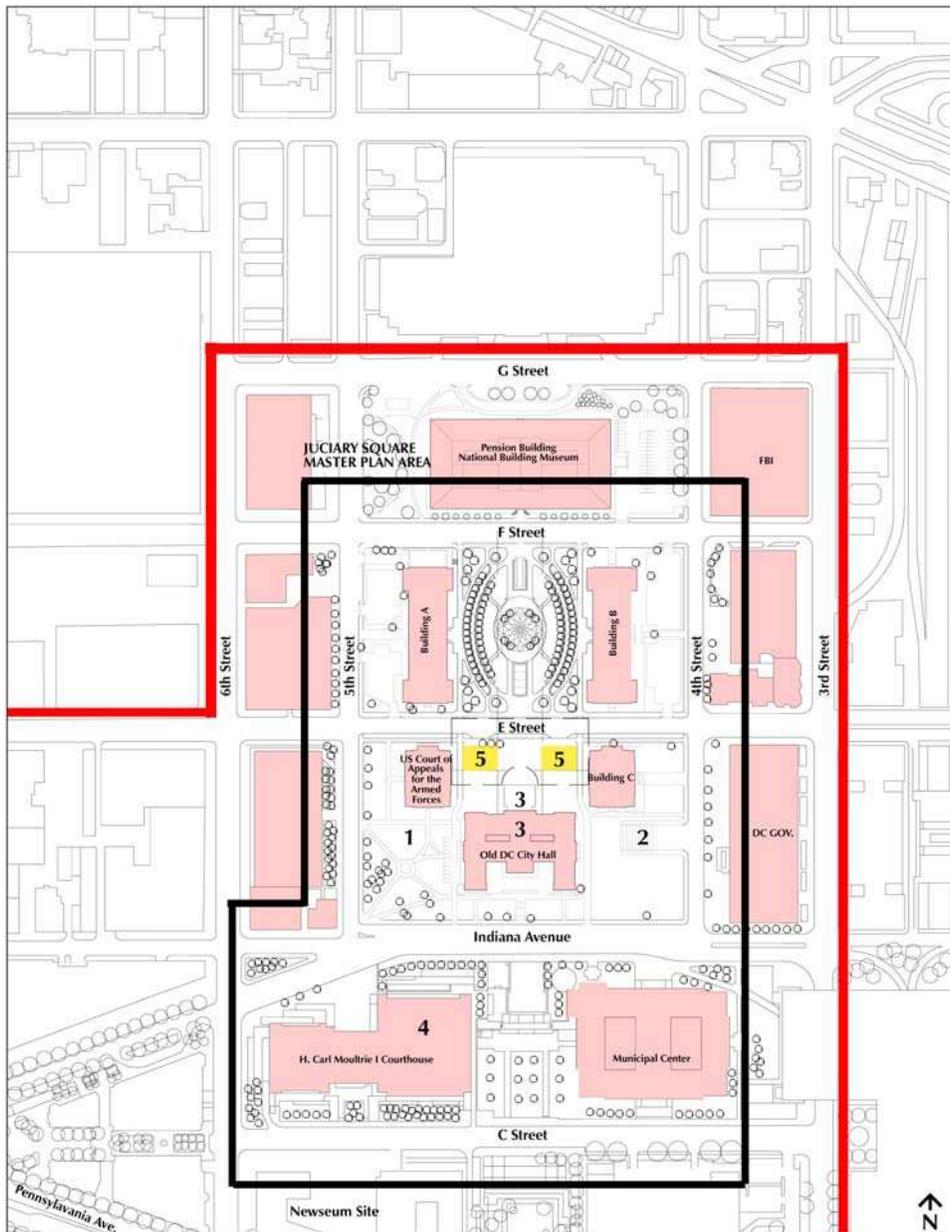


3.0 Affected Environment



- 1. Underground Parking Garage (Located Below)
- 2. Service Area (Located Below)
- 3. DC Court of Appeals Addition & Restoration
- 4. Moultrie Courthouse Addition
- 5. Proposed Entrance Pavilions to National Law Enforcement Museum

Figure 3-1: Improvements Within EA Study Area Proposed in the Judiciary Square Master Plan

█ Study Area
 Judiciary Square Master Plan Boundary

3.0 AFFECTED ENVIRONMENT

For the purposes of this EA, the boundaries defined in the Judiciary Square Master Plan area describes the area considered to be directly affected by the National Law Enforcement Museum (see fig. 3-1). It is generally bounded by F Street, 4th Street, C Street and 5th Street in northwest Washington, D.C. The study area extends outside the Master Plan area and defines an area that has the potential to be indirectly affected by the Museum. This larger area is generally bounded by G Street, 3rd Street, Pennsylvania Avenue and 7th Street, E Street and 6th Street to the west. These areas were presented earlier in Figure 1-1: Project Location Map.

3.1 Socio-Economic Resources

3.1.1 Land Use

Judiciary Square Master Plan

As part of review process for the additions and renovations of the Old City Hall by GSA on behalf of the D.C. Courts, NCPC required that GSA commission a new master plan of the Judiciary Square Area. A Draft Master Plan, prepared by Gruzen, Sampton and Partners, was issued on 24 June, 2003 and subsequently approved by NCPC. The Master Plan included discussion of and exhibits on Open Space, Circulation, Security and Existing Use issues in the area (see Fig. 3-2, 3-3, 3-4 and 3-5). The NLEOMF provided commentary on the Draft Master Plan that resulted in the Museum's being excepted from the Final Master Plan approved by NCPC. (See Appendix 5.5.2 for a record of correspondence and discussions and the final action by NCPC.)

Master Plan Area

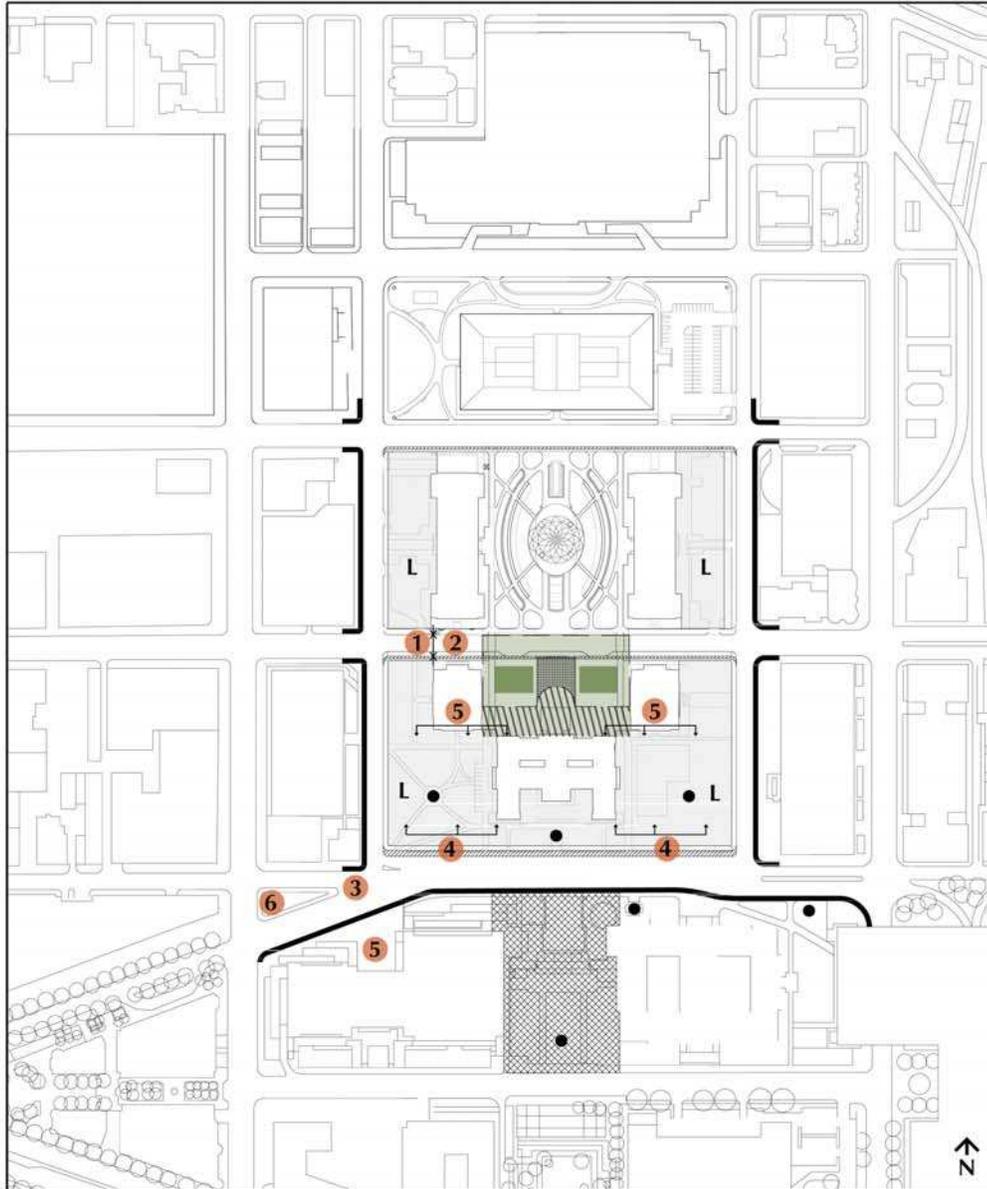
One of the original reservations in the L'Enfant Plan, Judiciary Square is the central, primary open space in the Judiciary Square Master Plan area defined in the preliminary Judiciary Square Master Plan (see figs. 1-1 and 1-2). It consists of twenty-nine acres located between the U.S. Capitol and the White House in an area north of Pennsylvania Avenue.

The Master Plan area contains seven monumental civic buildings on four city blocks and surrounding streets. Six of the seven buildings are owned by the D.C. Government, while the seventh belongs to the U.S. Court of Appeals for the Armed Forces. Of the D.C. Government buildings, five are under the jurisdiction of the D.C. Courts, and the sixth is the Municipal Center that houses the Police Department, Department of Motor Vehicles, and other various D.C. Government offices. One of the Court buildings, the Old D.C. City Hall (also called the Old D.C. Courthouse) is not currently occupied and is undergoing renovation and remodeling to serve as the D.C. Court of Appeals.

NATIONAL LAW ENFORCEMENT MUSEUM

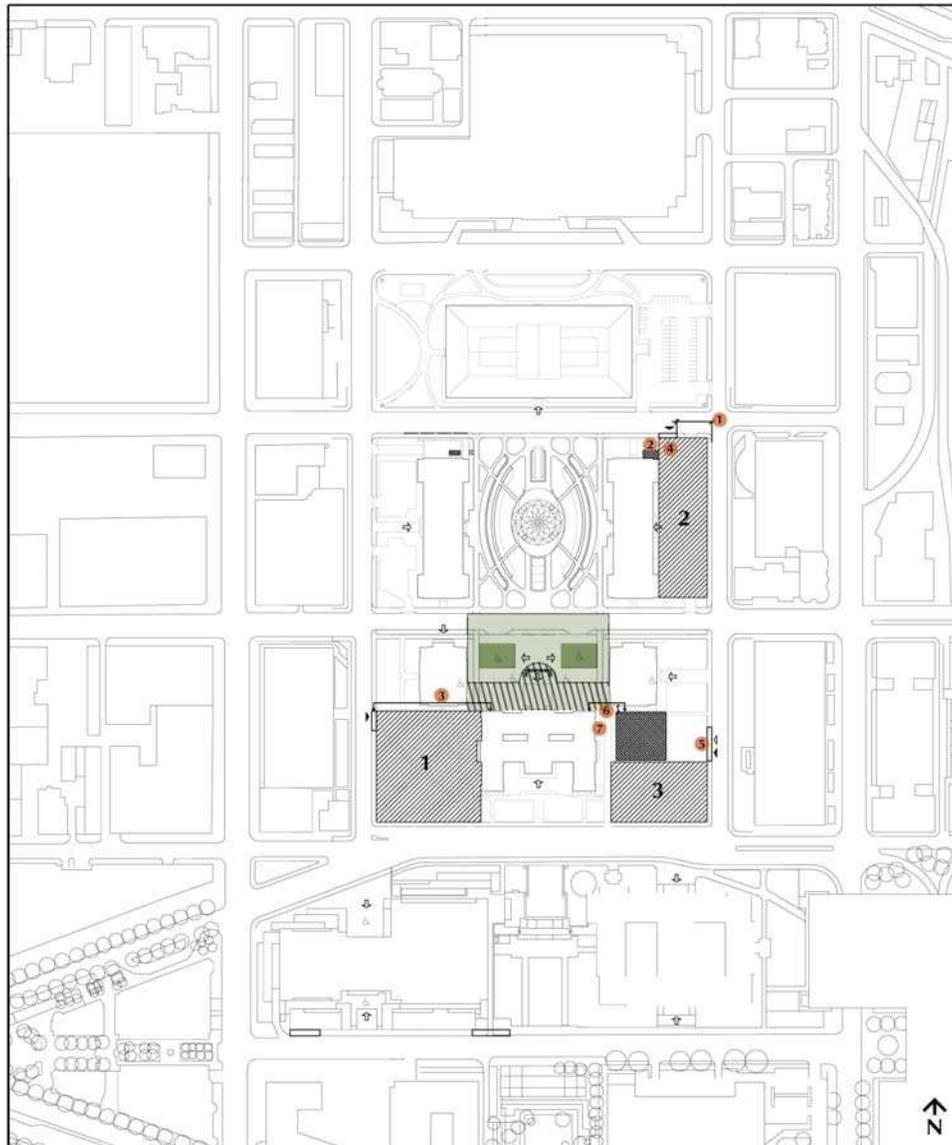
ENVIRONMENTAL ASSESSMENT

1. Narrow width of roadway from 13.72 m (45') to 9.75 m (32').
2. Extend sidewalks on both sides 2.0 m (6.5').
3. Extend north sidewalk of Indiana Avenue (approx. 8.0 m / 26') to align with north sidewalk of D Street west of 5th Street.
4. Do not extend appurtenance zones beyond south face of Old City Hall Building.
5. Do not extend appurtenance zones beyond north face of Old City Hall Building.
6. Extend the profile of reservation # 187 southward & eastward to improve pedestrian safety at the intersection of Indiana Avenue and 5th Street.



- | | | | |
|----------|----------------------------------|---|--|
| L | Landscape Reclamation | ● | Statue/Fountain |
| //// | Sidewalk Widening/Improvement | ■ | Public Plaza |
| | Downtown Streetscape Regulations | ■ | NLEM Site Boundary |
| ▨ | Landscape Improvement Zone | ■ | NLEM Site Area Reserved for Underground use by DC Courts |
| — | Appurtenance Zone | | |
| ■ | NLEM Entry Pavilions | | |

Figure 3-2: Open Space Guidelines Proposed by the Judiciary Square Master Plan

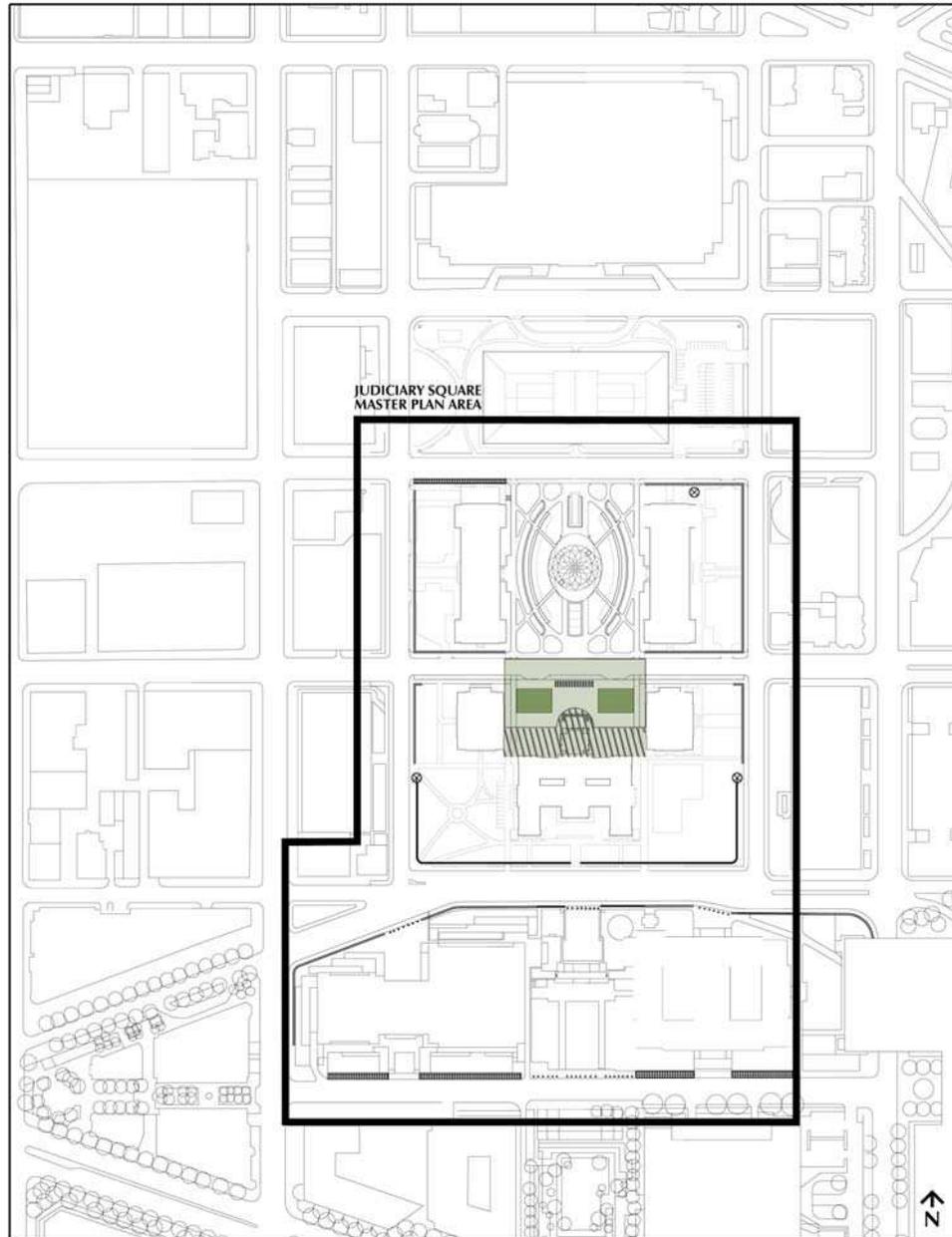


1. 7.6m (25') minimum distance for curb cut from corner
2. Maintain minimum 2.4m (8') clearance from bldg face to driveway
3. Do not extend curb beyond north face of Old Courthouse Building
4. Minimum driveway width is 6.0m (20')
5. Minimum width for combined parking and service driveways 11.6m (38')
6. Do not extend service area beyond north face of Old City Hall Building
7. Do not extend service area beyond west face of Building "C"

NLEM Entry Pavilions
 NLEM Site Boundary
 NLEM Site Area Reserved for Underground use by DC Courts

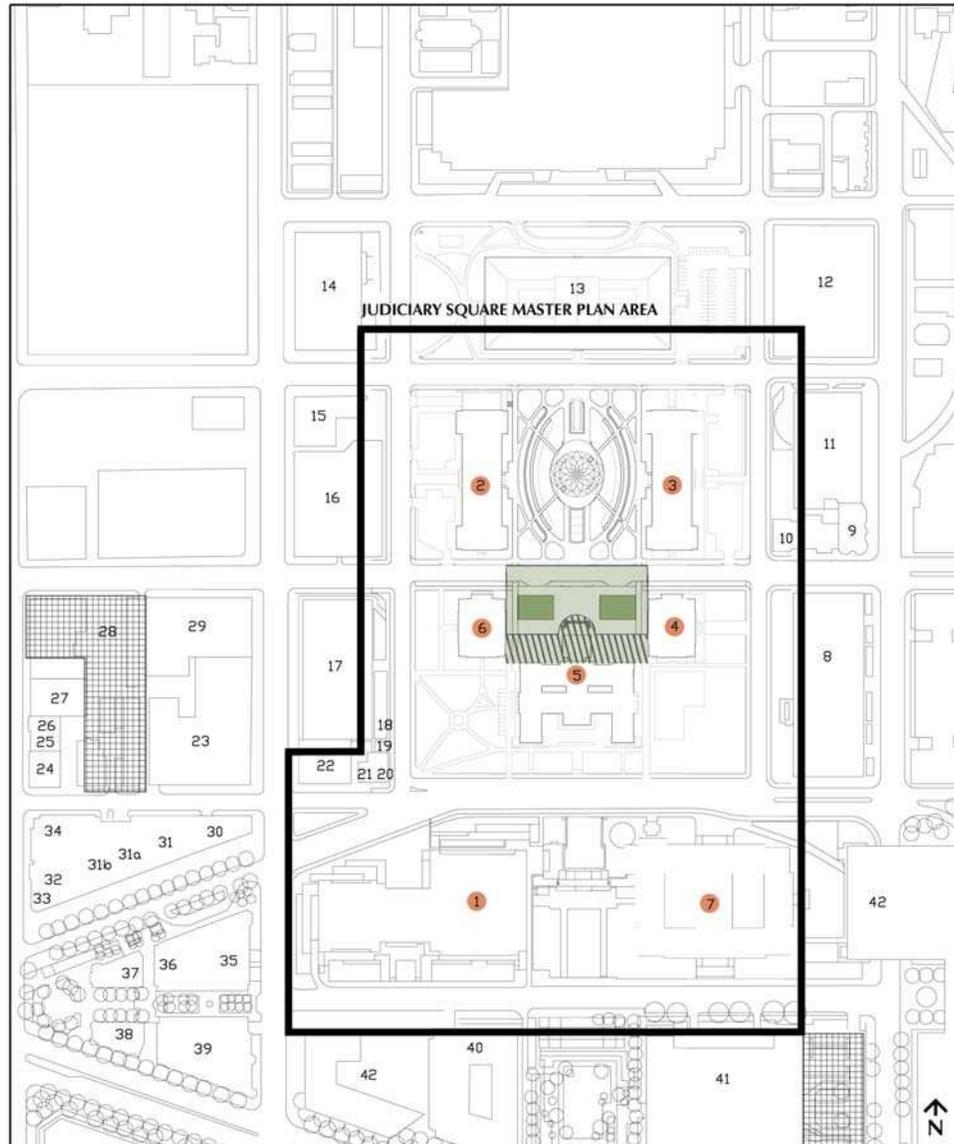
Figure 3-3: Circulation Guidelines as Proposed by the Judiciary Square Master Plan

VEHICULAR CIRCULATION	PEDESTRIAN ACCESS
 Underground Parking/ Phasing	 Primary
 Underground Service Facility	 Ceremonial Entry
 Typical Curb Cut Zone 15.2m (50')	 ADA Entry
 Wide Curb Cut Zone 30.5m (100')	
 Parking Access	
 Service Access	
 Drop-Off	



- 30" High Plinth Wall
- ▬ Hardened Fence
- ▬ Hardened Streetscape Elements
- ⊙ Security Post
- ⋯⋯⋯ Bollards
- ▬ Alternate Security Devices
- NLEM Entry Pavilions
- ▨ NLEM Site Boundary
NLEM Site Area Reserved for
Underground use by DC Courts

Figure 3-4: Security Guidelines Proposed by the Judiciary Square Master Plan to be Revised



BUILDINGS WITHIN THE JUDICIARY SQUARE MASTER PLAN AREA

- 1. H. Carl Moultrie I Courthouse
 - 2. Building A- Police Court
 - 3. Building B- Municipal Court
 - 4. Building C- Juvenile Court
 - 5. Building D- Old City Hall (Courthouse)
 - 6. Building E- US Court of Appeals for the Armed Forces
 - 7. Municipal Center
- OTHER BUILDINGS IN THE STUDY AREA**
- 8. One Judiciary Square-Offices
 - 9. Lutheran Apartment Building
 - 10. First Trinity Lutheran Church
 - 11. Judiciary Center-Offices
 - 12. FBI DC Field Office

- 13. National Building Museum
- 14. WMATA
- 15. DC Fire Department
- 16. The National Academies
- 17. Judiciary Plaza (SEC)
- 18. Vacant
- 19. Retail
- 20. Retail
- 21. Offices
- 22. DC Records of Deeds
- 23. Offices
- 24. Offices
- 25. Offices
- 26. Offices
- 27. Grand Lodge of Loof

Figure 3-5: Existing Uses In the Study Area According to the Judiciary Square Master Plan

- 28. Apartments
 - 29. Offices
 - 30. Offices
 - 31. Offices
 - 32. Offices
 - 33. Offices
 - 34. Offices
 - 35. Apartments
 - 36. Offices
 - 37. Bank
 - 38. Offices
 - 39. Offices
 - 40. Canadian Embassy
 - 41. E. Barrett Prettyman Courthouse
 - 42. Newseum Site
- NLEM Entry Pavilions
 NLEM Site Boundary
 NLEM Site Area Reserved for Underground use by DC Courts

The Master Plan area also includes almost 18 acres of open space and surface parking in the center and at the edges of Judiciary Square. This includes a combination of small urban parks, seven surface parking lots, and circulation space between buildings, parking areas and streets. The National Law Enforcement Officers Memorial is located in the northernmost portion of the central open space, between Court Buildings A and B. Dedicated in 1991, the Memorial is defined by a central plaza framed by planting areas, a double row of pleached trees that define an outer path and a curvilinear wall on both sides forming an ellipse. In the north-south oriented band of open (treeless) space at the center of the Memorial, an escalator well entrance to the Judiciary Square Metrorail station sits at the northern end of the Memorial, while a reflecting pool is located at the southern end, close to E Street.

Three distinct parks occur within the Master Plan area. The first of these is located in the central area, immediately west of the Old D.C. City Hall. It is a formal urban park with brick walkways, lawn open space, shade trees and a fountain. Mirroring this park on the east side of the Old D.C. City Hall is a more informal park with open lawn, picnic tables, and a split rail fence. Finally, John Marshall Park, designed by landscape architect Carol Johnson, FASLA, is located in the southernmost block and transitions from an urban plaza adjacent to D Street, to more open lawn area to the south. There is a substantial grade change in this park, allowing for an open vista from the Old D.C. City Hall to Pennsylvania Avenue and the National Mall.

Study Area (see fig. 1-1)

The area surrounding Judiciary Square has been undergoing a recent revitalization. North and west of the site is an emerging mixed-use commercial and residential area, as well as large entertainment uses including the MCI Center and the new Convention Center. In addition, arts and small-scale entertainment uses line 7th Street, creating a small cultural arts district. The National Building Museum sits immediately north of F Street on axis with the Old City Hall building.

South of the site, commercial and federal uses line Pennsylvania Avenue, N.W. Prominent buildings directly south of the Master Plan area across C Street include the E. Barrett Prettyman Federal Courthouse and the Canadian Embassy. East of the site, the area is characterized by commercial and institutional uses. Two blocks east of the Master Plan site, Interstate-395 separates the area from development further east.

Several other projects in the study area in addition to the National Law Enforcement Museum are planned for construction over the next few years. These include: the Newseum, a museum dedicated to television and print journalism, at the corner of 6th Street and Pennsylvania Avenue; an addition to the Prettyman Courthouse on 3rd Street between C

Street and Pennsylvania Avenue; the Jefferson at Penn Square, a 429 unit residential complex on 7th Street, between D and E Streets; and additions to the north and south of, and renovations within, the Old D.C. City Hall. These projects are part of the ongoing revitalization of the area. In the area immediately north of Pennsylvania Avenue, with the development of the Newseum; the continuing expansion of the National Building Museum's programs; the continually increasing visitation to the National Law Enforcement Officers Memorial; and, the advent of the National Law Enforcement Museum, visitation to this area will be increased...a long standing goal of the City.

3.1.2 Planning Policies

The plans, policies, and regulations that govern land use in the District of Columbia provide a regulatory framework that governs the proposed action. The applicable regulatory controls are established by NCPC, DCOP, and the D.C. Zoning Commission.

Comprehensive Plan for the National Capital, Federal and District Elements

The Comprehensive Plan for the National Capital, Federal Elements (updated in 2004) is the principal planning document adopted by NCPC for the planning of federal lands and facilities. In addition, *The Comprehensive Plan for the National Capital, District Elements* (adopted in 2006) is the principal planning document adopted by the Council of the District of Columbia and addresses all other lands. Although the Museum is a private project being built with private funding, it is located on federal land and is adjacent to a federal facility – the U.S. Court of Appeals for the Armed Forces – all within the Master Plan area. In addition, the federal government owns the land on which the adjacent Old City Hall is located and on which the Museum is to be located. The land for the Museum site is federal property on which the Museum is granted permission by Congress to construct the Museum under the provisions of the National Law Enforcement Museum Act (PL 106-492).

Comprehensive Plan for the National Capital, Federal Elements

The Comprehensive Plan for the National Capital, Federal Elements, structures policy recommendations regarding specific elements that include Transportation, Historic Preservation, Parks and Open Space, and Visitors. Many of the recommended policies are relevant to the Museum and the following illustrates how the Museum's proposed action is consistent with the *Comprehensive Plan*.

The Transportation Element recommends the following policies that are applicable to the proposed action:

- “Support projects that provide improved transit and roadway access in existing, highly developed areas.”

The Parks and Open Space Element recommends the following policies that are relevant to the Museum:

- “Use easements, donations, purchases, exchanges, or other means to acquire land or to enhance parks and open space.”
- “Enhance parks and preserve open green space for future generations.”
- “Maintain small urban parks primarily as historic parks and designed landscapes with fountains, monuments, memorials, tree cover, and other features of civic art.”
- “Use monumental parks and landscapes to provide settings for public buildings, monuments and memorials, and to create special environments for limited activities.”

The Federal Environment Element promotes the following policies relevant to the Museum:

- “Incorporate new trees and vegetation to moderate temperatures, minimize energy consumption, and mitigate stormwater runoff.”
- “Encourage the use of native plant species, where appropriate.”
- “Ensure that construction activities comply with local noise ordinances, and coordinate with local government and the community to establish limits on the intensity and hours of noise generation.”

The Preservation and Historic Features Element recommends the following policies that are relevant to the Museum’s site and its setting:

- “Protect and enhance the vistas and views, both natural and designed, that are an integral part of the national capital’s image.”
- “Encourage the practice of good design principles throughout the region to continually strengthen the image of the nation’s capital.”
- “Support campus master planning and other planning initiatives as an opportunity to evaluate potential historic resources and to develop management plans for their protection and use.”

- “Protect the settings of historic properties, including views to and from the sites where significant, as integral parts of the historic character of the property.”
- “Work cooperatively with local agencies to ensure that development adjacent to historic properties not detract from their historic character.”
- “Promote continuity in the historic design framework of the nation’s capital by protecting and enhancing the elements, views and principles of the L’Enfant Plan. Both the federal and the District of Columbia governments should adhere to these principles in any improvements or alterations to the historic framework.”

The Visitors Element recommends relevant policies such as:

- “Locate and design new memorials and museums in accordance with the Commission’s *Memorials and Museums Master Plan*.”
- “Balance the needs of security with visitor accessibility by ensuring that federal visitor attractions in the National Capital Region provide for the safety of visitors while remaining accessible and aesthetically pleasing, following the recommendations in *The National Capital Urban Design and Security Plan*.”
- “Encourage federal visitor attractions within walking distance of public transportation stations and routes.”

Comprehensive Plan for the National Capital, District Elements

The Comprehensive Plan for the National Capital, District Elements, provides long-range policy guidance for planning and development within the District of Columbia. Many of the recommended policies are relevant to the Museum and the following illustrates how the Museum’s proposed action is consistent with the *Comprehensive Plan for the National Capital, District Elements*.

In the section of the Comprehensive Plan on Area Elements, specifically Downtown East/Judiciary Square, the following policies are recommended:

- “Maintain the primary function of the Judiciary Square area as a judicial center, and enhance the area’s appearance as a great pedestrian-oriented

civic space with a strong sense of identity. Consistent with the 2005 Master Plan for the site, buildings in the area should be better related to one another and to the Square itself.”

- “Pursue the long-term relocation of surface parking lots south of Judiciary Square (on E Street) and east of the Square (along 4th Street) to underground garages as a way to improve aesthetics, enhance the Square’s role as a formal open space, and provide a green connection to the National Mall. Consider special paving, traffic and parking restrictions, and other design changes on F Street NW to improve connectivity between the National Building Museum and the Square.”

In the section of the Comprehensive Plan entitled City Elements, the following policies are relevant to the Museum and illustrate the proposed action’s compliance with the District of Columbia’s long-term planning objectives.

Regarding land use, the following policy is relevant:

- “Provide for the continued vitality of Central Washington as a thriving business, government, retail, financial, hospitality, cultural, and residential center. Promote continued reinvestment in central city buildings, infrastructure, and public spaces; continued preservation and restoration of historic resources; and continued efforts to create safe, attractive, and pedestrian-friendly environments.”
- “Work closely with the federal government on re-use planning for those federal lands where a change of use may take place in the future. Even where such properties will remain in federal use, the impacts of new activities on adjacent District neighborhoods should be acknowledged and proactively addressed by federal parties.”

Regarding the environment, the following policy is consistent with the Museum’s proposed action:

- “Encourage the use of landscaping to beautify the city, enhance streets and public spaces, reduce stormwater runoff, and create a stronger sense of character and identity.”

For the policies on economic development, the Museum is consistent with the following:

- “Promote the development of cultural amenities beyond the Mall in an effort to more fully capitalize on the economic benefits of tourism.”

- “Continue to work with federal entities in the planning of visitor attractions, including new federal monuments and memorials, so that the District can plan for complementary amenities and incorporate these features into its marketing programs. The District should also coordinate with the federal government to address security measures which may affect the accessibility and appearance of visitor attractions.”

The Park, Recreation and Open Space element, the relevant policies include:

- “Sustain a high quality network of downtown pocket parks, courtyards, arcades, plazas, and rooftop gardens that provide space for recreation, scenic beauty, and outdoor activities for workers, visitors, and residents.”

For the Urban Design element, the relevant policies include:

- “Strengthen and enhance the physical image, character and outstanding physical qualities of the District, its neighborhoods, and its open spaces, in a manner that reflects its role as the national capital.”
- “Coordinate with federal entities such as the National Capital Planning Commission (NCPC) and the Commission of Fine Arts (CFA) in the planning and siting of major landmarks, including museums, monuments, and memorials, and in the development of plans for federal reservations and other federally-owned civic spaces.”
- “Coordinate with the federal government to achieve a consistent urban design vision for Central Washington. As applicable, the District should incorporate design concepts from the National Capital Planning Commission’s Legacy Plan and similar design-oriented plans for the monumental core of the city into its own design plans and strategies.”

For the policies on historic preservation, the Museum is consistent with the following:

- “Coordinate District historic preservation plans and programs with those of the federal government through processes established under the National Historic Preservation Act, and through close coordination with federal landholders and key agencies like the National Capital Planning Commission, Commission of Fine Arts, and National Park Service.”

Zoning (See Fig. 3-6)

The Judiciary Square Master Plan area has several different zoning classifications (Figure 3-6: Existing Zoning in the Surrounding Area.) The majority of the northern three blocks of the Study Area are located within a Special Purpose zoning district (SP-2). This includes the D.C. Courts Buildings A,B,C and D (Old City Hall), the U.S. Court of Appeals for the Armed Forces and the Museum site. The SP-2 district is intended to act as a buffer between medium-to-high density commercial and residential districts. It allows a maximum building height of 90 feet and a maximum floor area ratio (FAR) of 3.0 if it is not a residential use. Most uses are allowed under the SP-2 classification, although all day commuter parking is not permitted. In addition, the SP-2 District does not allow on street or sidewalk retail uses. Between the D.C. Courts Buildings A and B, the center of the National Law Enforcement Officers Memorial is designated as Government, as are all federal parks within the District of Columbia that are not subject to zoning.

The two southern buildings within the Master Plan area, the Moultrie Courthouse and the Municipal Center, are located within a Major Business and Employment District (C-3-C). The C-3-C district permits medium-to-high density development, including office, retail, housing, and mixed-use development. The maximum FAR for the district is 6.5, with a maximum height of 90 feet and a maximum lot coverage of 100%.

3.1.3 Community Facilities

Community facilities located within the area immediately surrounding Judiciary Square were identified and assessed in the preparation of this EA. These facilities include cultural and religious institutions, educational facilities, parks and recreational resources, and public safety facilities (see fig. 3-5).

Cultural and religious facilities located within the study area include the National Building Museum, at 401 F Street; the National Law Enforcement Officers Memorial, in the center of Judiciary Square, between Court Buildings A and B; the General George C. Meade Memorial at 3rd Street and Pennsylvania Avenue, the General Albert Pike Memorial at D and 3rd Streets; and 1st Trinity Lutheran Church at 501 4th Street. In addition, the Newseum is planned to be located adjacent to the Canadian Embassy, between C Street and Pennsylvania Avenue, and, the future National Law Enforcement Museum which is to be at the south end of the center area of Judiciary Square.

Parks located within the study area include two small urban parks to the east and west of the Old D.C. City Hall, and John Marshall Park that connects the Old D.C. City Hall with Pennsylvania Avenue and the National Mall beyond. Public safety facilities within the study area include the Metropolitan Police Department located at the Municipal Center and Engine Company No. 2 Fire Station, located at 531 6th Street, west of D.C. Courts.

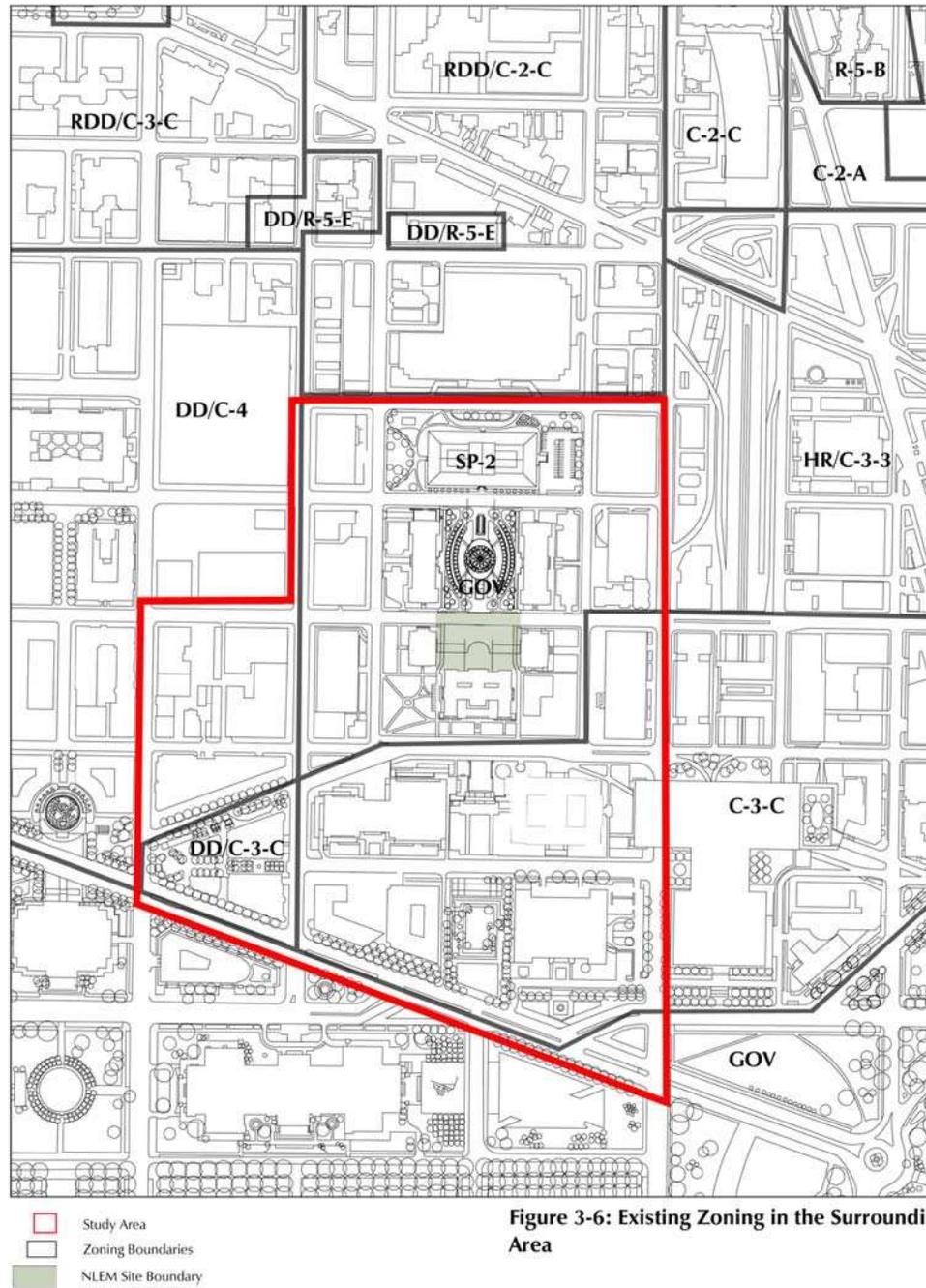
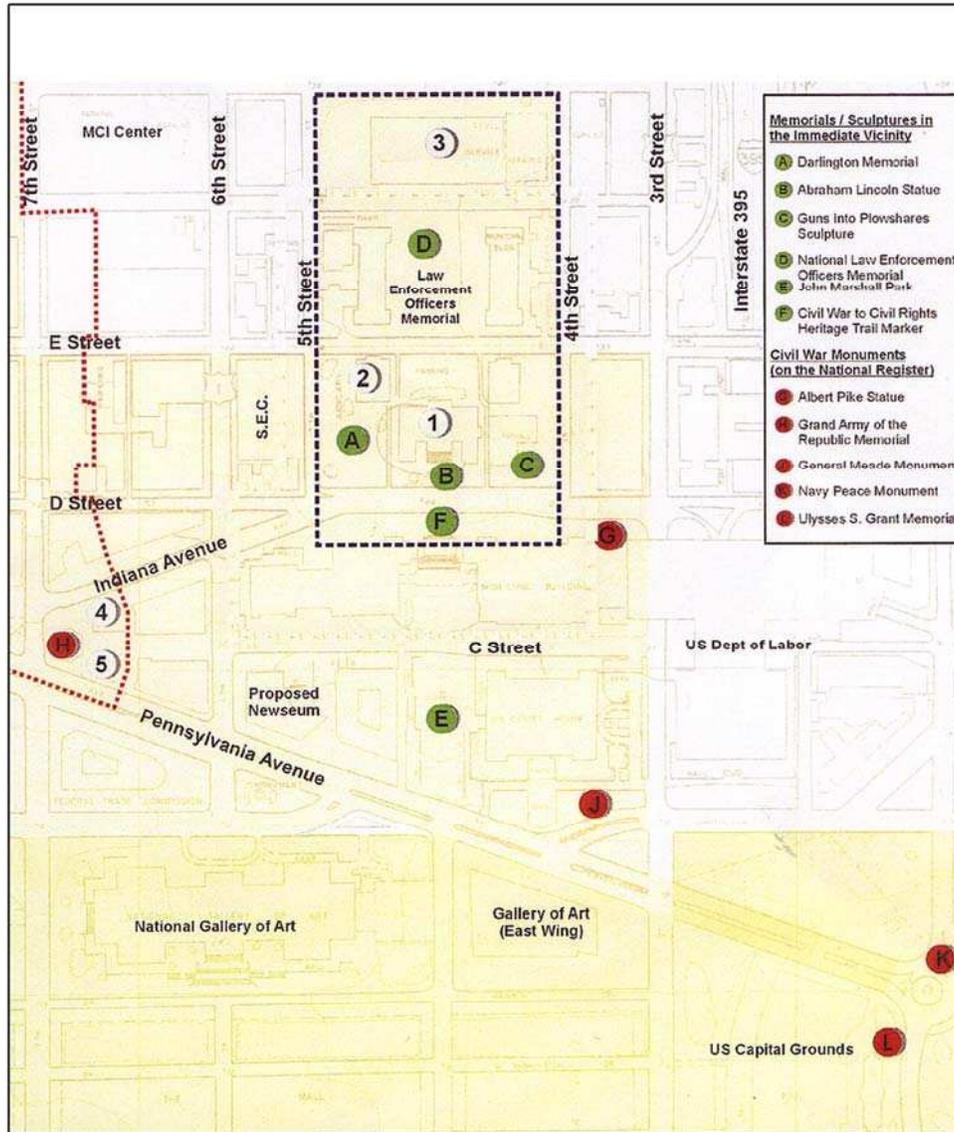


Figure 3-6: Existing Zoning in the Surrounding Area

3.2 Cultural Resources

In this section, details of the archaeological, historic, cultural, and visual resources present in the Master Plan area (see fig. 3-7) and surrounding area are addressed. The information herein is based upon documentation provided in the Judiciary Square Master Plan. In determining the Area of Potential Effect (APE) for archaeological resources in this EA, it was determined that the site areas associated with the excavation for constructing the below-grade Museum facilities, the potential connection to the Courts' service tunnel and any related below grade utility work would be the APE for the project.

The APE for historic resources was determined based on the potential for the above-ground entry pavilions for the Museum to be visible from various viewpoints. Therefore, the APE for historic resources for the Museum is generally bounded by Indiana Avenue and D Street to the south, 4th Street to the east, 5th Street to the west and F Street to the north.



BUILDINGS LISTED ON THE NATIONAL REGISTER OF HISTORIC PLACES

- 1) Old City Hall Building
- 2) US Court of Appeals for the Armed Forces
- 3) Pension Building (National Building Museum)
- 4) National Bank of Washington
- 5) Central National Bank

- Judiciary Square Historic District
- Downtown National Historic District
- National Mall National Historic District
- Pennsylvania Avenue National Historic Site

Figure 3-7: Historic Resources in the Area

3.2.1 Archaeological Resources

There have been no previous archaeological studies of the NLEM site, but the property was encompassed by a preliminary archaeological reconnaissance undertaken for the Pennsylvania Avenue Development Corporation in 1979 (McNett, et al., 1979). To assess the archaeological potential of the NLEM site for purposes of this EA, that study was supplemented by review of primary and secondary archival materials that are specific to Judiciary Square and the APE. These include maps, building records, Commissioner of Public Buildings reports, modern utility plans, and archaeological reports.

The 1979 reconnaissance covered a study area bounded by Pennsylvania Avenue to the south, the Capitol to the east, the White House to the west, and E and F Streets generally to the north. The report indicates that there were several natural springs in the area, one of which was the City Hall spring, at the corner of 6th and D Streets (McNett, et al., 1979). The presence of a spring, together with the site's original elevated topography, would have made this an attractive setting for Native American occupation, and there is widespread evidence of Native American occupation throughout the District of Columbia. However, major village sites were located along the Potomac and Anacostia Rivers. Inland locations, such as the NLEM site, may contain evidence of ephemeral camps, but it is unlikely that archaeological remains of a Native American camp would have survived the NLEM site's subsequent urban development.

Although the English began settling in Maryland in 1634, widespread fear of Indian attack deterred their settlement in the area of present-day Washington, D.C., until the late seventeenth century. From that time until the establishment of the federal city in the 1790s, most of this area was bound up in sparsely settled, large agricultural landholdings. As Judiciary Square was set aside in the L'Enfant Plan as a public reservation, the site history is intertwined with the construction of public buildings. To the south of the APE, construction of City Hall began in 1820; this building later became the District Courthouse, which was later expanded to include the Court of Appeals.

To the north of the APE, the Washington Jail, designed by George Hadfield, was built in 1802; it became the Washington Infirmary in 1844. A subsequent jail by Robert Mills, was built just east of the Pension Building (National Building Museum) site in 1841. Sanborn and other maps from the nineteenth and twentieth centuries further indicate that Judiciary Square was a densely developed urban square at the turn of the twentieth century. A document produced by the architects for the Museum presents a history of the development of Judiciary Square in maps (See *Urban Design Analysis Report - Judiciary Square* by Davis Buckley Architects as submitted to the U.S. Commission of Fine Arts on July 18th 2002 and the National Capital Planning Commission on February 6th 2003).

Although Judiciary Square has a long, complex and interesting history, the archaeological record within the APE is most likely to reflect modern urban development processes. It is known that large amounts of fill material were deposited in the early nineteenth century, but these deposits appear to have been placed into the ravine that cut across the eastern part of Judiciary Square. Ground surface elevations at the intersection of 5th and E Streets seem to have remained relatively constant since the early nineteenth century (about 47 feet above mean sea level), so it appears that most of the APE has retained its original historical grade. While E Street (between 4th and 5th Streets, NW) was not opened as a public thoroughfare until relatively modern times, it is now packed with subsurface utility lines. Construction events and landscaping around the City Hall/Court of Appeals building would have disturbed the ground immediately to the south of E Street, and the planned expansion of the District of Columbia Courts complex and attendant landscaping will also disturb the surface and near surface soils in the APE. North of E Street, major alterations to the landscape occurred with the “cut and cover” method of construction of the Metrorail during the mid-1970s and with the subsequent development of the National Law Enforcement Officers Memorial which undertook substantial soil stabilization and replacement activity, below grade, in order to construct the Memorial.

In summary, there is no specific information that would suggest that significant archaeological resources are present in the APE, and the cumulative effect of urban development has left little chance that archaeological remains of the historical landscape have survived.

3.2.2 *Historic Resources*

Judiciary Square was established by L'Enfant when he laid out the original plan for Washington, D.C. in 1791. That plan superimposed an orthogonal grid of streets over a system of avenues radiating from topologically significant points in the land form. At those places he set aside spaces reserved for public use. One of these reservations was Judiciary Square. The Square lies on the same topological plane as the White House and the Capitol. Symbolically the three represent the three branches of government, intentionally separate and equally important, as was written into the U.S. Constitution.

The first major public building to be constructed on Judiciary Square was the City Hall building (subsequently known as the D.C. Courthouse) by George Hadfield in 1820. By that time, the Supreme Court had already been located elsewhere. The original Hadfield design building was completed in three stages beginning in 1820 and with the last stage commencing in 1849. In 1881 the building received an addition and complete recladding under the direction of the Architect of the Capitol. The Greek Revival style building, listed in the D.C. Inventory of Historic Sites and the National Register of Historic Places became a model for civic buildings throughout the emerging country. The building is also a part of the District of Columbia's Civil War to Civil Rights Heritage trail as it was the site of the trial of the Lincoln assassination conspirators.

Besides municipal buildings, residential, commercial, and institutional buildings were also present in the Judiciary Square area in the 19th century. The Square's location, between the Capitol and the White House, made it a popular neighborhood for politicians to reside in. Early residents of the area included John Quincy Adams, Senator Thomas Hart Benton of Missouri, Vice President John C. Calhoun, and Supreme Court Justice Roger B. Taney. Boarding houses and hotels were also popular in the area during the 19th century. Commercial businesses, offices and entertainment venues sprang up near Pennsylvania Avenue to serve residents and visitors, and a variety of churches were scattered throughout the area.

By the 1870's, Judiciary Square was being transformed into a park by the Army Corps of Engineers in the style of the famous landscape architect Andrew Jackson Downing. Buildings in the central area of the Square bounded by 4th and 5th Streets and E and G Streets were demolished to create the large city park that served the neighborhood and the city for a number of years. In the late 1870's, the Pension Building, designed by military engineer Montgomery Meigs, was constructed on the block north of F Street, between 4th and 5th Streets. The Pension Building, which now houses the National Building Museum and the U.S. Commission of Fine Arts, dominated the Washington city skyline and reversed the trend toward open space in favor of monumental buildings in the rest of Judiciary Square. The Pension Building is listed as a National Historic Landmark, on the National Register of Historic Places and is in the D.C. Inventory of Historic Sites.

The infill of the previously created park continued early on in the 20th century as more public buildings were required. In 1908, Elliott Woods, Architect of the Capitol, designed the District of Columbia Court of Appeals (currently the U.S. Court of Appeals for the Armed Forces). In both style and scale, the Court of Appeals deferred to the Old City Hall building to the southeast. The Court of Appeals building is listed on the National Register and the D.C. Inventory of Historic Sites.

The 1930's witnessed the completion of the ensemble of monumental judicial and municipal buildings. These include the Juvenile Court Building (Superior Court Building C), the Police Court (Superior Court Building A), and the Municipal Court (Superior Court Building B). In 1939, Commercial and residential buildings, on the block between Indiana Avenue and C street, were replaced with a new Municipal Center.

After World War II, the park that was Judiciary Square had become a neglected parking lot with surface parking occupying much of the planted open space that had been created with the new buildings. In 1975 and 1976 the Moultrie Courthouse was constructed west of the Municipal Center. The advent of Metrorail removed the cars from the center of Judiciary Square briefly during its construction. After completion of the "cut and cover" construction of the Metrorail Red Line's Judiciary Square Station the center of the square contained one of two entrances to the station and a meager landscape of ground cover and concrete pedestrian pathways. Almost immediately after completion of the Metrorail construction at Judiciary Square, the replacement of landscaping with parking lots began. By the late 1970's the center of Judiciary Square was once again largely a parking lot.

In 1987 the National Law Enforcement Officers Memorial Fund began the process of developing a memorial to the law enforcement officers in the United States that have been killed in the line of duty. The completed National Law Enforcement Officers Memorial permanently removed the D.C. Court parking lots from the center of Judiciary Square between Court buildings A and B, returning it to a park-like setting. The memorial is for the enjoyment of the public at large and is utilized annually by the NLEOMF for its "Police Week" ceremonies, attended by more than 20,000 people where the names of the newly fallen officers are inscribed in the memorial walls. The memorial has received numerous awards and critical acclaim for its design, including a Presidential Design Award from the National Endowment for the Arts and the Henry Herring Medal, (the art and architecture medal of the National Sculpture Society.) (See Appendix 5.5.4 for various articles on the memorial by Ben Forgey, Architecture Critic for the Washington Post and others.)

The larger Judiciary Square area contains numerous historic buildings and sites. The Old City Hall (Courthouse), the Pension Building and U.S. Court of Appeals for the Armed Forces building were described previously. Additional historic sites include the Central National Bank at 633 Pennsylvania Avenue, the National Bank of Washington at 630 Indiana Avenue, the General George C. Meade memorial at 3rd Street and Pennsylvania Avenue, the General Albert Pike Memorial at 3rd and D Streets, and the Dr. Benjamin Stephenson Grand Army of the Republic Memorial at 7th Street and Pennsylvania Avenue.

Besides the individually listed sites, the Judiciary Square area is included in three districts listed in the National Register of Historic Places. The first of these, the Pennsylvania Avenue National Historic Site, was listed in the National Register in 1966 and listed in the D.C. Inventory of Historic Sites in 1973. Additionally, Judiciary Square is an element in The Plan of The City of Washington (L'Enfant Plan), and it was listed in the National Register of Historic Places nomination for L'Enfant's City Plan in 1997. The designation includes streets and reservations.

3.2.3 *Visual Resources*

This section describes the visual traits of Judiciary Square and the surrounding area that could influence or be affected by the design of the Museum. The study area for visual resources was determined by estimating the visibility of the Museum to viewers from various public places, with special attention to the vistas that drove the layout of L'Enfant's Plan (the 4th Street axis and the oblique Indiana Avenue axes looking toward the center of the square and the Old City Hall site. For this analysis, it was judged that, because the above-ground design of the Museum is limited by the legislation to 25 feet in height and a total of 10,000 square feet between the two Entry Pavilions and is surrounded on four sides by the taller monumental buildings of the inner grouping of buildings in the square, a distance roughly equivalent to the length of a city block or about 400 feet would be adequate to assess the visual impact of the Museum on its surroundings.

Visual Characteristics of the Site (Fig. 3.8, 3.9, 3.10 and 3.11)

The twenty-nine acre Master Plan area is developed with a series of three to six-story monumental civic buildings symmetrically sited in an urban landscape. The larger area has lawn panels, street trees, memorial fountains, sculptures and sidewalks that make up the streetscape of the area. Between E and F Streets and Court Buildings A and B, the National Law Enforcement Officers Memorial has the character of an urban park with a central plaza with an arabesque pattern, gazebo-like pergola structures with Lamella pattern trellising which balance the Metrorail elevators and frame the central space. Beyond the central space are symmetrical rows of pleached trees defining "walkways of remembrance" to either side of the central space with low curving stone walls that bear the inscribed names of the fallen law officers. The central axis of the memorial defines a central vista between the Pension Building to the north and the rear of the Old City Hall building on the south.

On the block south of the Memorial, the dominant building is the Old City Hall building (Old D.C. Courthouse). The site of the Museum (as defined in P.L. 106-492) is essentially the entire parking lot and surrounding landscaped areas and pathways (see fig. 3.8, 3.9, 3.10 and 3.11) that exist to the north of the Old City Hall between Court buildings C and E (the U.S. Court of Appeals for the Armed Forces), extending northward to the Memorial property at the north curblin of E Street. There are several critical views, defined by NCPC, of the Museum site, to and from the two parks that flank the Old City Hall (Old D.C. Courthouse) as well as from the National Law Enforcement Officers Memorial (see Fig. 4.2.3.1; 4.2.3.2; 4.2.3.3; 4.2.3.4; and, 4.2.3.5). These views and others are analyzed in Section 4, Environmental Consequences.

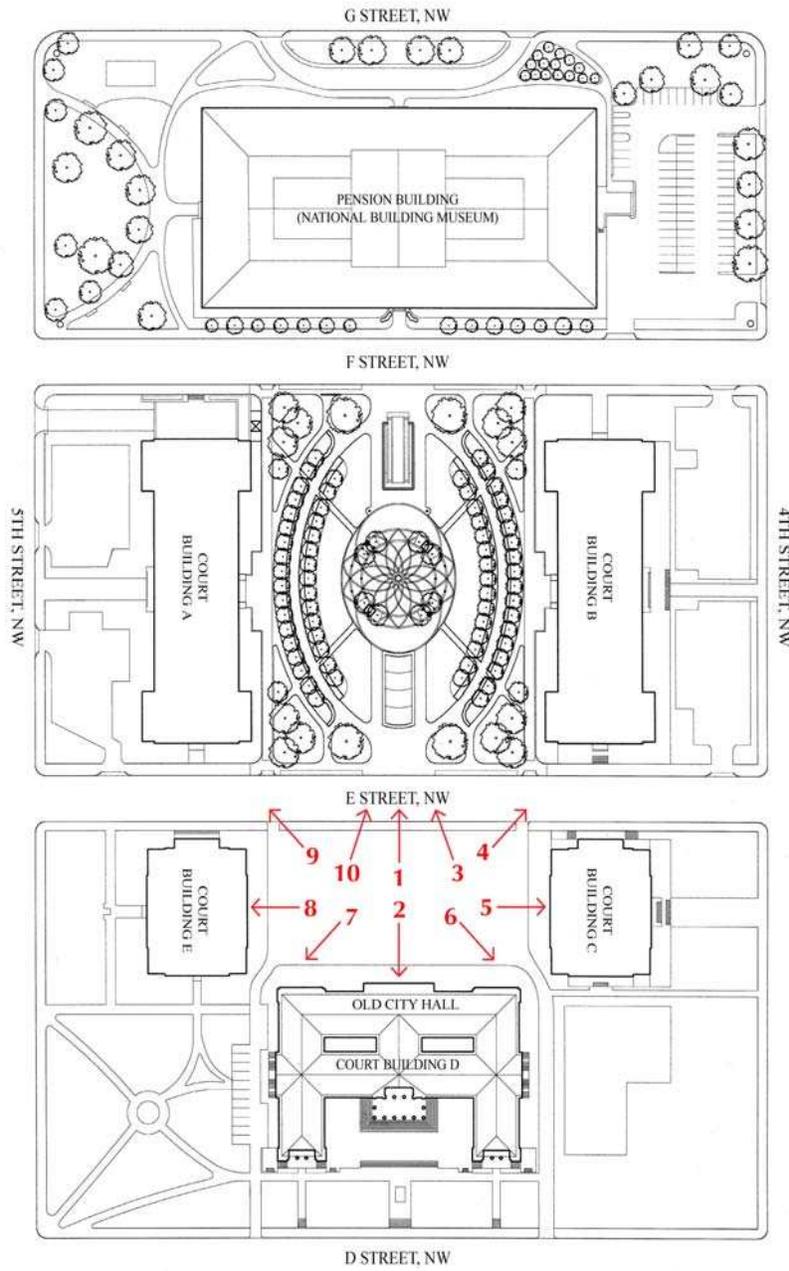


Figure 3-8: Vistas(from site) Map



Vista 1



Vista 2



Vista 3



Vista 4



Vista 5



Vista 6



Vista 7



Vista 8



Vista 9



Vista 10

Figure 3-9: Vistas From Site

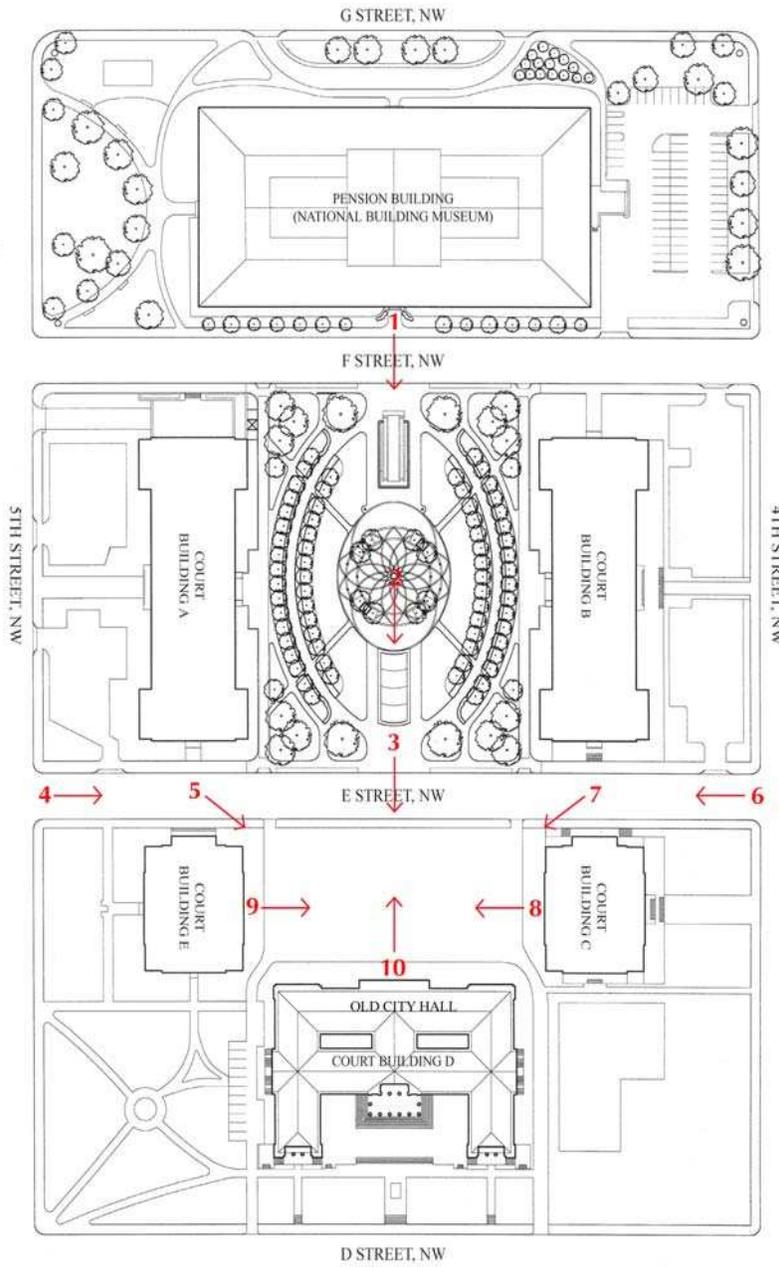


Figure 3-10: Views (to site) Map



View 1



View 2



View 3



View 4



View 5



View 6



View 7



View 8



View 9



View 10

Figure 3-11: Views To Site

Urban Context

The Museum site is set within (and under) the grid of L'Enfant planned streets. Views along C Street, E Street, F Street, 4th Street and Indiana Avenue are listed as contributing resources in the National Historic Landmark documentation for L'Enfant's Plan. These vistas provide important views of the historic buildings and landscaping within the square (see figures 3-10 and 3-11).

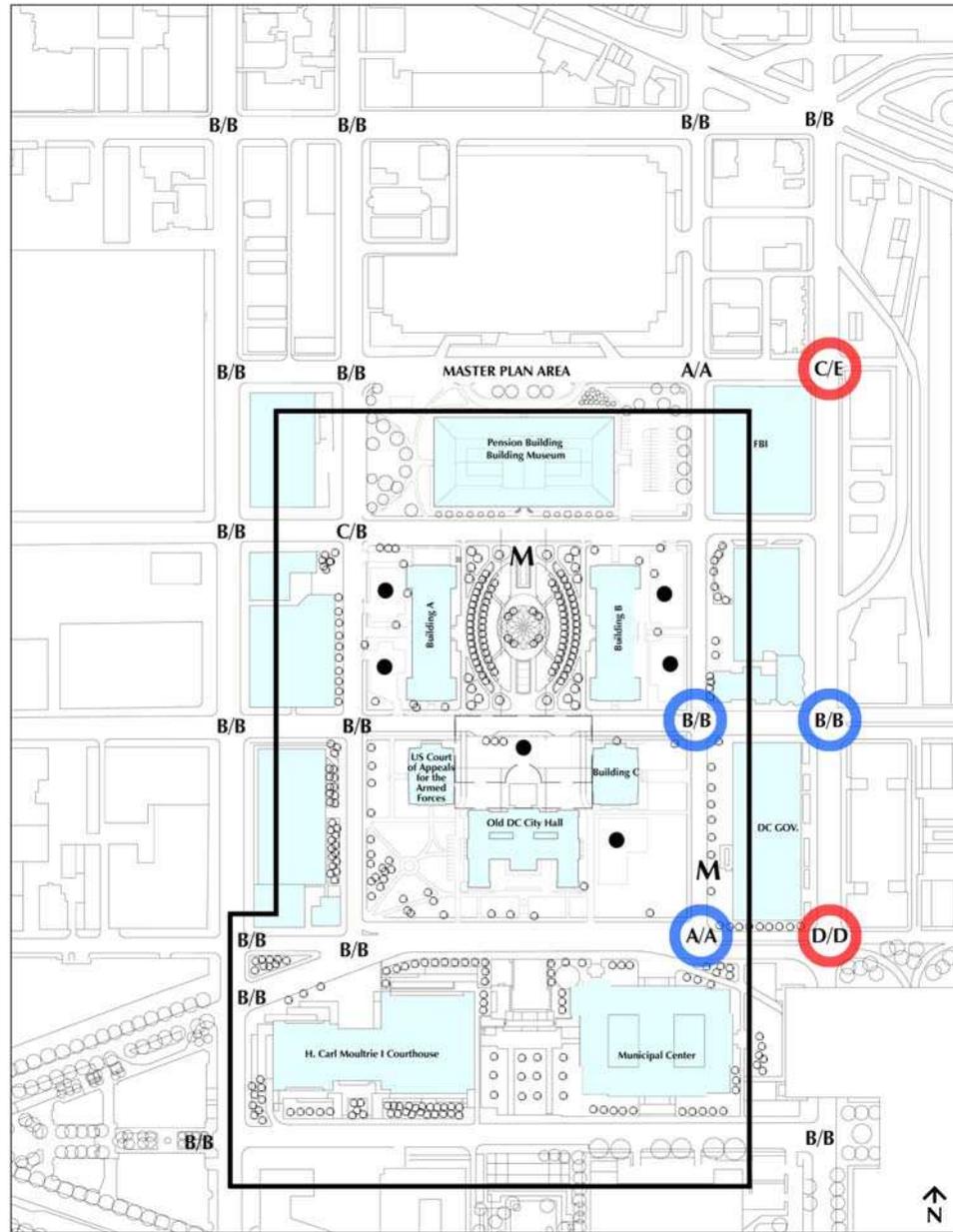
The inner ring of buildings, made up of the dominant Pension Building and the Courts buildings (including the Old City hall), can be likened to the principal actors of the stage that is Judiciary Square. The primary dialogue is between the Pension Building and the Old City Hall with the other buildings in that ring making up the ensemble cast. Beyond the inner ring, a group of generally larger and less distinguished buildings that complete the staging, define the boundaries of the Square, and could be thought of as the chorus. Buildings beyond the second tier are generally transitional to other areas such as Pennsylvania Avenue and Chinatown.

3.3 Transportation

The transportation network within the Master Plan area is comprised of roadways, parking areas, public transportation systems, walkways, and bikeways which provide access and circulation to the adjacent land uses. The study area consists primarily of governmental and institutional facilities that generate employee and visitor related vehicular and pedestrian traffic during weekday peak and off-peak periods. Approximately 18,310 employees and an average of 14,140 visitors per weekday access the larger study area using the transportation system. Of these, there are approximately 2,420 employees and 2,700 visitors to the Master Plan area on weekdays. This EA examines the operational adequacy and efficiency of the transportation system within the study area and assesses whether it would be impacted by the construction and operation of the Museum.

3.3.1 Roadway Traffic

The Judiciary Square study area is in Northwest Washington, D.C., near the historic downtown area. The area is traversed by a grid roadway network that connects with regional arterials and freeways. Roadways within the study area are the north-south 4th and 5th Streets; the east-west C,D,E and F Streets; and the diagonal Indiana Avenue, extending southwest off of D Street. Regional access is provided by the Interstate 395 (I-395) to the east; Pennsylvania and Constitution Avenues to the south; 7th Street to the West; and E Street through the northern portion of the Square. (See fig. 3-12)



- Intersection Capacity Constraints
- Significant Vehicular/Pedestrian Conflicts
- X/X AM/PM Intersection Level of Service
- Surface Parking within the Master Plan Area
- M Metro Access

Figure 3-12: Existing Traffic Conditions

Existing Traffic Volumes

The District of Columbia Department of Transportation (DDOT) classifies 7th Street, and Pennsylvania and Constitution Avenues, as principal arterials; 6th and E Streets as minor arterials; and the other streets in the study area as collectors. The year 2000 Average Daily Traffic (ADT) volumes for these roadways are shown in Table 3-1. The ADT volumes match the corresponding roadway classifications, except for 3rd Street, which serves ADT volumes typical of a minor arterial. Approximately 56,000 vehicles per day enter the study area; 37,000 of which are specific to the area and 19,000 of which are passing through the study area.

As a whole, the roadway network operates efficiently and with excess capacity. However, traffic flow is constrained in the area by on-street parking and the slow movement and stopping of taxis, buses, service vehicles, police and court vehicles and visitors looking for parking. In addition, major pedestrian-vehicular conflicts occur at and between several intersections. Traffic patterns in the study area during peak hours are further influenced by key access points, the locations of available parking, and conflicts with pedestrians leaving/approaching the Metrorail Stations.

Table 3-1
Year 2000 ADT Volumes for Project Roadways

Study Area Roadways	200 ADT Volumes
<i>Principal Arterials</i>	
Pennsylvania Avenue, NW	60,000
<i>Minor Arterials</i>	
6 th Street, NW	15,500
E Street, NW	10,000
<i>Collectors</i>	
C Street, NW	4,000
D Street, NW	7,000
F Street, NW	3,000
G Street, NW	6,000
3 rd Street, NW	10,000

Source: O.R. George & Associates

Existing Level of Service

The study area comprises 21 intersections that were studied for access and circulation. The intersection traffic control devices and directional traffic flow movements are shown on Figure 3-8. Peak AM and PM weekday traffic flow conditions on these streets and intersections were observed through field investigations conducted as part of the site analysis effort. The peak hour traffic volumes were analyzed using the Highway Capacity Manual (HCM) procedures, in accordance with DDOT requirements.

The analysis results are presented in terms of the level of service (LOS) based on the average delay per vehicle at the intersections. LOS categorizes the quality of operational conditions within a roadway segment or intersection from A to F (best to worst). LOS D is the minimum acceptable LOS standard for planning and design purposes in the District. The study area intersections currently operate at an acceptable LOS, except for the 3rd and F Streets intersection that operate at LOS E during the PM peak hour. The intersections of 3rd and D Streets and 3rd Street and Constitution Avenue are operating at LOS D (approaching capacity) during at least one of the AM/PM peak hours.

Baseline 2015 Year Traffic Volumes and LOS

A traffic study prepared as part of the Master Plan established as the baseline year to determine traffic conditions prior to implementation of the Master Plan. Based on DDOT recommendations, existing traffic volumes are anticipated to grow annually at two percent for major commuter corridors and one percent for other roadways. The projected year 2015 volumes were analyzed for LOS, and the intersections are predicted to operate at acceptable LOS except for: 3rd and E Streets; 3rd and F Streets; 3rd and D Streets; and, 3rd Street and Constitution Avenue, during at least one peak hour.

There are theoretical results based on traffic growth assumptions. However, for planning purposes, the transportation study projects that the following improvements may be necessary by year 2015:

- Signal optimization and/or geometric improvements at the 3rd and D, and E Street and Constitution Avenue intersections; and,
- Provision of a traffic signal at the 3rd and F Street intersection, based on the results of a signal warrant study.

The baseline traffic volumes projected for the year 2015 incorporate potential traffic that could be generated from proposed developments in the area, including the Newseum as well as the traffic associated with the National Law Enforcement Museum.

3.3.2 *Parking Availability and Proximity*

There are 15 public and restricted underground parking garages, nine public and restricted surface parking lots, and on-street public and restricted parking along almost all of the streets in the study area. Within the study area, there are 6,085 off-street parking spaces and 965 on-street parking spaces, totaling 7,050 spaces. In the Master Plan area, there are two restricted underground parking garages and eight restricted surface parking lots totaling 886 restricted spaces. In addition, there are restricted and public parking on the street totaling 486 spaces.

Approximately 37,000 vehicles per weekday visit the study area. The parking facilities are operating at capacity and have a critical shortage for public use during weekdays. This results in illegal parking along C Street (between 3rd and 6th Streets); D Street (between 4th and 5th Streets); 4th Street (between D and F Streets); and, 3rd Street (between E and F Streets). The illegal parking results in inefficient vehicular circulation on roadways along these segments and in the study area. As a result, motorists, searching for parking, circle the blocks repeatedly. This adversely impacts the roadway and intersection LOS.

A “Transportation and Security Study” by HNTB dated May 2004 was commissioned by DDOT to assess the traffic and parking issues as they relate to the security of the various facilities in the Judiciary Square Master Plan area. The study produced a recommended “Parking Action Plan” that included the following elements:

- a secure system of parking permits
- effective enforcement of parking regulations
- education of the public and agency staff assigned curbside spaces
- assignment of curbside space consistent with need
- construction of off-street parking

The study recommended a three-phase plan to deal with the parking problems extant in the area during three time periods:

- Immediate steps to be taken to ameliorate the current problems
- Steps to be taken upon the commencement of construction of either the National Law Enforcement Museum or the first underground parking garage proposed in the Judiciary Square Master Plan.
- Post-NLEM or garage construction measures and/or policies for the long term management of the traffic and parking issues in Judiciary Square.

3.3.3 Public Transportation

The study area is served by the Washington Metropolitan Area Transportation Authority's Metrorail system at three stations: Judiciary Square, Archives-Navy Memorial, and Gallery Place-Chinatown. The Judiciary Square Metrorail Station's entrances are located between E and F Streets, between 4th and 5th Streets in the National Law Enforcement Officers Memorial, and at 4th and D Streets. During an average weekday, 9,400 passengers board Metrorail's Red Line. The Archives-Navy Memorial station is located at Pennsylvania Avenue and 7th Street, where on an average weekday, 7,810 passengers board Metrorail's Yellow and Green lines. The Gallery Place-Chinatown Station is located at the intersection of 7th and G Streets, where on an average weekday, 10,600 passengers board Metrorail's Yellow, Green and Red Lines. Approximately 30,000 pedestrians enter or exit these stations per day; of these, 9,000 enter or exit the Judiciary Square Station. In addition, WMATA also provides Metrobus service along E Street, Pennsylvania Avenue, and 7th Street, with stops on each city block.

3.3.4 Pedestrian / Bicycle Circulation

The uses within the study area attract approximately 18,310 employees and 14,410 visitors per weekday. The pedestrian activity within the area is primarily generated from the Metrorail stations and parking areas to the adjacent land uses. Pedestrian access is provided via sidewalks along all roadways, and diagonal paths within the Square. A large portion of the pedestrian movement is between the Judiciary Square Metrorail Station and the Municipal Center. This movement conflicts with vehicular traffic primarily at 4th and D Streets, and also at 4th and E Streets, and 3rd and E Streets. All study area intersections have pedestrian crosswalks, and pedestrian signals are provided at signalized intersections.

Even with a high volume of pedestrians, the larger study area has lost its earlier (1880s) park-like open space and is somewhat of a "non-green" parking square, particularly around its perimeter because of the monumental buildings, and where the Courts have taken over green space for parking. This is contrasted by the National Law Enforcement Officers Memorial where an appropriate equilibrium of ceremonially-driven, pedestrian-oriented hardscape is in balance with the lush landscaping contained therein.

Currently, the Museum site and the open space to the south have been appropriated for the parking needs of the Courts where a restricted parking area, providing spaces for the Courts has been created in place of the original open lawn that existed to the north (rear) of the Old City Hall. The pedestrian pathways to either side of the parking lot provide heavily used access between the northern Judiciary Square Metrorail station and the Moultrie and Municipal Buildings to the south.

3.4 Physical/Biological Resources

3.4.1 Air Quality

Air quality is based on local and/or regional air pollutant sources and climate conditions. Pollutants generated locally and regionally can be affected seasonally by wind, temperature, and humidity. The existing air pollutant sources in the study area are vehicle traffic emissions, and emissions from buildings that burn natural gas for heating.

In response to the Clean Air Act (CAA) of 1970 and the CAA Amendments of 1977 and 1990, the US Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) for the protection of human health and welfare. Current NAAQS are set for the criteria pollutants of carbon monoxide (CO), ozone (O₃), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), lead (Pb), particulate matter equal to or less than 10 microns in size (PM₁₀), and fine particulate matter (PM_{2.5}). The EPA assesses the status of compliance with NAAQS for geographic regions throughout the United States. Regions that do not meet the NAAQS for a criteria pollutant are designated as “non-attainment areas” for that pollutant.

The Judiciary Square study area is located within the National Capital Interstate Air Quality Control Region (NCIAQCR), which includes Washington, DC. The region currently meets NAAQS for all criteria pollutants except ozone, which exceeds NAAQS at elevated levels (USEPA 2003). The EPA has designated the DC-MD-VA air quality region as a “severe non-attainment area” for the 1-hour ozone standard, and as a “moderate non-attainment area” for the 8-hour ozone standard. To ensure that federal actions conform with attainment plans, any federal agency responsible for an action in a non-attainment area, is required to determine that the action is either exempt from conformity determination or it conforms to the applicable attainment plan.

Construction emissions from equipment and vehicles, and post-construction emissions from project-related vehicles and buildings due to federal actions are subject to conformity determination. However, these actions are exempt if the total of all reasonably foreseeable direct and indirect annual emissions for the non-attainment pollutant are: (1) less than the emission rate thresholds, known as *de minimus* limits, and (2) less than ten percent of the area’s annual emission budget for the non-attainment pollutant.

3.4.2 Noise Levels

Introduction and Terminology

Noise levels are usually measured and expressed in decibels (dB) that are perceivable by the human ear, commonly known as an A-weighted sound level (dBA). Decibels are measured on a logarithmic scale. Thus, a doubling of the energy of a noise source, such as

doubling of traffic volume, would increase the noise level by only 3 dBA. Average noise levels over a period of time are usually expressed as dBA L_{eq} , or the equivalent noise level for that period of time.

There is no simple correlation between human perception of noise levels and acoustical energy. It is widely accepted that the average healthy human ear can barely perceive noise-level changes of less than 3 dBA, but a 5 dBA change is readily perceptible. Noise levels are attenuated by the distance and/or a barrier between the source and receptor, where the barrier is adjacent to either the source or receptor.

Regulatory Framework

The District of Columbia noise regulations establish maximum permissible sound levels for any sound that emanates from an operation, activity, or noise source at the property line of the site on which the noise is located. From 7:00 p.m. to 7:00 a.m., maximum noise levels of 55, 60, and 65 dBA apply for residential, commercial, and industrial zoned areas, respectively, with no average time period specified. For construction noise, DC Municipal Regulations require that from 7:00 a.m. to 7:00 p.m. on any weekday, construction and demolition noise levels (excluding pile drivers) shall not exceed 80 dBA L_{eq} unless granted a variance. Noise compliance measurements shall be made 25 feet from the outermost limits of the construction site. No permit for construction or demolition shall be issued until the permit applicant provides written documentation that construction noise will comply with District noise regulations.

Sensitive Noise Receptors

Sensitive noise receptors are generally considered to be human activities or land uses that may be subject to the stress of significant interference from noise. Land uses associated with sensitive receptors include residential dwellings, hotels, hospitals, nursing homes, education facilities, and libraries. Sensitive receptors may also include threatened or endangered noise-sensitive biological species. Commercial (office buildings) and industrial land uses are not considered “noise sensitive” by most definitions.

There are sensitive noise receptors currently located within the study area, however, none exist within the Master Plan area. Existing residences are located at C and 6th Streets, and residences are proposed on D and E Streets at 7th Street. Other potential sensitive noise receptors in and outside the study area would be residences along potential construction haul routes.

3.4.3 Natural Resources

Water Resources

The study area is located in the Potomac River basin, a sub-basin of the Chesapeake Bay Watershed. All of the uncollected surface runoff from the sub-basin drains towards the Potomac River, either directly or via the Rock Creek and Anacostia Rivers. There are no permanent bodies of water located on or near the study area, nor are there any wetlands in proximity to the study area. Historic maps of Downtown Washington, DC identify that a small stream once traversed the northeast corner of the DC courthouse block. Surface water temporarily exists as stormwater, which infiltrates into areas not covered by impervious surfaces or drains down slope to the southwest. The study area is not located within the 100-year floodplain of the Potomac or Anacostia Rivers.

Regionally, the groundwater aquifer system is composed of unconsolidated Coastal Plain sediments and groundwater flows through it to the southwest. Groundwater migration may be locally altered by proximity to underground Metrorail structures. Subsurface investigations have been performed in the study area, and depth to groundwater is approximated at 30 feet (Schnabel Engineering Associates 2002). Potential groundwater recharge occurs from stormwater infiltration in areas uncovered by impervious surfaces.

Soils and Topography

The study area is located within the geological province of the Atlantic Coastal Plan Region, where natural sedimentary materials of sands, clays, and silts overly crystalline bedrock. The site is located on a geologic terrace above the Potomac River floodplain. The soils of the Master Plan area are classified as Urban Land Association, which are soils that have been previously disturbed, cut or filled and may be covered by impervious surfaces. The soils and environmental testing (by Haley & Aldrich 2002) at the museum site revealed soils contaminated with trace levels of chloroform, volatile organic compounds, metals, and Total Petroleum Hydrocarbons (TPH) below EPA risk-based concentrations. Groundwater was found at approximately elevation +5'.

The topography of the museum site is variable. Overall, the area gently slopes to the south from F to C Streets. The high point of the museum site is approximately 49.5 feet at the west end of E Street. The greatest immediate change is from 47 feet to 39 feet from west to east at the south E Street curb line.

Vegetation and Wildlife Habitat

The museum site area is located in an urban environment that has previously been disturbed, used, and restored as a grassed, landscaped area. Therefore, the area does not provide a natural environment for terrestrial or aquatic animal species. The wildlife community within the Master Plan area likely includes common urban species such as small mammals and birds including gray squirrels (*Sciurus carolinensis*), Norway rats

(*Rattus norvegicus*), pigeons (*Columbia livia*), house sparrows (*Passer domesticus*), and starlings (*Sturnus vulgaris*). Based on the existing conditions of the area, it is unlikely that any endangered or threatened species or critical habitat would exist on-site. The existing vegetation within the museum area consists of older street trees and planting areas around the parking area.

3.4.4 Hazardous Materials

Since soil borings in the area indicate the placement of fill from previous site grading and development, there is a possibility that contaminated soils may be encountered below ground. Soil contamination is a concern where soils are exposed to human activities from grading or excavation, and are used as surface fill on-site or disposed at a landfill. Typical contamination may be natural such as trace amounts of arsenic, copper, chromium or zinc, for which the EPA has established risk-based concentrations for residential, commercial, and industrial uses. Fill material may contain manmade contaminants such as volatile organic compounds from hydrocarbon-containing products (fuels, oils, solvents, etc.). Environmental testing of soils (Haley and Aldrich 2002) indicated contaminations below EPA risk-based concentrations.

3.5 Utilities / Infrastructure

3.5.1 Stormwater Systems

The natural stormwater drainage patterns of the study area have been altered as a result of urbanization. Within the twenty-nine acres of the Master Plan area, there are approximately 5 acres of building footprint, 6 acres of city streets, and 18 acres of both paved and unpaved space interspersed between buildings. Of these 18 acres, there are impervious surfaces which include 1.73 acres of paved parking lots. Stormwater runoff from saturated soils and impervious surfaces drains by surface sheet flow generally to the southwest to inlets accessing the municipal stormwater collection system at the street curbs and in open lots.

Currently, collected stormwater from the parking area is combined with wastewater in the District's combined sewer system for transport to the Blue Plains Wastewater Treatment Plant (WWTP) for treatment prior to discharge to the Potomac River. Under extreme stormwater events, such as a 15-year rainfall event, some portion of the District's system may reach peak capacity and the District releases the excess combined stormwater and wastewater flow directly to the river as a combined sewer overflow (CSO).

3.5.2 Water Supply Systems

The District of Columbia Water and Sewer Authority (DC-WASA) provides water supply to the District. The source of water supply is the Potomac River via the Dalecarlia and McMillan Water Reservoirs and Water Treatment Plants. Pump stations within the distribution system deliver water throughout main and lateral pipelines.

3.5.3 Wastewater Systems

The DC-WASA provides wastewater management in the District of Columbia that includes collection, treatment, and discharge of effluent. Wastewater collected from the study area is transported in the District's combined sewage system for treatment at the Blue Plains WWTP with subsequent discharge of treated effluent to the Potomac River.

3.5.4 Energy Supply Systems

The Potomac Electric Power Company (PEPCO) provides electricity to the District. Buildings in the study area are heated by natural gas and steam. Washington Gas Light Company (WGL) supplies natural gas to the District. Two 69KV (high voltage) power lines which connect PEPCO substations traverse the site under E Street. There are a series of 8-way electrical duct banks located under E Street that provide service to Court Buildings C, D, and E as well as the Law Enforcement Officers Memorial and the Judiciary Square Metrorail station.

A GSA steam piping system provides steam to each of the court buildings, A through E. A steam tunnel below E Street projects into the west side of the Museum site approximately 10 feet and terminates (is capped off.) Steam supply and condensate lines extend south from the tunnel through the western side of the museum site to the Old City Hall and south east corner of the Court of Appeals for the Armed Forces. Steam supply and condensate lines also extend north from Court Building C, across E Street, approximately 15' east of the eastern boundary of the museum site and then angles north-west to a manhole in the south-east corner of the Law Enforcement Officers Memorial.

3.5.5 Solid Waste Systems

Facilities in the study area generate non-hazardous solid waste. Private waste collection contractors are contracted to collect and transport the solid waste for disposal in a landfill. Several landfills are located outside the District for disposal of solid waste.

