from nearby on-street sources, where appropriate.
 - j. Determine PM₁₀ and PM_{2.5} pollutant levels. A detailed microscale analysis will be conducted at locations experiencing substantial increases in traffic from heavy-duty vehicles (e.g., trucks and buses). The analysis will be conducted under the reference point conditions for the 2009 and 2015 analysis years at the locations with the highest number of project-generated heavy-duty vehicles. The 2009 analysis will also consider impacts from projected construction-related traffic. Annual average and maximum 24-hour PM₁₀ and PM_{2.5} concentrations will be estimated.
 - k. Compare the existing and future CO and PM₁₀ pollutant levels with National Ambient Air Quality Standards (NAAQS) standards to determine trends and impacts of the Proposed Action. CO levels will also be compared to the City's *de minimis* levels. PM_{2.5} levels will be compared to appropriate available concentration thresholds to evaluate the Proposed Action's effect.
 - l. Examine mitigation measures. At air quality receptor locations where the Proposed Action is predicted to have a significant air quality impact and/or cause a violation of standards, perform analyses to determine what, if any, local mitigation measures could be implemented to alleviate the significant impacts and the resultant effect on air quality.
 - m. Perform a mesoscale (area wide) air quality analysis by computing pollutant burdens for the primary and secondary study areas. Pollutant burdens represent the total expected quantities of pollutant emissions for the region for a known time period. Pollutant burdens for annual quantities of CO, VOCs, particulate matter, hydrocarbons (HC), and NO_x (primary air pollutants related to motor vehicle exhaust) will be calculated for emissions from changes in vehicular activity within the roadway network. Vehicular pollutant burdens will be to be computed based on the most recent EPA mobile source emission estimating procedures, and the vehicle miles traveled (VMT) for the analysis years.
 - n. Determine the consistency of the Proposed Action with the strategies contained in the SIP for the area. At any receptor sites where potential exceedances of standards are estimated, determine what mitigation measures will be required to attain standards.

Stationary Source Analysis

- a. Perform screening analyses to determine whether the potential impacts from any substantial on-site generators associated with the Proposed Action are significant. If the stationary source screening analysis warrants, conduct a more detailed stationary source analysis using

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the EPA Industrial Source Complex (ISC3) dispersion model. Five years of existing meteorological and background data will be used for these dispersion analyses. Predicted values will be compared with the NAAQS. In the event that potential exceedances of standards are predicted, design measures will be examined with the goal of reducing pollutant levels to within standards.

TASK 14: NOISE

The noise analysis will address three issues: first, whether the diversion of traffic and changes in traffic volumes due to the Proposed Action would result in a significant increase in traffic-related noise levels in the WTC area; second, whether, the operation of mechanical and electrical equipment associated with the Proposed Action would result in a significant increase in noise levels in the WTC area; and third, what level of attenuation is necessary to ensure that noise levels within proposed buildings and other noise-sensitive areas do not exceed desired and regulatory limits.

Because of the various funding sources and regulatory bodies involved in the project, a variety of noise descriptors and impact criteria may be used for the analyses. Two levels of analysis would be performed—first, screening level analyses will be performed to determine if there is the potential for significant impacts, and then, if necessary, detailed analyses will be performed, at specific locations where the potential for significant impacts have been identified taking into account relevant HUD noise standards at 24 CFR Part 51, FTA noise guidelines, and other relevant criteria. If necessary, measures to mitigate or reduce impacts will be identified.

The following specific work tasks are proposed:

- a. Appropriate noise descriptors will be selected to describe the noise environment and the impact of the Proposed Action. These are expected to include the L_{10} and 1-hour equivalent ($L_{eq(1)}$) noise levels; however, where appropriate, additional noise descriptors such as the day-night (L_{dn}), and 24-hour equivalent ($L_{eq(24)}$) noise levels may be examined.
- b. Receptor sites will be selected for analysis purposes. These sites would include locations where the Proposed Action has the greatest potential to increase ambient noise levels and thus have a significant impact, locations where there are or would be noise-sensitive land uses (i.e., residences, schools, religious institutions, parks, the Memorial and open spaces, etc.), and locations that would provide geographic coverage of the WTC Site. A ~~maximum~~ minimum of 20 receptor locations will be selected.
- c. Current noise levels will be determined based upon field measurements and pre-September 11 noise conditions will be estimated based on those measurements and accounting for pre-/post-September 11 changes in traffic. Two types of measurements will be made—continuous 24-hour and spot 20-minute measurements. Continuous 24-hour noise measurements will be made at a maximum of three locations (primarily at receptor sites adjacent to existing residential uses). At the remaining receptor locations spot 20-minute measurements will be performed during weekday AM, midday, and PM peak periods. At some of these sites spot 20-minute measurements will also be performed during late night hours. All measurements will be performed using Type I instrumentation. Parameters to be measured would be L_{eq} , L_1 , L_{10} , L_{50} , and L_{90} values. These measurements will be supplemented by measurements from other studies, and computer modeling (where necessary).

- d. Perform screening analyses. Screening analyses will be performed to determine whether changes in traffic and/or operation of mechanical or electrical equipment would have the potential for causing a significant noise impact. These screening level analyses will examine current and pre-September 11 baseline conditions, future conditions without the Proposed Action, and future conditions with the Proposed Action. A compendium of impact criteria (including NYC CEQR criteria) will be used for purposes of this evaluation. For example, based upon CEQR criteria a doubling of traffic (specifically “passenger car equivalents”) would indicate the potential for a significant adverse noise impact.

At locations where the potential for a significant noise impact is identified, a detailed noise analysis will be performed. The detailed analysis would consist of the following:

- i) Based upon measured noise levels, noise levels for current and pre-September 11 baseline conditions will be determined using acoustical fundamentals, and a variety of techniques may be used including proportional modeling and use of the TNM model.
 - ii) Future conditions without the Proposed Action (for 2009 and 2015, based on the current conditions scenario and the pre-September 11 scenario) will be determined using acoustical fundamentals and a variety of techniques that may include proportional modeling and use of the TNM model.
 - iii) Future conditions with the Proposed Action will be determined using acoustical fundamentals and other techniques. In the case of project-generated traffic, proportional modeling and/or the TNM model will be used. In the case of mechanical or electrical equipment, noise from the source will be superimposed upon No Build noise levels. Other noise sources would be treated using approved state-of-the-art modeling techniques.
 - iv) Project impacts would be determined based upon a comparison of noise levels with the Proposed Action with noise levels without the Proposed Action (or where appropriate to baseline noise levels) with NYC CEQR impact criteria, and other appropriate noise impact criteria.
 - v) If significant adverse impacts are predicted to occur, the feasibility and effectiveness of various mitigation measures will be examined and evaluated.
- e. Attenuation requirements. Analyses will be performed to determine the level of attenuation necessary to ensure that noise levels within buildings and at other noise-sensitive areas do not exceed desired and regulatory limits (i.e., NYC CEQR requirements).
- f. Mitigation. If necessary, identify and examine the effectiveness of potential mitigation measures to avoid or reduce significant adverse noise impact. These measures may include use of silencers, sound attenuators, enclosures, etc. on mechanical equipment, and traffic control measures for traffic-related noise impacts.

TASK 15: COASTAL ZONE

Technically, the ~~WTC Site~~ Project Site is located within the boundaries of the coastal zone. Therefore, the Proposed Action must be assessed for compatibility with the state and city coastal policies. Earlier in 2002, the state approved New York City's new Waterfront Revitalization Program (WRP), which consists of 10 policies specifically drafted for use by projects within the city's boundaries. The analysis will examine and describe the consistency or inconsistency of the

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Proposed Action with each of the ten WRP policies. The analysis will also consider potential floodplain impacts consistent with 24 CFR Part 55.

TASK 16: FLOOD PLAIN

The Proposed Action must be assessed for compliance with Executive Order (~~EO~~)-11988-Floodplain Management and 24 CFR Part 55. Executive Order 11988 requires federal agencies to avoid, to the extent possible, the long and short-term adverse impacts associated with the occupancy and modification of floodplains. Executive Order 11988 also requires federal agencies ~~are~~ to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. HUD regulations provided in 24 CFR Part 55 provide a consistent means for implementing the agency's interpretation of the executive order in the project approval decision making process. The analysis will include: relevant maps defining floodplain/floodway boundaries within the project area; reports and studies documenting the scope of the project and surrounding areas as it relates to direct, indirect, and cumulative impacts; and documentation of all programs and plans, and coordination with other agencies.

TASK 17: NATURAL RESOURCES

This chapter of the DGEIS will examine the potential impacts of the Proposed Action on endangered species pursuant to the Endangered Species Act of 1973, potential impacts on migratory bird species and other potential impacts to natural resources, including if applicable, impacts to the Hudson River. This task will include the following:

- a. Based on available data, describe the current status of terrestrial, aquatic and avian resources in the vicinity of the Project Site as well as any changes that may have occurred since September 11, 2001. Data and reports on regional water quality, aquatic and terrestrial biota and habitats that have been prepared by the United States Fish and Wildlife Service, NYSDEC, NYCDEP, NY/NJ Harbor Estuary Program, as well as other sources, will be used in the evaluation.
- b. Contact the New York State Heritage Program (NYSHP), United States Fish and Wildlife Service, and National Marine Fisheries Service to determine whether there is the potential for threatened or endangered species to occur in the project area. Determine whether the Proposed Action has the ability to adversely affect any threatened, endangered or other federally or locally protected species.
- c. Assess potential impacts of the Proposed Action on water quality and natural resources.
- d. Include, as necessary, mitigation measures to minimize any significant adverse effects of the project on water quality and natural resources.

TASK 18: ELECTROMAGNETIC FIELDS

An analysis will be prepared to examine potential impacts due to electromagnetic fields (EMF) from facilities (i.e., TV/radio/communication transmission equipment) planned for the top of the 1776 Freedom Tower and, possibly, the roofs of other buildings. The analysis will:

- a. Examine applicable rules and regulations regarding EMF.
- b. Provide a survey of the current state-of-the-art regarding possible adverse health effects due to exposure of EMF.

- c. Provide information about typical EMF due to comparable TV/radio/communication equipment.
- d. Assess potential impacts, including potential adverse health effects.
- e. Recommend measures to be employed to reduce any potentially significant adverse effects.

TASK #719: CONSTRUCTION IMPACTS

The GEIS will include a detailed assessment of the potential impacts of the project's construction activities for each of the technical areas covered in the document, focusing on pedestrian and vehicular access and circulation, air quality, noise and vibration, business/economic interests, and historic resources. The analyses will consider the potential effects of the various stages of construction, as well as the cumulative effects of other projects in construction at the same time. This analysis will identify any potential for significant adverse impacts and identify specific mitigation measures. Some of the issues to be addressed include the following:

- Location of construction staging areas.
- Pedestrian and Vehicular Traffic: Potential effects from possible street closings, construction workers' vehicles and parking, trucks used for material delivery, disposal of material and dredge spoils as well as the possible loss of capacity due to a reduction in travel lanes.
- Maintenance of pedestrian access.
- Air Quality: Direct emissions from demolition and construction site activity including fugitive dust and on-site diesel equipment. Potential effects from increases in mobile source emissions of trucks and worker vehicles at nearby sensitive receptors and congested locations and from potential long-term traffic diversions.
- Use of ultra-low sulfur diesel and best available retrofit technology to reduce emissions from construction machinery.
- Noise and Vibration: Potential effects from direct demolition and construction activities including pile driving, caisson drilling, and blasting. Ground-borne noise effects from the possible use of tunnel boring machines.
- Economic Conditions: Effect of construction on access to existing businesses and possible disruption in sales. Direct and indirect economic effects from the expenditure of capital funds. Estimate the capital costs and the number of construction jobs that would result from the project and evaluate the direct and indirect effect on the region's economy. Regional modeling of secondary impacts due to multiplier effects from these expenditures will also be performed.
- Construction site safety and security.
- Utility disruption.
- Foundation settlement and protection of existing subsurface structures.

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- Protection of cultural resources including historic resources and possibly archaeological remains.
- Hazardous materials: a summary of construction-related impacts that were described in detail in previous GEIS chapters.

TASK 20: ENVIRONMENTAL JUSTICE

On February 11, 1994, President Clinton issued Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.” This Executive Order is designed to ensure that each Federal agency “shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.” This GEIS will include an assessment of environmental justice following the guidance of the Council on Environmental Quality, EPA, and NYSDEC.

This analysis will involve identifying communities of concern that could be affected by the project, and then considering whether those communities might experience disproportionately high and adverse human health or environmental effects from the project. The analysis will incorporate the results of the analyses of other impact areas, and will specifically consider how any negative environmental impacts might affect low-income and minority populations. Using information from the 2000 U.S. Census of Population and Housing, together with input from community participation and outreach, census block groups with low-income and minority populations will be identified and specific impacts on those populations assessed. This will involve compiling data on race, ethnicity, and income from the 2000 U.S. Census for the populations that could be affected by the project (those south of Canal Street and west of Pike Street from river to river within approximately ½ mile of the project) to identify low-income and minority communities. The environmental impacts identified in other analysis areas will then be evaluated to determine whether any significant adverse impacts might disproportionately affect low-income and minority residents. This analysis would extend beyond the area identified above if impacts to such other areas are identified. If disproportionate impacts are identified, mitigation measures and enhancement measures for the affected populations will be considered and described.

TASK 21: MITIGATION

This task will identify measures used in project planning to avoid or minimize adverse impacts. Where significant project impacts have been identified in the analyses discussed above, measures will be described that might mitigate those impacts. Where it is not practicable to mitigate impacts, they will be described as unavoidable adverse impacts.

TASK 22: ALTERNATIVES

This section will begin with the discussion of the reasons for selecting the Proposed Action from the large number of alternatives considered. Previously considered alternatives will be identified, and the reasons for their rejection, including relevant social, economic, and legal considerations, will be briefly described.

Alternatives that will be looked at in the GEIS will include a “No Build Alternative” and a reasonable range of other alternatives, such as design alternatives or, if feasible, a “no impact” or

“reduced impact” alternative that might accomplish LMDC’s goals for the Proposed Action (which will be identified in the GEIS description of the project). The analyses will be quantitative in those areas where impacts of the project have been identified; in other areas, the level of analysis will depend on an assessment of project impacts identified in the GEIS.

As part of its discussion, this section of the DGEIS will:

- a) Present a historical summary of the alternatives considered for the Project Site ~~WTC Site~~, and describe why they were not proposed for implementation;
- b) Select alternatives to be examined in the GEIS;
- c) Describe each alternative clearly, using graphics as appropriate, to a level of detail that allows comparison of each with the Proposed Action; and
- d) Compare each alternative to the Proposed Action, highlighting those technical areas in which effects of an alternative differ from those of the Proposed Action.

In carrying out this Task, the lead agency typically determines the reasonable range of alternatives for analysis as potential impacts of the Proposed Action become clarified. In this case, the range of alternatives to be discussed will be drawn from among the following, even though some may prove to be neither reasonable nor feasible:

- i) No-Action Alternative: Leave the WTC Site in approximately its present condition, after completion of the permanent WTC PATH Terminal and interim improvements. Under this alternative, the Adjacent Sites would not be included in the Proposed Action.
- ii) Restoration Alternative: Restore the WTC Site substantially as it existed before September 11, 2001, with updated technology and possibly relocated footprints for the Twin Towers. Under this alternative, the Adjacent Sites would not be included in the Proposed Action.
- iii) Rebuilding Alternatives: These alternatives would be drawn from the plans previously considered by LMDC during the final stages of LMDC’s Innovative Design Study and would likely include an alternative plan similar to the “tower of culture” proposal considered during that Study, as well as a Memorial-only alternative.
- iv) WTC Site Only Alternative: This alternative would locate the entire Memorial and Redevelopment Plan (except possibly a bus parking garage) on the 16-acre WTC Site, which was originally proposed in the Draft Scope. Under this alternative, the Adjacent Sites would not be included in the Proposed Action and the WTC Site would include up to 10 million square feet of commercial office space in four or five towers. ~~Distributed Bulk Alternative: This alternative would be similar to the Proposed Action except that the office space to be located along the east side of the WTC Site would be distributed into four slimmer buildings rather than the three towers identified in the Proposed Action.~~
- v) Redistributed Retail: This alternative would consider alternative configurations for the retail uses to be included as part of the Proposed Action.

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- vi) Reduced Impact (or No Impact) Alternative: This alternative would vary uses, density or other major components of the Proposed Action in order to eliminate or reduce to the bare minimum any significant adverse impacts of the Proposed Action.
- vii) Design Alternatives: These alternatives would vary major design components of project uses in order to reduce any visual, shadow, wind or similar environmental impacts.
- viii) Enhanced Green Construction Alternative: This alternative would consider the environmental benefits and costs of feasible construction, waste disposal and other project environmental management practices not already incorporated into the Proposed Action.

It bears emphasis that this is a preliminary list of the selected alternatives for GEIS analysis only and will be refined as impact assessment progresses. Reasonable alternatives that are feasible will then be compared to the Proposed Action in terms of their environmental impacts, relevant social, economic and legal considerations and ability to realize LMDC's and other public goals for the redevelopment of Lower Manhattan and the WTC Site.

TASK 23: EXECUTIVE SUMMARY

Once the GEIS technical sections have been prepared, a concise executive summary will be drafted. The executive summary will utilize relevant material from the body of the GEIS to describe the Proposed Action, its environmental impacts, practicable measures to mitigate those impacts, and alternatives to the Proposed Action. *

List of Abbreviations Found in WTC Memorial and Redevelopment Plan Scope

ATR - Automatic Traffic Recorder

BPCA - Battery Park City Authority

CAL3QHC - microcomputer-based model for predicting air pollutant concentrations along roadways

CEQR - New York City Environmental Quality Review

CFR - Code of Federal Regulations

CO - Carbon Monoxide

DEP - New York City Department of Environmental Protection

DGEIS - Draft Generic Environmental Impact Statement

DOT - United States Department of Transportation

EMF - Electromagnetic Fields

EPA - United States Environmental Protection Agency

ESDC - Empire State Development Corporation

FAA - Federal Aviation Administration

FAR - Floor-Area Ratio

FEMA - Federal Emergency Management Agency

FHwA - Federal Highway Administration

FTA - Federal Transit Administration

GEIS - Generic Environmental Impact Statement

HC - Hydrocarbons

HCM - Highway Capacity Manual

HUD - United States Housing and Urban Development

I&M - Inspection and Maintenance

L₁₀ - noise level that is exceeded 10 percent of the time

L₅₀ - noise level that is exceeded 50 percent of the time

L₉₀ - noise level that is exceeded 90 percent of the time

L_{dn} - Day/Night Average Sound Level. L_{dn} is the 24-hour average of all sound received at a given location with a 10 decibel penalty applied to all sound generated during nighttime, defined as 10 pm to 7 am

L_{eq} - equivalent noise level (mean energy level of the varying sound levels that occur over a specified period of time)

List of Abbreviations Continued

$L_{eq(1)}$ - equivalent noise level occurring in the course of an hour

$L_{eq(24)}$ - equivalent noise level occurring in the course of 24 hours

LMDC - Lower Manhattan Development Corporation

LOS - Levels of Service

LPC - New York City Landmarks Preservation Commission

MTA - Metropolitan Transportation Authority

NAAQS - National Ambient Air Quality Standards

NEPA - National Environmental Policy Act

NHPA - National Historic Preservation Act

NO_x - Oxides of Nitrogen

NYSDEC - New York State Department of Environmental Conservation

NYSDOT - New York State Department of Transportation

NYSE - New York Stock Exchange

OPRHP - New York State Office of Parks Recreation and Historic Preservation

PATH - refers to PATH Train through former Hudson Tubes

PM_{10} - Particulate Matter (10 micrometers or smaller in size)

$PM_{2.5}$ - Particulate Matter (2.5 micrometers or smaller in size)

RIMS II - Regional Input-Output Modeling System II

RPAD - Real Property Assessment Division

SEQRA - State Environmental Quality Review Act

SIP - State Implementation Plan

TNM - Traffic Noise Model

USC - United States Code

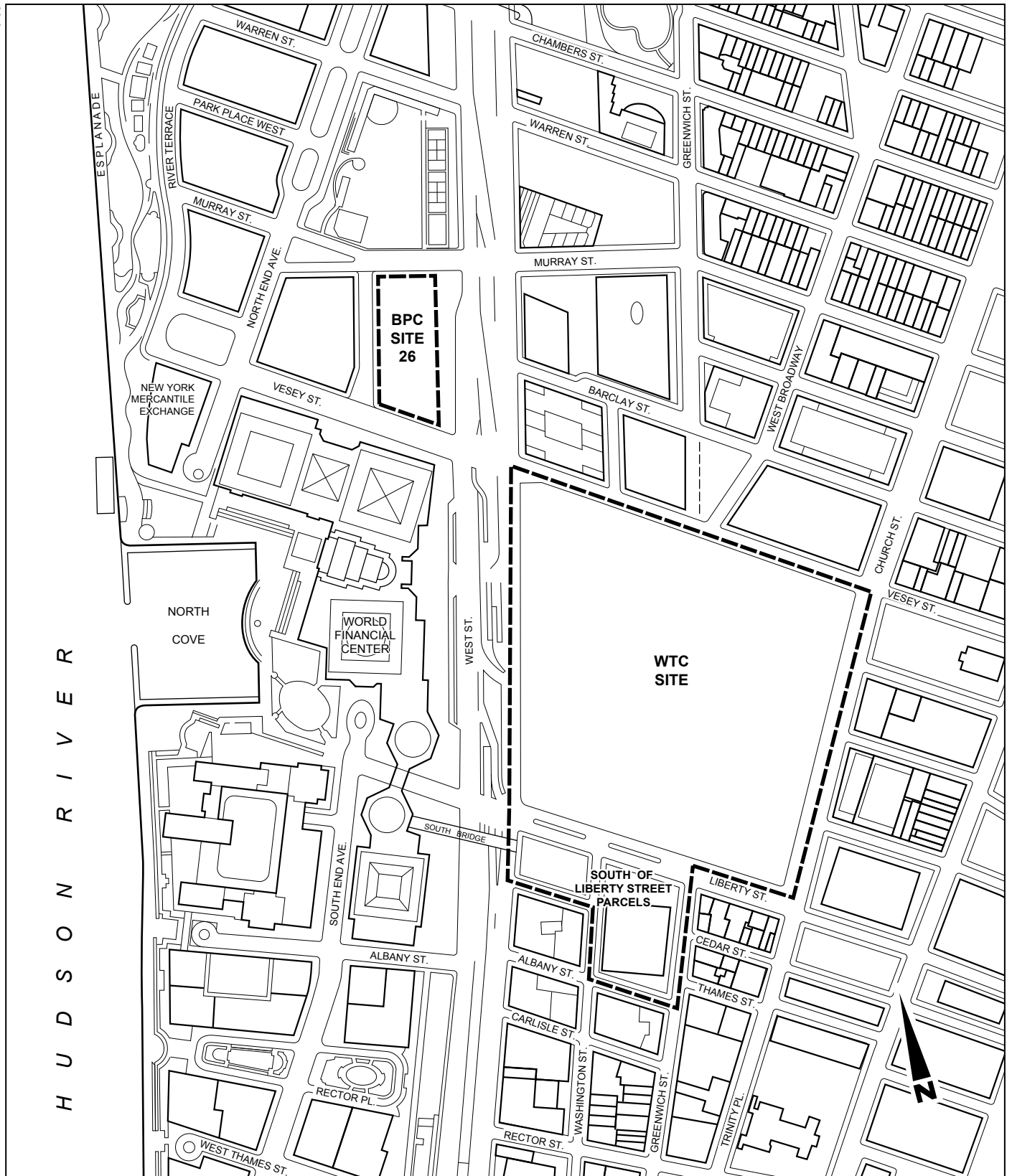
V/C - Volume-to-Capacity

VMT - Vehicle Miles Traveled

VOC - Volatile Organic Compounds

WRP - New York City Waterfront Revitalization Program


WTC - World Trade Center



 Project Site

0 200 400 FEET
SCALE



 Project Site



World Trade Center Memorial
and Redevelopment Plan

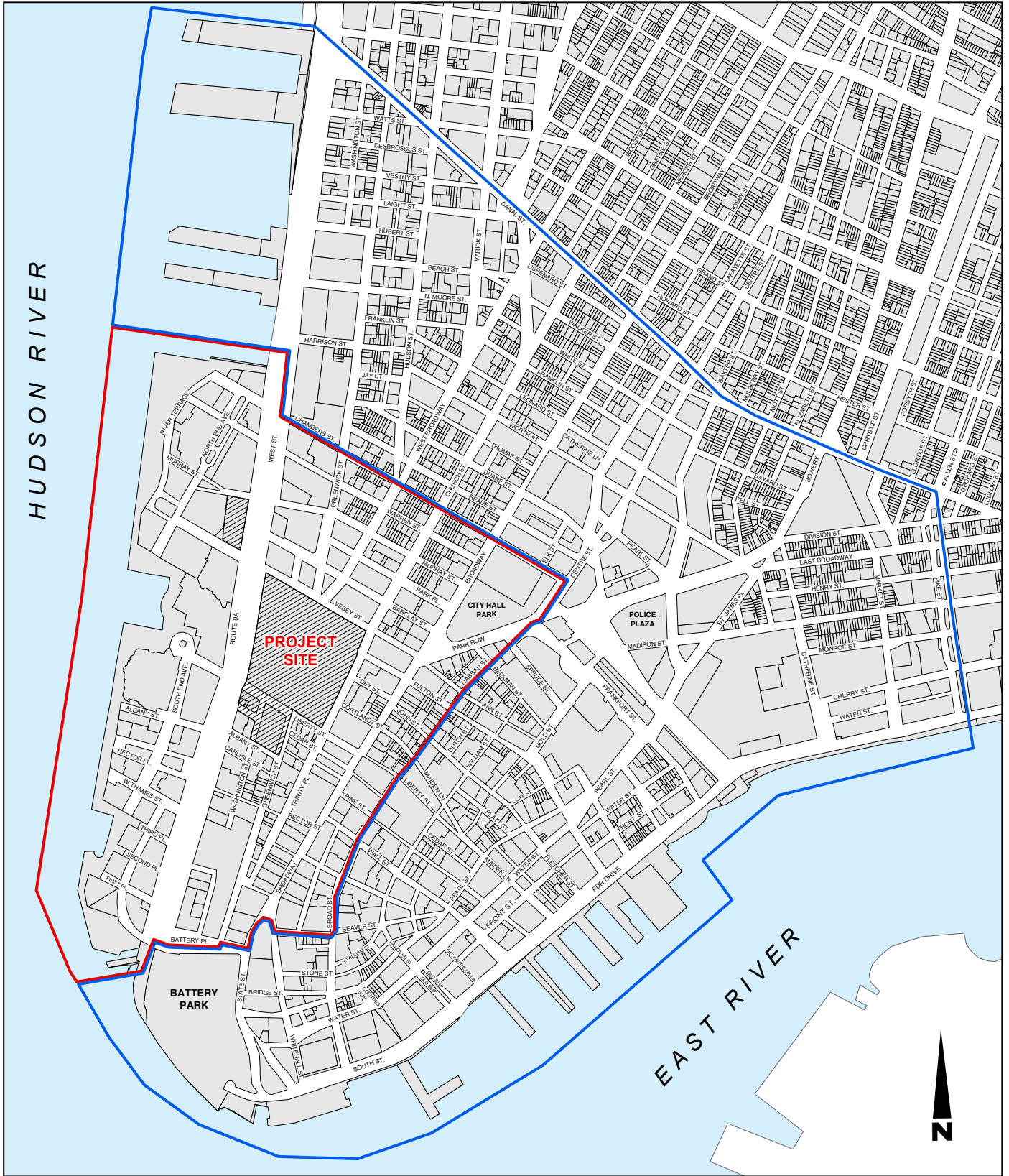
View of Memorial Location from Northeast
Figure 3






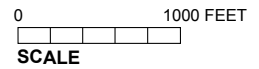


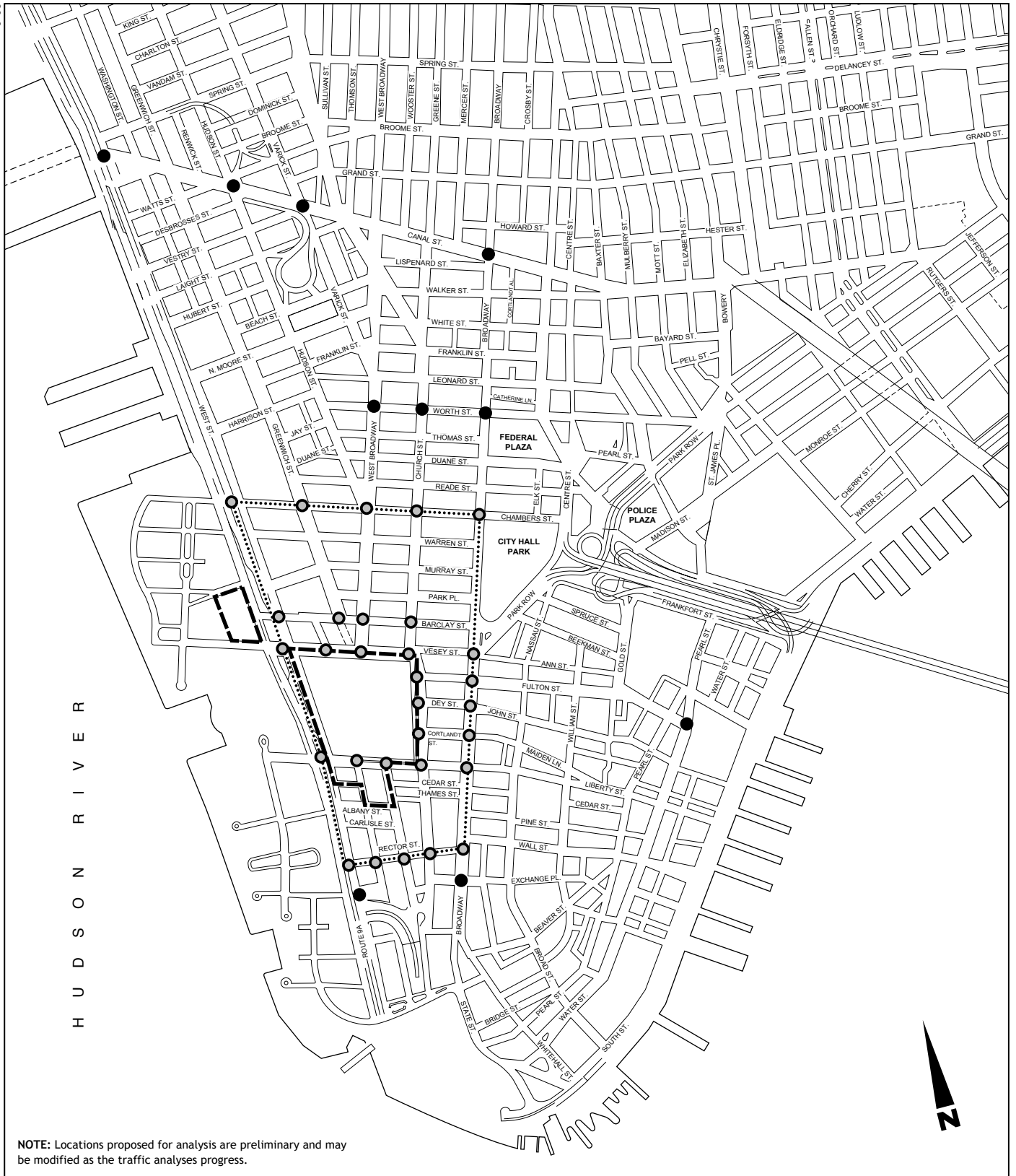
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View of Wedge of Light Plaza from East
Figure 5



-  Project Site
-  Primary Study Area Boundary
-  Secondary Study Area Boundary





NOTE: Locations proposed for analysis are preliminary and may be modified as the traffic analyses progress.

- Project Site Boundary
- Primary Traffic Study Area Boundary
- Primary Area Analysis Locations
- Secondary Area Analysis Location

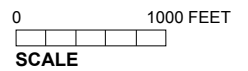


EXHIBIT A

Lower Manhattan Development Corporation Response to Comments on the Draft Scope World Trade Center Memorial and Redevelopment Plan Generic Environmental Impact Statement

I. INTRODUCTION

The Lower Manhattan Development Corporation (LMDC), a subsidiary of the Empire State Development Corporation (a political subdivision and public benefit corporation of the State of New York), as lead agency, intends to prepare a Generic Environmental Impact Statement (GEIS) for the proposed World Trade Center Memorial and Redevelopment Plan (Proposed Action) in cooperation with the United States Department of Housing and Urban Development (HUD) and The Port Authority of New York and New Jersey (Port Authority). The Proposed Action contemplates the construction of a World Trade Center memorial and memorial-related improvements, as well as commercial, retail, museum and cultural facilities, new open space areas, new street configurations, utilities and certain infrastructure improvements at the World Trade Center Site (WTC Site) and the following adjacent sites (Adjacent Sites) comprising: (a) the two city blocks south of the WTC Site, one bounded by Greenwich, Liberty, Washington and Albany Streets and the other bounded by Washington, Liberty, West and Cedar Streets, and a portion of Liberty Street (collectively, the “Southern Site”); and (b) possibly below-grade portions of Site 26 in Battery Park City, bounded by North End Avenue and Murray, West and Vesey Streets, (“Site 26”). The WTC Site and Adjacent Sites are referred to, collectively, as the “Project Site.”

LMDC published a “Notice of Intent To Prepare a Generic Environmental Impact Statement for the World Trade Center Memorial and Redevelopment Plan in the Borough of Manhattan, City of New York, NY and Notice of Public Scoping Meeting and Scoping Comment Period” in the Federal Register on Monday, July 7, 2003; notice of “Positive Declaration, Public Scoping Meeting and Public Scoping Comment Period” in the Environmental Notice Bulletin on June 25, 2003; notices of a “Generic Environmental Impact Statement World Trade Center Memorial and Redevelopment Plan, Public Meeting and Public Comment Period on Draft Scope” in *The New York Times*, *New York Daily News*, *New York Post*, and *New York Sun* on June 23, 2003; in *Downtown Express* on June 24, 2003; in *El Diario la Prensa* on June 26, 2003; in *World Journal*, *Sing Tao* and *Ming Pao* on June 27, 2003; in *Hoy* on June 28, 2003; in *Battery Park Broadsheet* on June 29, 2003; and in *Tribeca Tribune* on July 1, 2003. All such notices indicated that two public meetings would be held on July 23, 2003 to accept comments on the Draft Scope and that written comments would be accepted by LMDC until 5 PM Eastern Daylight Time on August 4, 2003.

At the July 23, 2003 public meetings, LMDC received oral comments from 26 people at the afternoon session and 23 people at the evening session. An additional 76 written comments were submitted to LMDC following the meetings. The following is a summary of the principal public comments on the Draft Scope and LMDC’s responses to such comments. The names of persons or organizations providing written or oral comments on specific issues are identified by letter and number -- “T-__”; “D-__”; “E-__” -- after each comment. The letter “T” indicates oral comments made at the July 23, 2003 meetings, “D” indicates written comments delivered to LMDC’s offices, and “E” indicates written comments received electronically, via e-mail and LMDC’s web site. A table with the name (and affiliation, if any) of the person providing comments is included in Part II. Some individuals and organizations provided multiple comments; in those cases, the individual or organization has been assigned multiple numbers, as reflected in the table in Part II.

II. INDIVIDUALS AND ORGANIZATIONS SUBMITTING COMMENTS ON DRAFT SCOPE

The following persons or organizations provided oral testimony at the July 23, 2003 public meetings on the Draft Scope or provided written comments on or before the close of the public comments period on August 4, 2003:

Name	Affiliation	Code
Rick Bell	American Institute of Architects-NY Chapter	T-1; D-1
Marcie Kesner	New York New Visions and New York Metro Chapter, American Planning Association	T-2; D-2-4
Mark Ginsberg	New York New Visions	T-3; D-2-4
Hugh Hardy	New York New Visions	T-4; D-2-4
D. Kenneth Patton	New York Real Estate Institute at NYU	T-5
E.J. McAdams	New York City Audubon Society	T-6
Louis Epstein	WTC Restoration Movement	T-7; D-7
Michael E. Levine	American Planning Association-New York Metro Chapter	T-8
Caroline Martin	Family Association of Tribeca East (FATE)	T-9; D-9; T-43
Ellie King	Women's City Club of New York	T-10
Petra Todorovich	Regional Plan Association	T-11; D-67
Diane Horning	WTC Families for Proper Burial	T-12; T-27; E-7
Alexander Butzinger	WTC Restoration Movement	T-13; T-50; E-20
Jennifer Hensley	Alliance for Downtown New York (Lower Manhattan's Business Improvement District)	T-14
Jonathan Hakala	Team Twin Towers	T-15; T-51
Bernard Goetz	Resident of Manhattan	T-16; D-66
Diane Dreyfus	Little Italy Neighborhood Association and Mothra-NYC.org	T-17; E-3
Gregory Brender	Representing Assembly member Deborah J. Glick of 66 th District	T-18
Dr. Gary Masouredis	Human and Environmental Health Director, Restoration and Redevelopment	T-19
Jenna Orkin	9/11 Environmental Action and Concerned Stuyvesant Community	T-20; T-48
Catherine Hughes	Financial District Resident, NYU Community Outreach (also Member of Community Board)	T-21; D-21
Monica Iken	September's Mission	T-22
Melissa Aase	Rebuild with a Spotlight on the Poor (coalition of 25 social service and advocacy organizations), also Social Worker at University Settlement	T-23
Darya Cowan	Municipal Art Society and Imagine New York	T-24
Ramon Cruz	Environmental Defense	T-25; D-25a; D-25b
David Kupferberg	Concerned Citizen	T-26
Carl Galioto	Skidmore Owings & Merrill (advisor to Silverstein Property for WTC site master plan)	T-28
Joan Byron	Pratt Institute Center for Community and Environmental Development	T-29
Patricia Dillon	Concerned Tenants of Independence Plaza North	T-30; D-30

Name	Affiliation	Code
Bill Hough	Manhattan Resident (works at 59 Maiden Lane), member of Team Twin Towers (but not speaking on their behalf)	T-31; E-16
Ron DeVito	Team Twin Towers	T-32
George Haikalis	Institute for Rational Urban Mobility	T-33; D-33
Andrew Oliff	WTC Restoration Movement	T-34
Brett Cuvin	Team Twin Towers	T-35
Joe Garofalo	Private Resident (signed in as rep of Urban Justice)	T-36
Rachel Snyder	Team Twin Towers (also works in World Financial Center)	T-37
Alice LaBrie	Citizen, Taxpayer, Voter	T-38
Richard Kennedy	Vice Chairman, Community Board 1 (speaking on behalf of Madeline Wills)	T-39; D-80; E-4
Allison Tupper	Private Citizen	T-40
Colleen DeLaney	Private Citizen	T-41
Michael Cook	Private Citizen (but signed in as member of SOLO, South of Liberty Organization)	T-42; D-42
Coco Gordon	Life Cycles Scorecard Green Committee (working with Civic Alliance)	T-44; E-40
Maria Grieco	Private citizen (also involved with Imagine New York and Listening to the City online)	T-45
Joel Kupferman	New York Environmental Law and Justice Project	T-46; D-46
Marc Ameruso	Tribeca Resident, also a member of Community Board 1	T-47
Catherine McVay Hughes	Ambient Group, Inc.	D-21
Robert Yaro	Civic Alliance	D-55
	Association of the Bar of the City of New York	D-56
	The City of New York Landmarks Preservation Commission	D-57
Mark Scherzer	Self	D-58
Rachel Shatz	Empire State Development Corporation	D-59
E. Gail Suchman and Gail Miller	New York Lawyers for the Public Interest, Inc. on behalf of the Organization of Waterfront Neighborhoods and Communities United for Responsible Energy	D-61
Harvey Epstein	Community Board #3	D-62
Richard Broun	HUD	D-63
Sheldon Silver	Assemblyman, 64 th District	D-64
Anthony Ard	Gracie Point Community Council	D-65
Joshua J. Sirefman	NYC Economic Development Corporation	D-68
Alison Cordero	Williamsburg/Greenpoint O.U.T.R.A.G.E.	D-70
Ashok Gupta	Natural Resources Defense Council	D-71
C. Virginia Fields	City of New York, Office of the President, Borough of Manhattan	D-72
David A. Stilwell	US Department of the Interior, Fish and Wildlife Service	D-73
Cherie L. Fernandez	Self	D-76
Susan E. Schruth	U.S. Department of Transportation, Federal Transit Administration	D-77
	Clean Air Campaign	D-78

Name	Affiliation	Code
	Rebuild Downtown our Town	D-79
Kelly Kostanesky	September's Mission	E-1
Catherine and Terence A. McShane	Self	E-2
Margaret Rose and Kieran Canavan	Self	E-5
George V. Hindy	Self	E-6
Shannon Wagner	Self	E-8
Kathy Maciejewski	Self	E-9
Diana J. Sayegh	Self	E-10
David Ziminski	Self	E-11
Tara Henwood	Self	E-12
Michael Burke	Self	E-13
Virginia Hindy	Self	E-14
Joanne Hindy	Self	E-15
David Kallick	Labor Community Advocacy Network to Rebuild New York	E-17
Donna Bencel	Self	E-18
Alexa Fabrega	Self	E-19
Pedro Ramos	Self	E-21
Kurt Horning	WTC Families for Proper Burial	E-22
Madeleine Zuccala	Septembers Mission	E-23
Dorry Tompsett	Self	E-24
Beverly Eckert	Self	E-25
Alexis Kolpak	Self	E-26
John Freeman	Self	E-27; E-37; E-38
Pat Williams	Self	E-28
Christopher Beau	Self	E-29
H.F. Bud Kiefer	Self	E-30
Manuela V. Nita-Gallo	Self	E-31
Laurie Spampinato	Self	E-32
Aimee Brooks	Self	E-33
Brian Arcuri	Self	E-34
Roger Mike Williams	Self	E-35
Chris Bush	Self	E-36
Tom Auchterlonie	Self	E-39
Christina Hemphill	New York City Environmental Justice Alliance	E-42
Kelly Williams	Self	E-43
Laura Hepler and Chris Rembold	Sierra Club, NYC Group, Environmental Justice Committee	E-44
Frederic Schwartz	Fred Schwartz Architects	E-46
Mary Hart	Self	E-47
Kimberly Flynn	9/11 Environmental Action	E-48

III. COMMENTS AND RESPONSES

A. Environmental Review and Public Participation Comments

Comment #1: A federal agency should be lead agency, not LMDC, and the United States Environmental Protection Agency (EPA) should be added as an approving agency. LMDC should not be lead agency for the floodplain analysis. The role of New York City should also be recognized and strengthened. (T-9 [D-9], T-17, D-2-4, D-30, D-78, E-3)

Response: LMDC is the proper lead agency as recipient of HUD Community Development Block Grant program funds. LMDC continues to work closely with HUD as well as the City on the Proposed Action. LMDC also sent lead agency letters on May 27, 2003 to all cooperating/involved/interested federal, state and local agencies, including the EPA and the New York City Department of Planning, all of which consented to LMDC serving as the lead agency and/or agreed to cooperate with LMDC as lead agency. While no EPA permits are required and thus EPA is not an approving agency, EPA is a cooperating agency on the Proposed Action.

Comment #2: Compliance with Section 106 of the National Historic Preservation Act may require consultation with the Advisory Council on Historic Preservation and Indian tribes that claim ancestral/cultural ties to lower Manhattan; LMDC may also have to undertake efforts to identify and recognize “additional consulting parties” and members of the public for consultation purposes (see 36 CFR 800.2(c)(5) and 2(d)). (D-63)

Response: LMDC recognizes that it must comply with Section 106 of the National Historic Preservation Act and all other applicable regulations relating to historic preservation. See Section D of the Scope.

Comment #3: The process is moving too fast, and LMDC is not properly engaging the public or media. The public comment period should be extended or another comment period on a revised draft scope should be provided. Another public meeting should be held that is open to a larger community. The GEIS should explain the need to rush the environmental review process. (T-14, T-20, T-22, T-30 [D-30], T-51, D-62, E-1, E-2, E-5, E-6, E-14, E-15, E-48)

Response: The 45-day comment period on the Draft Scope meets all applicable requirements and was an adequate period of time to permit substantial public participation, particularly in view of the number of oral and written comments received. LMDC has engaged and will continue to engage in extensive outreach efforts as the comprehensive environmental review of the Proposed Action moves forward. All public meetings and hearings are open to the public and are not limited to any particular interest group or community. There will be additional opportunities for the public to comment on both the draft GEIS (DGEIS). There has also been significant media coverage on the progress of the project and related public processes.

Comment #4: There needs to be transparency in the process, and public participation must continue as the GEIS process continues. The public should be notified of future public meetings. Leaseholder documents and agreements between LMDC and The Port Authority should be disclosed. Documentation of communication decisions among public agencies that could materially affect the Proposed Action, air monitoring data and types of equipment utilized during construction must also be disclosed. Outreach must be multilingual. (T-2-4 [D-2-4], T-14, T-22, T-23, T-25 [D-25a], T-30 [D-30], T-41, D-46, D-9, D-55, D-56, D-62, D-64, D-67, D-80, E-1, E-2, E-4, E-5, E-6)

Response: LMDC will continue to make appropriate information available as the process proceeds and to reach out to interested persons, organizations and local community boards. There will also be an

opportunity for public comment after LMDC releases the DGEIS for public review. Public notices regarding the release of the DGEIS for public review and the date/time of the public hearing will be translated into Spanish and Chinese. Additional notice of all public hearings and other relevant information regarding the environmental review of the Proposed Action will continue to be disseminated on LMDC's website at www.RenewNYC.com. The Final Scope has been revised to note these opportunities for further public comment. LMDC will provide environmental review-related documents as the process proceeds.

Comment #5: LMDC should make transcripts of the Public Scope meetings available on its website. (D-59)

Response: Transcripts will be made available on the LMDC website in the Planning and Design Section.

Comment #6: Providing a forum for the victims' families to voice their concerns is especially important. (E-3)

Response: LMDC agrees and will continue to provide a forum for the victims' families. Up-to-date information on both the Memorial and other planning efforts will be provided on the website in the Families section.

Comment #7: The new LMDC Advisory Councils should have an opportunity to weigh in on the GEIS before it is finalized. (E-14, E-15)

Response: LMDC agrees and will continue to provide a forum for the Advisory Councils.

Comment #8: The Final Scope should clarify the differences between the Libeskind design and the negotiated design. A scale model of the proposal should be available so that the public can see what exactly is being proposed and have an opportunity to comment on the project, particularly since the Libeskind plan has been changed. (T-22, D-46, D-55, D-67, E-2, E-5, E-6)

Response: The Scope requires a full description in the DGEIS of the proposed project design (including figures), which is substantially based on the Libeskind design of February 2003. A scale model is not part of a GEIS.

Comment #9: Public outreach must be improved, as many people who provided detailed contact information at "Listening to the City" were not notified of follow-up meetings. (E-3)

Response: See Part I above for a summary of the extensive public notice given by LMDC for the July 23 public meetings.

Comment #10: All reconstruction and improvement activities anticipated to be funded under HUD's Community Development Block Grant, including above ground (building restoration) and below ground activities should be included in the Scope. The DGEIS should examine restoration and installation activities within the 16-acre site and an appropriate study area. (D-59, D-78)

Response: Section B of the Scope has been modified to identify a utility and infrastructure improvements program in Lower Manhattan, which is a proposed funding program to be administered by the Empire State Development Corporation that is being considered by HUD.

Comment #11: The development of the WTC Site must involve more heightened scrutiny and vigor in assessing environmental impacts. (D-46)

Response: The environmental review will be at least as stringent as the National Environmental Policy Act (NEPA) or New York State Environmental Quality Review Act (SEQRA) requires.

B. Comments on the Draft Scope

Comment #1: A statement of purpose and need should be in the Scope, not just the GEIS. (T-10, D-55, D-61, D-70, D-79, E-17, E-42, E-48).

Response: A section entitled “Purpose and Need for the Proposed Action” has been added to Section B of the Scope.

Comment #2: The objectives and statement of purpose for the project and environmental review should be consistent with LMDC’s “Principles and Revised Blueprint for the Future of Lower Manhattan” (i.e., Blueprint promotes sustainability and excellence in design for environmentally sensitive development.). The statement of purpose and need should include specific environmental, socioeconomic and design goals. (D-46, D-55, D-56, D-61, D-67, D-70, E-48)

Response: The DGEIS will analyze alternative “sustainable green” features in the Enhanced Green Construction Alternative in Task 22 (Alternatives) of the Final Scope. The DGEIS will also assess the consistency of the Proposed Action with LMDC’s “Blueprint.” Section C of the Final Scope has also been modified to explain that the design guidelines to be included in the DGEIS will address energy efficiency, environmental and operational performance, and sustainable strategies.

Comment #3: The DGEIS should include an overall goal of setting new national/international standards for environmental excellence in design, construction, and operation of all buildings and related infrastructure. To meet this goal, the DGEIS should examine performance-based green building guidelines; consider whether on-site energy production/cogeneration are feasible; consider ways to minimize air emissions from energy consumption at the WTC Site; consider ways to minimize water use and maximize capture of stormwater; consider plan to move goods and waste that minimizes use of trucks; provide maximum open and green space and waterfront access; consider ways to minimize air and noise emissions during construction. (D-46, D-55, D-56, D-61, D-71, E-48)

Response: See Response to Comment B.2 above.

Comment #4: There should be a new task that engages in a full fiscal analysis detailing project costs, sources of revenue and rates of return for each alternative. (T-11 [D-67], T-25 [D-25a], D-46, D-55, E-4)

Response: Such a task is not required for a GEIS, the purpose of which is to address potential environmental impacts of the Proposed Action and its reasonable alternatives. Relevant economic and fiscal considerations relating to the Proposed Action will be considered by LMDC and the Port Authority at the time of final approval of the Memorial and Redevelopment Plan. Nonetheless, a cost analysis of various green measures will be prepared as part of the Enhanced Green Construction Alternative in Task 22 of the Final Scope.

Comment #5: The Scope should describe how the Proposed Action relates to other projects in lower Manhattan, including PATH, Route 9A and Fulton Street Transportation projects and should examine cumulative impacts of all projects (i.e., cumulative construction impacts). The Scope should explicitly evaluate how these projects, major alternatives and impacts relate to the Proposed Action so as to ensure that the separate environmental reviews for each project are not viewed as segmentation of an overall rebuilding plan for lower Manhattan. (T-11 [D-67], T-21, T-25, [D-25a], D-2-4, D-7, D-46, D-55, D-56, D-61, D-70, D-77, D-78, D-79, D-80 [E-4], E-17, E-42, E-48)

Response: Section E of the Final Scope has been modified to include an identification of potential cumulative effects of the Proposed Action with other relevant projects. No other change to the Scope is required because Section B already addresses the projects mentioned in the comment. These other public projects have individual utility and will undergo separate environmental reviews.

Comment #6: The GEIS should assess how the Memorial and the overall WTC redevelopment will impact nearby residential areas. (E-4)

Response: No change to the Scope is required as the various Tasks contemplate examining the potential impacts of the Memorial and Redevelopment Plan on residential areas.

Comment #7: The examination of future projects in Task 2 (Land Use and Public Policy), must include the full length Second Avenue subway project and the at-grade alternative for Route 9A. (D-64, D-72)

Response: The DGEIS will examine both alternatives for Route 9A. Construction of the Second Avenue subway is expected to begin in 2004 and continue for approximately 16 years and the staging of segments has not yet been determined. It will be identified as a possible project in Task 2.

Comment #8: The Scope of Work should include a map showing primary and secondary study areas for the analysis of land use and public policy. (D-46, D-55, D-67, D-79)

Response. The Final Scope includes such a map in Figure 6.

Comment #9: For Task 3 (Socioeconomic Conditions), how can Census 2000 data reflect current conditions when 30% of people have left the area since September 11, 2001? (D-9)

Response: Task 3 contemplates examining demographic characteristics for both pre and post September 11, and will be based on other relevant data, not just Census 2000 data. Trends since September 11 will be considered.

Comment #10: Task 3 must include economic losses to homeowners and building owners due to negative effects on quality of life during the construction period. (D-9)

Response: The potential environmental effects of construction on both businesses and homeowners are included in Task 19. Economic impacts as such are not the subject of the GEIS.

Comment #11: The impacts on commercial and retail inventory in Subtask "e" in Task 3 should be examined under different market assumptions -- i.e., one scenario with weak market conditions with employment and income growth and another scenario with robust growth. (D-46, D-55, D-67, D-79)

Response: The DGEIS will examine the development program under the Proposed Action, and compare such program with pre and post September 11, 2001 conditions. Because these two periods represent weaker and more robust market conditions, there is no need to examine other scenarios: 2002 employment and business establishments, second quarter 2001 office market and second quarter 2003 office market provide sufficient contrasts.

Comment #12: The analysis in Subtask "f" of Task 3 should be examined for all of New York City and a sizable portion of northern New Jersey and include impacts on the industrial and occupational distribution of employment and on wage and income levels and with the same market assumptions as used in Subtask "e". (D-79)

Response: See Response to Comment B.11 above. The study area for socioeconomics is typically similar to the land use study area.

Comment #13: The analysis should also examine the influence of expected construction and market conditions in Midtown, Jersey City and Downtown Brooklyn on lower Manhattan. (D-55)

Response: Indirect impacts on the office market are likely to be evident closer to the Project Site. In addition, the study area for socioeconomics is typically similar to the land use study area. While the DGEIS will describe office market conditions in Manhattan as an introduction to the impact analysis, the purpose of the GEIS is not to determine the impact of the Proposed Action on other markets, but to determine the effects on existing and no-build conditions in the market.

Comment #14: The analysis of public costs in Subtask “i” in Task 3 should include an analysis of tax implications for the City and State and an analysis of opportunity costs. (D-79, E-17, E-42)

Response: Projecting the tax implications and opportunity costs would be speculative and these are not issues for a GEIS.

Comment #15: Task 3 should include a study of the indirect displacement of small business and low and moderate income residents. (D-62)

Response: The Scope considers small businesses displacement in Subtask “e” of Task 3 and residential displacement in Subtask “m” of Task 3.

Comment #16: The Socioeconomic analysis in Task 3 should also be expanded to include impact on the residential character and capacity of the area. For example, the impact of expanded residential use on retail sales is not described. (D-46, D-55, D-67, E-17)

Response: The DGEIS will analyze the extent that the Proposed Action would lead to direct or indirect displacement of residents in the study area. Since the Proposed Action does not include residential development, the DGEIS will not look at changes that may occur from actions outside this Proposed Action, such as the impacts of expanded residential use on retail.

Comment #17: The DGEIS must specify the type of community facilities to be analyzed in Task 4 (Community Facilities and Services). Subtask “b” in Task 4 must make specific reference to police and fire department staffing and consider whether such staffing is adequate in the event of another terrorist attack. (D-9, D-46, D-55, D-79)

Response: Task 4 will identify the community facilities. This Task also contemplates an analysis of the adequacy of existing police and fire department staffing. No change to the Scope is necessary.

Comment #18: The following effects on firefighting infrastructure must be examined: the need for new fire houses/fiscal structures, the effects upon staffing, building designed concerns, problems posed by noncompliance with the New York City fire code. The fire department must play a significant role in determining and reviewing safety standards during and after construction at the site. (D-46, D-55, D-78)

Response: The DGEIS will address the impacts of the plan on the police and fire department in Tasks 3 and 4. The description of the Proposed Action in the Scope has been modified to include a description of safety and security features and procedures.

Comment #19: A study of how many people will come to the Memorial must be completed and documented as the site set aside for the Memorial may be too small. The plan as proposed may result in overcrowding. (T-22, T-35, D-1, D-46, D-55, E-1, E-2, E-5, E-6).

Response: No change to the Scope is required as Task 12 already contemplates this analysis.

Comment #20: Memorial traffic will drop off significantly and by 2015, traffic to the Memorial would have declined permanently. (D-7).

Response: No change to the Scope is required. Task 12 will analyze potential impacts of traffic to the Memorial for both years 2009 and 2015.

Comment #21: Effects of the Proposed Action on the Memorial must be considered (i.e., shadows, urban design and noise). (T-12, T-24, D-46, D-55, E-7).

Response: The effect of the Proposed Action on the Memorial was contemplated in the Draft Scope; nonetheless, Tasks 6 (Shadows) and 14 (Noise) have been revised to make clear that LMDC intends to analyze the potential impacts of the Proposed Action on the Memorial.

Comment #22: Task 6 should use City Environmental Quality Review (CEQR) guidelines for shadow impacts. St. Paul's churchyard should be specified for consideration in the shadow impact assessment. Shadow impacts on residential buildings should also be studied. Current shadow impacts must also be considered. (T-30 [D-30], D-9, D-46, D-55, D-58, D-79)

Response: City CEQR guidelines will be considered in preparing this assessment for the DGEIS. Under these guidelines, St. Paul's graveyard would be examined as a historic landscape. The Scope has been modified to specifically identify St. Paul's graveyard. Consistent with City CEQR guidelines, no additional shadow assessments need to be prepared. Current shadow impacts will be part of the Current Conditions Scenario.

Comment #23: The DGEIS should examine potential changes in wind patterns from the redevelopment. (D-9, D-58)

Response: Task 5 (Open Space Areas and Recreational Facilities) has been modified to include an examination of wind effects from the Proposed Action.

Comment #24: The open space and recreational facilities in Task 5 should be rewritten to not include any unrelated development on the water. (D-78)

Response: No change to the Scope is necessary. Task 5 will analyze development related to the Proposed Action.

Comment #25: Impact of having the WTC Site declared an historic site must be examined and Task 7 (Historic Resources) must include Tribeca, which is an historic district. (T-27, T-47)

Response: The New York State Historic Preservation Office will be consulted on the issue of whether the WTC Site might be declared eligible for listing on the State or National Register of Historic Places. Tribeca is within the contemplated secondary study area of Task 7.

Comment #26: The Positive Declaration and Draft Scope appear to be adequate for architecture and archeology and there are no further archeological concerns for the project site in Task 7. (D-57)

Response: Comment noted.

Comment #27: A standard analysis of urban design and visual character in Task 8 (Urban Design/Visual Resources) is not appropriate; each alternative should be fully and quantifiably analyzed from an urban design perspective and describe the concept of the site plan as a whole, the interrelation of its parts and its visual character. A secondary study area should be added to Task 8 to address the urban design/visual resources of the proposed project as is experienced on the skyline from other parts of the City. (T-24, D-55, D-78)

Response: Task 8 of the Final Scope has been modified to include an examination of the potential effects of the Proposed Action on the NYC skyline.

Comment #28: The Draft Scope does not adequately address hazardous materials. The rebuilding process must consider issue of contaminants, including pre-existing hazardous materials from the September 11 disaster. Hazardous materials need to be identified and reported in the DGEIS and sampling of soil should be completed prior to the commencement of the redevelopment. (T-17, T-20, T-30 [D-30], T-46 [D-46], D-9, D-78)

Response: LMDC has expanded the discussion of Task 10 (Hazardous Materials) to address these comments.

Comment #29: Stormwater Management must be included in the DGEIS. (T-19, D-63, D-73)

Response: This analysis has been added to Task 11 (Infrastructure, Solid Waste and Sanitation, and Energy).

Comment #30: Regulatory approval under the Clean Water Act for a stormwater management plan is necessary from the EPA. (D-46)

Response: New York State Department of Environmental Conservation (NYSDEC) has been delegated authority to administer permitting programs under the Clean Water Act, including the issuance of stormwater discharge permits. Thus, NYSDEC would review and approve a stormwater management plan for the Project Site.

Comment #31: Infrastructure management for maintaining quality of life needs to be addressed in the DGEIS. (T-19)

Response: No change to the Scope is required as Task 11 already contemplates this analysis.

Comment #32: Task 11 should be updated per LMDC's "Principles and Revised Blueprint for the Future of Lower Manhattan" (i.e., Blueprint promotes sustainability and excellent in design for environmentally sensitive development). (D-46, D-55, D-56, D-61, D-70, E-48)

Response: See Response to Comment B.2 above.

Comment #33: Task 11 should include the following analysis: (1) determine the total energy consumed on-site and the total emissions under the proposed and alternative scenarios -- these numbers should then be categorized as follows: construction, transportation, electrical, space cooling and space heating and should include in particular fine particulate and carbon dioxide; (2) determine the energy consumption and emissions for the same categories listed in (1) for a cost-effective green scenario, using ten-year

payback as a definition for cost-effectiveness and include measures such as demand and supply-side efficiency improvements, cost benefit calculations and the availability of financial assistance from NYSERDA; (3) determine the energy consumption and emissions for the same categories listed in (1) for an advanced green scenario with a goal of zero net carbon dioxide emissions. (D-71)

Response: The Enhanced Green Construction Alternative in Task 22 of the Final Scope will include an examination of green alternatives, including a cost-benefit analysis. The DGEIS will also quantitatively examine, as feasible, energy and emissions savings.

Comment #34: The pedestrian and traffic impacts of depressing West Street must be examined. (T-2-4 [D-2-4], T-18, D-33)

Response: Task 12 of the Final Scope contemplates that traffic and pedestrians impacts of the Proposed Action will be analyzed both with West Street in its current configuration and with a tunnel under West Street between Liberty and Vesey Streets.

Comment #35: Task 12 should include an examination of the effect of likely double parking on the level of service and the effect of security provisions on transportation, including the impact of heightened security on the level of service and possible mitigation of these impact. (D-68)

Response: Any screening or security employed that significantly affect on-street conditions will be analyzed in the DGEIS.

Comment #36: There are too few traffic analysis points. The primary analysis of traffic locations in Task 12 should include the following intersections: Murray and West Streets, Murray and West Broadway, Murray and Church Streets. The secondary analysis of traffic locations in Task 12 should include the following intersections: Canal Street and Sixth Avenue, Varick Street and Beach Street, Laight Street and Hudson Street, Laight and West Streets, Trinity Place and Edgar Street, Broadway and Battery Place. (T-30 [D-30], D-68)

Response: The preliminarily selected 40 traffic analysis locations for the DGEIS represent the locations where traffic generated by the Proposed Action is expected to be most heavily concentrated and the locations away from the Project Site where potential impacts may be significant. The traffic study area encompasses the intersections expected to be most affected by the Proposed Action and are representative of the impacts that can be expected throughout the area. These locations may be modified once the traffic data is reviewed. In addition, other intersections may be added for analysis in the DGEIS once the trip generation and traffic assignment tasks are completed and additional information is available on potential other impact locations.

Comment #37: Task 12 should disclose the types of ferry facilities and ferry routes proposed. (D-78)

Response: Task 12 has been amended to include an analysis of the impact of a potential increase in ferry trips due to the Proposed Action.

Comment #38: Subtask “c” of Task 12 must include weekend traffic, including exodus at 5pm or thereafter. (D-9)

Response: If the trip generation and analyses indicate that a weekend analysis is needed, a comparison of hour-by-hour trip generations and background traffic volumes on weekends will establish the critical time period for analysis in the DGEIS. The Draft Scope cites the weekend midday analysis period because it appears likely that, if needed, that would be the most critical time period.

Comment #39: Subtask “s” in Task 12.s must include traffic on weekends. (D-9)

Response: No change to the Scope is required as such analysis will be done as necessary based on the per-trip generation estimate.

Comment #40: The Draft Scope has too little on air quality. It does not include a clean-up study or the results of air monitoring from post-September 11 and does not describe how toxic emissions would be managed or controlled. (T-30 [D-30], T-46 [D-46], T-48, D-80 [E-4]).

Response: Task 13 (Air Quality) has been revised in a number of ways. First, Task 13 now includes a discussion of stationary sources within the redeveloped site (i.e., back-up emergency generators that would be located at the site). Second, Task 13 now provides that the air quality analyses will include a summary of relevant EPA post-September 11 monitoring data as part of background conditions.

Comment #41: The air quality study should include the impact of emergency generators at the WTC Site. (D-46)

Response: Task 13 of the Scope has been modified to include such an examination.

Comment #42: There are too few analyses locations for traffic studies included in Task 13. The Draft Scope anticipates that up to 10 intersections will be analyzed for carbon monoxide and five for particulate matter. That is not sufficient. (T-30 [D-30], D-9)

Response: The selection of intersections for air quality modeling will be based on projected worst-case traffic conditions. If traffic data indicate the need for additional locations, additional locations will be modeled.

Comment #43: Greenwich Street, especially if it carries vehicular traffic through the site, should have more than two analysis locations north and two south of the site. (D-9)

Response: The traffic analyses in the DGEIS will be conducted for representative analysis locations to the north and south of the Project Site.

Comment #44: The air quality analysis should include water-based mobile sources such as increased ferry traffic due to the Proposed Action. (T-30 [D-30], D-9, D-46, D-55, D-78)

Response: While Subtask “v” of Task 12 included an analysis of ferry system ridership, Tasks 12 and 13 have been modified to include an examination of potential impacts from any substantial increase in the number of ferry trips due to the Proposed Action.

Comment #45: The minimum number of receptors for measuring noise should be specified, not the maximum number. We recommend a minimum of 20 receptors as opposed to a maximum of 20 receptors. (T-30 [D-30], D-9, D-46, D-55)

Response: LMDC agrees. The text of Task 14 has been changed.

Comment #46: In Subtask “e” of Task 14, the DGEIS should explain what are the “other noise sensitive areas” that will be analyzed for attenuation requirements. (T-30 [D-30], D-9)

Response. Such other noise sensitive areas will be identified in the DGEIS.

Comment #47: The Proposed Action's effects on minority and low-income communities outside the project area (i.e., lower East side, Bronx, Brooklyn) that will suffer from the effects of increased trash, sewage, traffic and energy consumption caused by the redevelopment of lower Manhattan need to be addressed in DGEIS. Task 11 does not include a study area. (T-23, T-29, D-9, D-55, D-56, D-61, D-62, D-65, D-70, E-17, E-44, E-48)

Response: Task 21 (Environmental Justice) has been revised to both expand the area of analysis and to provide that, if such impacts outside the secondary area are projected, the DGEIS will examine such impacts even if outside the secondary area. See also Response to Comment D.3.

Comment #48: The Task on Environmental Justice should be changed to include the following tasks: (1) identify areas potentially affected by the project; (2) determine whether those areas are primarily low-income communities or communities of color; (3) review the existing levels of environmental burden on those environmental justice communities as well as their health profile; and (4) if there are high levels of environmental burdens and/or poor health prevalent in those communities, then the agency should avoid or mitigate impacts associated with the project specifically in those neighborhoods. The Environmental Justice analysis must be consistent with guidelines from the Council on Environmental Quality and the EPA. (D-9, D-46, D-55, D-61, D-67, D-70, D-79, E-17, E-42, E-48)

Response: Task 20 has been modified to clarify that the examination may extend beyond the study area if impacts to other areas are identified. The study area in Task 20 has also been expanded to include the larger secondary area to be examined in Task 2 (Land Use and Public Policy). In addition, the Scope already anticipates examining environmental burdens (such as the number of emissions sources) in low-income communities or communities of color impacted by the Proposed Action. If significant impacts are identified from the Proposed Action in those communities, feasible mitigation measures for the affected populations will be described and considered.

Comment #49: The plan must include a bus garage and the DGEIS must analyze where such bus garage will be placed. (T-1 [D-1], T-14, T-25 [D-25a], D-46, D-55, D-64, D-80 [E-4])

Response: Task 12 of the Draft Scope already contemplated an analysis of the potential impacts from a bus garage. In response to public comments, the Project Site that is part of the Proposed Action now includes the Adjacent Sites. These Adjacent Sites will also be considered as potential locations for a bus parking garage, and the DGEIS will examine potential environmental impacts from such garage.

Comment #50: Is the NYC Waterfront Revitalization Program more or less stringent than federal requirements governing Coastal Zone? (D-9)

Response: NYC's program has been approved by the Department of State consistent with federal requirements, and thus is at least as stringent as the federal requirements.

Comment #51: The Proposed Action must consider ways to preserve the distinctive ethnic characteristics of Chinatown, Tribeca, Little Italy and the lower East side and encourage visitors and tourists to return. (D-72)

Response: Returning visitors and tourists to Lower Manhattan is one of the goals of the Proposed Action.

Comment #52: The impacts from the Proposed Action on marine species, migratory birds, and on the Hudson River should be added to the DGEIS. (T-6, T-40, T-42 [D-42], D-9, D-58, D-63, D-73, D-78, E-48)

Response: A new Task 17 (Natural Resources) has been added to the Scope to identify any threatened or endangered species at the Project Site and to assess potential impacts to migratory birds, the Hudson River and other natural resources.

Comment #53: Radio towers and microwaves emitted from the development's towers should be examined. (T-47)

Response: A new Task 18 (Electromagnetic Fields) has been added to the Scope to consider potential impacts from radio, television and other telecommunication facilities installed at the new office tower and possibly the roofs of other buildings.

Comment #54: The DGEIS must include an analysis of building security, building code compliance and fire safety issues. In particular, a task should describe the Proposed Action's impact on fire rescue services, identify where diesel fuel will be stored, address safety enhancements within building design to protect occupants from future terrorist attacks, discuss the impact of locating buildings near the streets, and address the Proposed Action's compliance with City fire and building codes. (T-9 [D-9], T-12 [E-7], T-28, T-37, T-39 [D-80, E-4], T-41, T-46 [D-46], T-48, D-78, E-22)

Response: The DGEIS will include a discussion of building safety and security.

Comment #55: The GEIS should address what happens if the lawsuit by Skyscraper Safety Campaign succeeds in making the redevelopment subject to New York City building and fire codes, and possibly City Environmental Quality Review and local zoning. (T-9 [D-9], T-41)

Response: While not subject to local regulations, the GEIS will examine local building and fire codes and zoning codes.

Comment #56: The DGEIS should address issues related to the slurry wall, including impacts of exposure to the elements and long term sustainability of the wall and future costs for maintaining the wall. (T-8, T-19, T-34, T-35, T-45, D-9, D-7)

Response: The integrity of the slurry wall will be a requirement of the engineering for the Project Site. No change to the Scope is required.

Comment #57: The needs of people with disabilities to utilize the site, both during and after construction should be considered. All projects at the WTC Site should follow principles of universal design. (T-2-4 [D-2-4], T-25 [D-25a], D-46, D-55, D-67, D-80 [E-4])

Response: The design guidelines to be developed with the GEIS will address access by people with disabilities, and will incorporate the principles of universal design.

Comment #58: The Scope should be made clearer and include an appendix that provides the definitions of all terms. (T-22, E-1, E-2, E-5, E-6).

Response: An appendix defining all acronyms has been added to the Scope.

Comment #59: The Scope should delineate what specific changes Silverstein or the Port Authority has sought and all Memorandums of Understanding, including those between the Port Authority and LMDC, should be added to the DGEIS. (T-25 [D-25a], T-30 [D-30], D-55).

Response: The GEIS is not an appropriate document to review such matters. No change to the Scope is necessary.

Comment #60: Each alternative must be fully and rigorously analyzed in the same manner as the rest of the project. The Draft Scope is inconsistent with 40 CFR § 1502.14 because it only plans on providing a quantified analysis of alternatives where an impact is identified. The Scope should reflect that the GEIS will address all reasonable alternatives as viewed in the context of the broader redevelopment of Lower Manhattan in order to satisfy 40 CFR §§ 1502.13 and 1502.14. The DGEIS must also consider alternatives not necessarily within the jurisdiction of the lead agency. (T-24, D-46, D-55, D-56, D-61, D-67, E-17, E-42, E-48)

Response: No change to the Scope is necessary as a full and rigorous analysis of alternatives was already contemplated in Task 20 of the Draft Scope (Task 22 in the Final Scope). As discussed in Task 22, each alternative to the Proposed Action will be described to a level of detail that allows comparison with the Proposed Action, in full compliance with 40 CFR §§ 1502.13 and 1502.14.

C. Comments on the Overall Plan

The following comments focus primarily on the proposed plan and are either not relevant to a specific task in the Draft Scope or are already encompassed in a task in the Draft Scope. LMDC notes these comments below. The public will have an opportunity to comment on the Proposed Action in the course of this DGEIS review.

Comment #1: The Plan must be a vibrant mix of commerce, culture, and transportation and be a true mixed-use community. (T-8, T-28)

Comment #2: The Libeskind design should not be used. (T-13, T-15, T-16 [D-66], T-31, D-7, E-20)

Comment #3: We support the Libeskind design as an excellent framework for development. (T-2-4 [D-2-4], T-14)

Comment #4: The street grids should not be restored or, if restored, should be limited to pedestrian traffic only. (T-7, T-32, T-34, T-35, D-42, E-27, E-33, E-37, E-47).

Comment #5: Restoration of street grids is crucial. (T-2-4 [D-2-4], T-8, T-14, T-28).

Comment #6: The plan must encourage mass transit first and walking and bicycling; the underground connections on the site must be coherent. The plan should require easier navigability for all pedestrians. (T-2-4 [D-2-4], T-15, T-10, D-78, E-42)

Comment #7: Street level retail should dominate underground retail. The Proposed Action includes twice the amount of retail space as before September 11. (T-2-4 [D-2-4], T-8, T-14, T-40, D-64, D-68, E-36)

Comment #8: The footprints of the Twin Towers should be respected. (T-8)

Comment #9: A sunken memorial should be kept as part of the plan. (T-2-4 [D-2-4], T-8, T-12, E-17, E-42)

Comment #10: The Memorial should be designed at street grade. The open area for the Memorial will be constantly flooded in bad weather. (T-32, T-35, D-76, E-27, E-33, E-34)

Comment #11: The Memorial should be designed to make it less of the visual barrier to residents who wished to cross the site. (E-39)

Comment #12: The Memorial should remember heroes and victims in the abstract while comforting survivors. The Memorial must contain the small human tissue, bone fragments and cremated remains currently at Fresh Kills. (E-3, E-7, E-22)

Comment #13: Commercial uses should be kept away from the Memorial. (T-8)

Comment #14: Cultural institutions planned for the site should be related to the Memorial. (T-12, [T-27, E-7], E-26)

Comment #15: A performing arts center must be included in the Proposed Action. (T-14, D-64)

Comment #16: The Wedge of Light may create shadows on the Memorial. (T-31, T-45)

Comment #17: The plan does not include enough continuous open space. The chain of public open spaces must be preserved. (T-1 [D-1], T-2-4 [D-2-4], T-8, T-15)

Comment #18: An expanded Park of Heroes should be included in the plan. (T-18)

Comment #19: The proposed Plan violates the New York City Zoning Resolution. (T-15, T-32)

Comment #20: We endorse the green building measures of the Proposed Action but the plan must include real enhanced green measures. Sustainability in all aspects of the plan must be considered. For instance, the plan should include a centralized system of goods movement and waste disposal to eliminate truck deliveries and create sustainability. (T-1 [D-1], T-2-4 [D-2-4], T-6, T-11 [D-67], T-20, T-25 [D-25a], T-29, T-44 [E-40], D-46, D-55, D-56, D-71, D-79, E-44)

Comment #21: The 1776 Freedom Tower must remain in Northwest Corner. (T-2-4 [D-2-4], T-8, T-21)

D. Analytical Framework

Comment #1: If there are still negotiations ongoing between the city, state and the developer, the environmental review process must be flexible enough to be adapted to reflect decisions as they are made. (T-25 [D-25a], D-46, D-55, D-67)

Response: Comment noted.

Comment #2: The project site should include the Deutsche Bank on Liberty Street, a parking lot at Battery Park City and Route 9A/West Street as it is clear that these sites are being actively considered as an integral part of the Proposed Action. (T-30 [D-30], D-58)

Response: In response to the public comments, LMDC has revised the Project Site of the Proposed Action to include the Adjacent Sites.

Comment #3: For the various tasks in the Draft Scope, the primary or secondary areas may need to be expanded. Primary and secondary areas should be consistent for all tasks. Primary and secondary areas must include Chinatown; socioeconomic and environmental justice scope should be extended to include

all of Chinatown, Little Italy, up to 14th Street; areas south of Liberty Street; the Williamsburg/Greenpoint communities; the other boroughs, and parts of New Jersey. Secondary impacts may have been underestimated and the displacement effect of small businesses outside the secondary area should be examined. The construction of new power sources and solid waste facilities necessitated by the project may have impacts outside the study areas. (T-9 [D-9], T-17 [E-3], T-23, T-30 [D-30], D-46, D-55, D-61, D-62, D-65, D-67, D-70, D-72, D-78, D-79, D-80 [E-4], E-17, E-42, E-48).

Response: Because various tasks may have different impact areas, the Scope includes different primary and secondary areas for different tasks. The area of analysis in Task 20 of the Final Scope has been expanded to include the secondary areas examined in other tasks. While highly unlikely, if significant impacts outside the secondary areas are projected, the DGEIS will examine such impacts even if they occur outside the secondary area. Task 20 has been modified to make this clearer. The existing power sources that provided electricity to the former WTC Site are expected to be adequate for the redevelopment of the WTC Site and Adjacent Sites. Any new power plant projects or solid waste facilities proposed in the future would be subject to their own environmental reviews and permit requirements.

Comment #4: Conditions prior to September 11, 2001 should be stricken as a point of analysis as it obfuscates the issues surrounding an appropriate examination of the current condition of the site and there is no baseline data for air quality pre-September 11. (T-9 [D-9], T-25 [D-25a], T-29, T-30 [D-30], D-55, D-78, E-3)

Response: No change to the Scope is required as it is appropriate to use two reference points of conditions without Proposed Action (e.g., pre-September 11 and current 2003 conditions) in this case. For air quality purposes, EPA and NYSDEC-approved air monitoring data exist for years 2000, 2001 and the present.

Comment #5: Current conditions should be dropped as a point of analysis and only the pre-September 11 scenario deserves consideration. (T-31 [E-16])

Response: No change to the Scope is required as it is appropriate to use two reference points of conditions without Proposed Action (e.g., pre-September 11 and current 2003 conditions) in this case.

Comment #6: The GEIS should examine additional impact years such as 2006 and 2012. The GEIS should assess the chronic conditions to be endured at and adjacent to the Site as well as downtown generally. (D-58)

Response: Additional impact years are not necessary as the first impact year, 2009, anticipates analyzing impacts from 2004 through year 2009 when the Memorial is open and other on-site infrastructure and the 1776 Freedom Tower are completed. Impact year 2015 anticipates an analysis of impacts between the years 2009 and 2015. Section E of the Final Scope has been modified to explain that a construction analysis year will be identified and included in the DGEIS.

Comment #7: Design guidelines for the site must be developed and a draft of such guidelines must be included in the DGEIS. All projects at the WTC site should follow principles of universal design (i.e., buildings assessable for people with disabilities). (T-2-4 [D-2-4], T-25 [D-25a], D-46, D-55, D-67)

Response: The Scope has been revised to clarify that design guidelines will be addressed in the DGEIS.

E. Construction Period

Comment #1: Ways of decreasing construction pollution must be examined. There should be financial set-asides for low sulfur diesel equipment. Only low sulfur fuel should be used for equipment. The commitment to low sulfur diesel fuel equipment must be fully reflected in the DGEIS and any remaining emissions from diesel machinery on-site must be offset. The DGEIS must also examine the reduction of engine idling and best available retrofit technology on construction equipment. The analysis should also include trucks or other vehicles that supply materials or remove construction waste and debris. (T-2-4 [D-2-4], T-17 [E-3], T-25 [D-25a, D-25b] T-47, D-9, D-46, D-55, D-71, D-30, D-78, D-79, D-80 [E-4])

Response: Feasible methods for minimizing or avoiding such adverse construction impacts are contemplated for analysis in the DGEIS. Task 19 has been modified to address issues raised in the above comment.

Comment #2: Dust and particulates stirred as a result of construction and construction trucks must be addressed (i.e., dust and construction trucks must be wetted down during construction and site should be sealed off so dust does not spread). (T-20, T-21, D-9)

Response: No change to the Scope is necessary as impacts and measures to address dust are already contemplated in Task 19.

Comment #3: LMDC and Port Authority must comply with the performance standards in the New York City Zoning Resolution. (T-17)

Response: LMDC and Port Authority are not subject to local zoning; nonetheless, applicable zoning standards will be considered in the DGEIS.

Comment #4: Air monitoring should be ongoing during the rebuilding process and reports should be kept on the LMDC website. Issues related to the September 11 attack need to be addressed as part of the rebuilding effort. (T-20, T-21, T-47, D-9, D-80 [E-4])

Response: Task 19 will identify such methods for minimizing and avoiding such adverse impacts. In addition, monitoring of relevant air contaminants during construction will be considered in the DGEIS.

Comment #5: Truck traffic to be analyzed in Task 12 must consider increased truck traffic during rebuilding. We are concerned with the large volume of trucks during redevelopment. (T-21, D-9)

Response: No change to the Scope is required as truck volume during construction will be analyzed in Task 19.

Comment #6: The GEIS should study the impact of street closures necessitated by security and construction. (D-80 [E-4])

Response: While Task 19 of the Scope anticipated such an analysis, Task 19 has been modified to include an analysis of impacts due to street closings.

Comment #7: Impacts on residents of tearing down Deutsche Bank building and Fiterman Hall and other construction in lower Manhattan must be considered. (T-21, E-4)

Response: Task 10 (Hazardous Materials) has been modified to include an assessment of all portions of the Project Site that may be excavated or demolished. Task 19 (Construction Impacts) has also been modified to include an examination of impacts associated with the demolition of buildings.

Comment #8: Residents must be protected during construction. (T-9)

Response: Protection of residents will be a priority and will be addressed in the DGEIS.

Comment #9: Impacts related to dredging and barge or vessel related work during construction must be analyzed. (D-63, D-73)

Response: This will be addressed in Task 19.

Comment #10: Strict adherence to federal and state environmental laws and regulations and worker protections should govern the redevelopment. (D-9, D-30, D-46, D-78)

Response: LMDC agrees and the Scope contemplates such strict compliance.

Comment #11: Construction work should not be done during late-night hours. (D-64)

Response: Comment noted.

F. Alternatives

Comment #1: LMDC should study a mixed use neighborhood that contains housing (i.e., specific alternative allowing for residential housing should be included), and which allows for greater amounts of space for cultural, civic, and educational activities. There is too little open space. (T-1 [D-1], T-10, T-11 [D-67], T-21, D-46, D-55, D-68, D-78, D-80 [E-4], E-17, E-42)

Response: Residential use of the WTC Site is not regarded as a reasonable alternative use of this previously commercial site; there will be an opportunity to comment on the DGEIS with regard to housing at the Project Site. In response to the public comments, LMDC has revised the Project Site of the Proposed Action to include the Adjacent Sites. The Proposed Action will thus provide for greater amounts of space for cultural and civic activities. In addition, the Rebuilding Alternatives, Redistributed Retail alternative, and Reduced Impact (or No Impact) Alternatives at Task 22 also contemplate such studies and comparisons.

Comment #2: LMDC should study a reduction of density, not just redistribution of bulk. (T-1 [D-1], T-2-4 [D-2-4], T-15, T-21, T-24, D-55, E-7, E-28, E-39)

Response: In response to the public comments, LMDC has revised the Project Site of the Proposed Action to include the Adjacent Sites, thereby reducing the density originally proposed for the WTC Site in the Draft Scope.

Comment #3: There should be a redistribution of the proposed amount of office and retail space off-site. An alternative should include expanded boundaries. (T-2-4 [D-2-4, T-3], T-10, T-11 [D-67], T-21, D-46, D-55, D-68, D-72, D-78, E-17, E-42)

Response: In response to the public comments, LMDC has revised the Project Site of the Proposed Action to include the Adjacent Sites. In addition, further study pursuant to this comment is already

contemplated in the Reduced Impact (or No Impact) Alternative or the Redistributed Retail alternative of Task 22.

Comment #4: Ground Zero should be dedicated as a historic site, serving to memorialize the victims of September 11. The focus of the redevelopment should be the Memorial, not commercial structures. The Memorial design should be chosen first, prior to decisions about the surrounding structures. (E-1, E-2, E-5, E-6, E-8, E-10, E-11, E-12, E-13, E-24, E-25, E-26, E-32, E-35, E-43)

Response: The Memorial continues to be an important aspect of the redevelopment plan and the Memorial design will be chosen before completion of the DGEIS. The Rebuilding Alternative in Task 22 will also examine a Memorial-only alternative.

Comment #5: The Twin Towers should be rebuilt, with the restoration alternative examining such Towers rebuilt on different footprints and rebuilt with updated technology. (T-13 [T-50, E-20], T-15, T-16, T-26, T-31 [E-16], T-32, T-34, T-35, T-37, D-7, E-18, E-21, E-33, E-38, E-47)

Response: The Restoration Alternative in Task 22 has been modified to include an examination of the Towers with updated technology and, if possible, on different footprints.

Comment #6: Building heights should be as low as possible to minimize shadow. (T-40)

Response: No change to the Scope is necessary as the Design Alternative in Task 22 contemplates this potential review.

Comment #7: Greenwich Street should not divide the site; there should be no through streets through the site; or at most, the street grid should be open to pedestrians only. The question of whether additional pedestrian only streets are needed should be studied. (T-7 [D-7], T-15, T-31, T-32, T-34, T-35, T-37, T-39 [D-80, E-4], T-42 [D-42], D-33, D-68, E-27)

Response: Task 12 of the Scope has been modified to include an examination of the Proposed Action with the new street grid through the Project Site closed to vehicles. A new alternative is not required as an analysis of no streets through the Project Site would be considered under the Restoration Alternative or Memorial-only alternative.

Comment #8: An alternative location for bus parking must be considered. Suggestions include having tour bus parking off-site with electric shuttle service to the Memorial or parking across the Hudson River with ferry service to the site. (T-2-4 [D-2-4], T-10, T-11 [D-67], T-27, D-24, D-46, D-55, D-68, D-79)

Response: The Scope had contemplated alternative locations for bus parking. In addition, the Project Site of the Proposed Action now includes the Adjacent Sites and a potential bus parking garage may be analyzed for both the Southern Site and Site 26 in the DGEIS.

Comment #9: A strict regulatory program that would prohibit buses and cars within a prescribed area of lower Manhattan and include an active campaign for tour operators on cleaner transportation alternatives to lower Manhattan should be considered. (D-46, D-55, D-79)

Response: No change to the Scope is necessary as it already contemplates an analysis of potential mitigation measures such as those suggested.

Comment #10: All on-site parking should be eliminated. (D-33)

Response: No change to the Scope is necessary as alternatives already included in the Scope encompass this option.

Comment #11: Impacts on Battery Park City for creating additional automobile parking must be considered. (E-4)

Response: No change to the Scope is necessary as the Scope already contemplates examining such potential impacts to Battery Park City.

Comment #12: There should be an analysis of alternative locations for vehicular service entries to the site, including off-site locations. (D-68)

Response: Comment noted.

Comment #13: Alternatives to cars and taxis to reduce traffic congestion must be examined (i.e., congestion pricing for cars and transit checks, no car zones, “traffic calming” measures). The plan must encourage mass transit as a first resort. (T-15, T-25 [D-25a], D-33, D-46, D-55, D-58, D-67, D-71, D-78, D-79)

Response: No change to the Scope is necessary as the DGEIS will consider practicable measures to mitigate any significant traffic and air quality impacts.

Comment #14: A truckless alternative for waste removal and goods delivery (i.e., delivery by rail) should be considered. In addition, an alternative should be added that includes maximum opportunity for recycling and waste reduction. (T-39 [D-80, E-4], D-9, D-46, D-55, D-56, D-61, D-71, D-78, D-79, E-17, E-42, E-48)

Response: No change to the Scope is necessary as the comment contemplates potential impacts already included in the Scope that may be addressed in the Enhanced Green Construction Alternative in Task 22.

Comment #15: The enhanced green construction alternatives should be better defined and should be expanded to include environmental enhancements for the lifecycle of the entire project (energy reduction, goods delivery, waste removal, etc.). This alternative should focus on high performance green design and be compared with the existing proposed design. This task should identify the best design with the least environmental impacts. (T-11 [D-67], D-46, D-55, D-56, D-61, D-70, D-79, E-17, E-42, E-48)

Response: The commenters’ suggestions are all contemplated as part of the Enhanced Green Construction Alternative in Task 22 and thus no change to the Scope is necessary.

Comment #16: An alternative allowing for the handling and removal of solid waste from a location at or near the Project Site should be examined. (D-65, D-67, D-70)

Response: This may be considered under the Enhanced Green Alternative in Task 22.

Comment #17: The Memorial should be designed at street level; the Memorial should not include the slurry wall. (T-32, T-34, T-35, D-30, D-76, E-27, E-33, E-47)

Response: No change to the Scope is necessary. There will be an opportunity to comment on the DGEIS on any significant impacts of the Memorial or the slurry wall.

Comment #18: An alternative examining direct commuter rail access is needed. (T-14)

Response: No change to the Scope is needed as this comment does not relate to the Proposed Action.

Comment #19: An alternative that is less damaging to water resources such as the Hudson River should be included. (D-78)

Response: No change to the Scope is necessary as the Reduced Impact (or No Impact) Alternative in Task 22 already contemplates this potential review.

Comment #20: Multiple reduced impact alternatives must be included in Task 22. (T-30 [D-30])

Response: No change to the Scope is necessary as a Reduced Impact (or No Impact) Alternative is included in Task 22.

G. Mitigation

Comment #1: Mitigation of dust problems must be examined. (T-20, T-21)

Response: No change to the Scope is necessary as an examination of impacts from dust is contemplated in Task 19.

Comment #2: If the “to the extent practicable” standard is used for undertaking mitigation, the current conditions scenario should be used as a basis for delineation of adverse impacts as well. (T-9 [D-9], T-25 [D-25a], T-29, T-30 [D-30], D-46, D-55, D-67, E-3)

Response: Mitigating measures are only required to be identified to the degree they are practicable, as the Scope indicates.

Comment #3: The DGEIS emphasis is on mitigating additional car trips by widening streets, creating more one-way streets and restrictions on turning. The DGEIS should also consider strategies to mitigate the affects of additional car trips, including instituting “traffic calming measures,” no car zones or other control or discouragement mechanisms. Strategies should also consider ways to encourage alternative means of transportation within and near the Project Site. (D-46, D-58, D-71, D-78, D-79)

Response: Task 12 has been modified in response to this comment.

Comment #4: Ways to minimize use of potable water at the WTC Site and optimizing water usage must be examined. (D-71)

Response: No change to the Scope is necessary as potential impacts from water usage is already contemplated as part of the DGEIS.

Comment #5: Opportunities to create additional green/open space should be identified. (D-80 [E-4], D-71, D-76, E-4)

Response: No change to the Scope is necessary to address this comment.

Comment #6: Provisions must be made to ensure that all mitigation measures are fully funded in the foreseeable future. (D-80 [E-4])

Response: No change to the Scope is necessary to address this comment.

H. Miscellaneous

Comment #1: PATH train should be connected to number 6 subway; there should be free transfers between the PATH and the subway system. (T-33 [D-33])

Response: No change to the Scope is necessary as this comment does not address potential impacts of Proposed Action.

Comment #2: All impact areas need to be rezoned to account for dust and light emissions; the areas around Ground Zero should be temporarily rezoned as M-2 or M-3. (E-3)

Response: This comment is outside of the Proposed Action.

Comment #3: Use of 9/11 Recovery Fund should be disclosed. How much does 130 Liberty Street mural cost and where would funding come from? (T-12, T-48)

Response: This comment does not address potential impacts of the Proposed Action.

Comment #4: On street parking spaces set aside for government workers and other permit holder should be eliminated. (D-33, D-42)

Response: This comment does not address potential impacts of the Proposed Action.

Comment #5: Additional legal street parking should be created. (T-42 [D-42])

Response: This comment does not address potential impacts of the Proposed Action.

Comment #6: No new road space should be allowed in lower Manhattan, including the Depression of Route 9A; a coherent plan for pedestrian grid for all of lower Manhattan is needed, including the creation of the ring road for cars. (D-33)

Response: This comment does not address potential impacts of the Proposed Action.

Comment #7: Nonessential non water dependent development such as the Hudson River Park should be restricted; if this type of development is undertaken, there must be disclosure of the full cost. (D-78, E-17, E-42)

Response: This comment does not address potential impacts of the Proposed Action.

Comment #8: Draft Scope fails to disclose information related to the Hudson River Park. (D-78)

Response: This comment does not address potential impacts of the Proposed Action.