Design for the Museum for the Native American Indian

by

Phoebe R. Millon

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Signature of Author: ____________________________________________

Department of Architecture
May 20, 1996

Certified by: ___________________________________________________

Ann Pendleton-Jullian
Associate Professor of Architecture
Thesis Advisor

Accepted by ____________________________________________________

Wellington Reiter
Assistant Professor of Architecture
Thesis Supervisor
Thesis Readers:

Imre Halasz .................................................................................. Senior Lecturer of Architectural Design at MIT

William Porter ............................................................................... Full Professor of Architectural Design at MIT

Nicholas Musso ........................................................................ Visiting Professor of Architecture at the Graduate School of Design at Harvard University
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ABSTRACT

Museums are becoming increasingly specialized as they carry out their general function to offer the public pathways and insights to various aesthetic and cultural fields. Traditional displays of arts and cultural history are giving away to the development of a new, more focused museum. In Washington two years ago, the Holocaust museum opened. A tribute to the Native American Indian surfaces will soon become a reality in the Nation's capitol.

The architecture of and for the Native American Indian expresses significant relationship with the landscape. The building types are about moving outwards towards the landscape. Sites have been primarily rural. Therefore designing a museum for and about the Native American Indian on the mall site is a complicated development. The challenge is to build a normally extroverted building type on a constrained site.

The design for a Museum of the Native American Indian involves three cultural and architectural issues. The first consideration is the history of Native Americans as well as a contemporary focus. The Native American Indian plays an essential role in the design backbone for the museum. This role is synthetic, to bring together vastly diverse American tribes and represent them in the museum's design and function. Second, the site; contextual issues of the mall and the oversight of the National Planning Commission add a layer of constraint and conformity which must be acknowledged. Third, the role of the museum should also be given consideration: will it function as a "tribute", or as a memorial, or as a monument and tool of understanding. Usually, a combination of all of these is typical in the success of a museum. However, at the largest scale, the new museum will be a designed environment, a reflective place, comprised of spaces which create an understanding of a culture.

Thesis Advisor: Ann Pendleton-Jullian
Title: Associate Professor of Architecture
Proposal for the Museum

There are several ways to define a museum. In the most basic functional terms, it is a building which houses objects, protecting them, while providing shelter for their visitors. The intention for the Museum of the Native American Indian is them, to be both a monument to and for the American Indian people as well as an institution for learning about their culture. It will open a door to history and custom, give meaning to mystery, bring light for understanding. Most significantly, the museum will be in its entirety Native American Culture; through its design, function and usage.

The Native American People

Dr. Richard West, the director of the new museum, describes the force behind the Native American “artist”. “The native artist values the creation of art over the final product. Process speaks to historical or cultural significance because it is testimony to cultural continuity and change. It is the evidence of lost traditions, innovations, preserved cultural knowledge, historic perspective, and vision of the future. It takes into account a sort of “spiritual evidence” that is integral to the creative process. The integrity of the creative process is foremost. The object is meaningless without it.” I have used this assessment of the centrality of “process” as a departure point in designing the museum.

The process of design is creative and exploratory. The museum is functional by its nature as a public institution, but the museum’s ongoing success is the process of its ongoing creation and reinterpretation through ritual performances (as in dance, music, drama, and stories). Designing the museum on the mall certainly requires the traditional architectural analysis of site and context. But even more essential is understanding how the native peoples see themselves as a part of their history. It is the timelessness of this history and their interaction with it that has interested me in designing a National Museum for and about the Native American Indian.
Field Work/Research

This past summer I visited a number of Indian reservations throughout the North and Southwest United States. I have been working since September with my memory, photographs and my notebooks of sketches which helped me look closely at a few small areas. By means of conversations and observing daily life along the way, I was able to develop some beginnings of "awareness" and sensitivity to this fascinating and diverse group of American people. Learning about the culture through observation, communication, and reflection is essential to the design project and to developing and understanding of my client. The land, and the living of people on and with the land, is a core aspect of this project.

Site; the Mall on Washington

The proposed site is located on the mall directly across from the East Building of the National Gallery of Art and adjacent on its western side to the Air and Space Museum. (illustrations 1 and 2) Orientation on the site is a primary issue. So also is the architectural complexity of the mall, already in place, and the guidelines of the National Capitol Planning Commission and Fine Arts Commission. In brief, the mall was designed under President George Washington, who brought Pierre Charles L'Enfant to Washington to plan a "powerful " new nation's capitol. The rigidity of this first plan has been generally maintained. The McMillan Commission in 1901 continued to shape park system of the city as well as to diagram portion of the city as proposed sites for future public buildings. (illustration 3)
The mall, our great national landmark, possesses significant historical, political and social reference points and associations. A carefully restricted area, the mall functions as an urban garden and is itself a large-scale museum. The function and design of the mall, relates directly to the existing public space, the congested streets, the surrounding buildings and the river, which governs the initial urban plan. (illustration 4)

Its perimeter of primarily museum buildings is continuously utilized, while its extensive open garden-space promotes leisure. The nature of this all-American space is a direct result of the influences upon it. Political and social history have shaped the architecture and urban planning of the capitol and its major spaces. Washington is a river city with park like banks and broad, tree-lined, ceremonial “garden” streets. Until the last decade its trees were the boast and its glory, both for variety and fine specimens.

Urban pollution has taken its toll. All these elements of the city shape the open spaces within. The mall and the Smithsonian buildings are the true source and spirit of public life. Therefore the capitol is identifiable by certain monuments and major public buildings which are housed in this open space.
The Mall is a successful urban gathering area. It stays relatively active. The buildings of the Smithsonian, the monuments and sculpture surrounding it are not static; they continue to be the subject of proposed changes. The mall is used primarily for pedestrian traffic between the Smithsonian museums and major monuments which comprise its walls and thereby form the large, linear open space of gravel paths, large grass rectangle, and widely spaced great trees. The greatest activity occurs within the museums and along the pedestrian edges of these buildings rather than in the vast space in between. As mentioned, it functions as a museum. The continuity of the buildings and the rigid orthogonal organization invite the public to behave in a conservative manner. The most heavily used public walks are on the edges and interact with the building, without utilizing the open space between. The similar classical design and harmonious use of materials reinforces their wholeness; materials: brick, limestone and glass and their height and form. The open space of the mall functions as the paths between the entrances to the buildings.

The physical arrangement; the rigidity of buildings on the mall is critical. The capitol, elevated, at the head of the square, governs the mall like a domed head, in a hierarchical manner. The two arms of the Smithsonian buildings extend from this head towards the river, down Maryland avenue on one side, the processional boulevard of Pennsylvania Avenue on the other, to the foot, which houses the Lincoln Memorial. The Washington Monument stretches upward in the middle facing one thin side to the Capitol and another to the White House, which is set back visually tied to the Mall but recessed for privacy. The museum will occupy the last allotted site on the Mall, as seen in Illustration 5.
Geography, Site and Sun Orientation

The architect, Sverre Fehn discussed the orientation of latitude and longitude upon the earth’s surface as a grid, providing the earth with specific points of orientation in which all other aspects of wind and sun movement operate. “Our traveling globe in galactic endlessness is divided into latitude and longitude. With the help of this grid, every point on the earth’s surface has its number. At the grid’s intersections each receives nourishment, each creature receives its individual technology, its structure formed and created by the clouds’ movements, the wind’s strength and the shifting positions of the sun.” The site for the museum on the mall is at 39 degrees latitude.\(^1\) (illustration 6) The latitude determines the sun’s path, the percentage of light on the site and in the building.

The polarity or orientation of the site is a dominant factor. Earlier investigations of the sun’s movement across the site demonstrated the significance of the direct southern light at the back of the building during the majority of the museums would be hours of operation (approximately 10 am to 5pm). The two models, illustrations 7 and 8, portray the rotation of sun from behind the site, due south and address the sun’s light potential during its peak solar hours at 39 degrees latitude. The building is grounded on an east-west axis. Circulation and space distribution will have the same flow. The east and south sides of the building receives the greatest light and will require more screening and protection.
The north and west sides of the site need more fenestration to allow light in at the end of the day. The summer and winter solstices dictate the design, form and orientation of all the walls. The challenge is to keep horizontal sunlight out of the galleries and to reflect light into the more open spaces. Walls along these axis provide light. Four light wells in total allow natural light into the more darker gallery and public resource areas. The normal 10am to 5pm hours of operation for the museum and the annual pattern of sunlight, are considered in the design. Wall orientation, fenestration, location and design of public and private spaces throughout the museum, are affected by suntime. The drawings viewed clockwise in illustration 9, illustrate earlier column positioning, wall orientation, the suns path during hours of operation indicated by the diagonal lines on the southern side of the building, and finally, the introduction of light wells within the gallery spaces. (The various spaces will be discussed later in the text under the design chapter of the museum)
Designing and Building a Museum for the American Indian on a Rigid Urban Site

The relationship between the Native American Indian and the landscape is intense. Since the Mall is planned as a formalized site, designing on the Mall increases the complexity of "discovering" a building. Native Americans had use of the American land before division into territories became a reality. Their strong connection to the landscape and to their heritage suggests an alternative, more rural site. However, the politics of building the museum on the Mall and in proximity to the capitol, links government recognition and Native American Peoples' interest in putting painful historic memories into evidence and to rest. Therefore though I had considered changing the site of the museum, it is for this latter reason that I will design on the Nations' Mall. Site work in terms of architectural research, as well as on political history could be vast. To consider all the surrounding building typologies and contextual issues might lead to a complex design, but result in little reference and possible further abandonment to the Native American Indian culture.

With the exception of the Smithsonian buildings lining the mall, the remainder of buildings are rigid and institutional in design and orientation. The surrounding buildings, especially the federal buildings which form the orthogonal backbone behind the site are cold and uninviting in character, as seen in illustration 11. They are enormous structures, primarily rectangular in shape, containing the museum site. The constrain in fact of these federal buildings allows for a more flexible free design for the museum. The restriction upon the site comes from the urban scale of the street.

(illustration 10; site plan, as seen on previous page)
Maryland Avenue which comes at a diagonal and cuts from the southwest corner of the site, greatly influences the form of the museum, further discussion in design chapter. The specifics of site constraint and the complexity of building a design on an urban site, support a deeper investigation about museums, especially that of built Native American Museums.

**Museums**

Anthropology museums contain objects of great spirituality. The Museum of the Native American Indian will house a vast collection of spiritual objects from the reaches of the hemisphere. *(illustration 12 and 13)* The range of American Indian building types is vast, depending to tribes and even more significantly, geography. Climate, region and landscape are the decisive factors in Native American dwellings, communal spaces, and shelters. *(illustration set 14; illustrates selected Native American Architecture typologies.)*

**Exhibit Design at Native American Museums**

The Museum of Anthropology by Arthur Erickson in Vancouver, currently houses an extensive collection of work by and about the Native American Indian. The design of the building reflects the scale of the totem poles inside. The museum is successful, in so far as it reflects design consideration of both American Indian and the incredible landscape.

The Museum of Anthropology, widely known (and often acclaimed) is dedicated to exhibition of the artifacts of the Northern American Indian. Located in the rural Canadian landscape of Vancouver, the relationship between inside
and outside is the museum's great achievement. Focused on the objects for the museum, letting them directly dictate the spaces and overall design.

Immense totem poles set the heights of the stepping roofs and the length of each exhibition space is determined by the needs of multiple large, horizontal statues and sculptures. (Illustration 15) The objects vary in size throughout, as true pebble to boulder and mound to mountain on the museum's exterior. A gathering of totem poles, set in the cleared fields outside, are a continuation of the exhibit inside the museum. (Illustration 16)

The Indian American Art Museum at Colter Bay, Teton National Park, Wyoming, is a much smaller museum both in the size of its objects and in its spatial organization. The creative work of the Native American Indian, as explained by the staff, has two common characteristics, despite artistic diversity, (1.) It is utilitarian/functional and never conceived to be just aesthetic. (2) Each culture area effects specifically the form and technique of the objects.
The success of this museum lies in a resourceful use of interior space, again like the Erickson museum, relative to displaying the objects themselves. The tall display cases (approx. two feet by six or ceiling height) allow things to hang such as headdresses, etc. by fishing string (transparent). The visitor is allowed to walk around and see from all sides of the object. The low cases (approx. two feet off the ground and two feet high) worked well for adults as well as children and moved the visitor away from the wall in a “friendly” way that seemed to encourage and intimate and communal manner of looking and learning. In addition, the low cases allow multiple horizontal objects to be displayed. The jewel in some ways of the exhibit was the TIPI installation of the Nomadic Plains Indian. All the various dwelling and building types should be inhabited by the visitor for the design of the museum in DC. A variation of cases reflects the landscape and its rhythm.

Museum of Northern Arizona at Flagstaff The museum represents the Zuni, Navajo and Hopi tribes, which inhabit about 130,000 square miles in the Four Corners Area. This museum seemed welcoming and familiar; the spaces were private and had a more relaxed environment than the formality found in other Indian museums. The visitor is offered a personal learning experience. Each room has an “orientation” wall or panel, discussing ideas within that space. There is a central courtyard, and much like a medieval monastery, the visitor moves in a ceremonial and respectful procession around the perimeter of this focal outdoor space. Most of the exhibition rooms have windows that seem to reinforce a private domestic atmosphere, while at the same time, creating a strong and constant relationship with the outside. Various objects line the walls, forming new patterns. There is an actual kiva displayed in the museum. Ladders in the DC museum might be a good idea, moving people symbolically from outside to inside. Stone paved floors lead to the outside creating a subtle transition from the interior towards the exterior.

The Museum for the Native American Indian will be built within the next decade, overseen by the Smithsonian Institute. Program along with numerous codes have been organized and designed as part of the conservative efforts by the Smithsonian.
Program

A brief overview of the urban plan of the mall, the constraints are made evident in terms of site adaptation or expansion. The site allotted is minimal for an approximate 180,000 square foot program.

Exterior space as part of the museum already seems essential in the design. An enclosed and an outdoor performance space will effect both the program and the overall design. Therefore, there have been continuous alterations to the program:

<table>
<thead>
<tr>
<th>Program Category</th>
<th>Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outdoor program space/ site development</td>
<td>20,000</td>
</tr>
<tr>
<td>Entrance/Orientation</td>
<td>10,000</td>
</tr>
<tr>
<td>Outdoor/indoor Performance Gathering Space; circular</td>
<td>11,300</td>
</tr>
<tr>
<td>(this public performance space does not include approximate 5000 square feet of observation and circulation around its perimeter)</td>
<td></td>
</tr>
<tr>
<td>Exhibition Galleries</td>
<td>50,000</td>
</tr>
<tr>
<td>Theater/ Auditorium</td>
<td>10,000</td>
</tr>
<tr>
<td>Support for exhibit</td>
<td>10,000</td>
</tr>
<tr>
<td>Director/Administration</td>
<td>5,000</td>
</tr>
<tr>
<td>Library</td>
<td>5,000</td>
</tr>
<tr>
<td>Resource Center/Public Education Services</td>
<td>5,000</td>
</tr>
<tr>
<td>Cafeteria</td>
<td>5,000</td>
</tr>
<tr>
<td>Restaurant</td>
<td>2,500</td>
</tr>
</tbody>
</table>
Design Intentions; the museum on the mall

The building itself must come from the earth, be floating upon it, like the Pueblos but simultaneously be a part of it, grounded, rooted as earth. It is not possible to build the museum outward, as is the character of most Native Indian Architecture. The Mall is an urban area with a rigid and constraining grid. The architecture of the Smithsonian buildings; the museums which surround it, are both diverse and increasingly internal, as seen by the interior “outdoor” space in I.M. Pei’s East Wing of the National Gallery of Art. This east addition to the National Gallery lies directly across and is the mirror plan of MNAI site. (see back illustration 10; site plan)

Since it is not possible to move outward the focus is internal and vertical. The design is essentially about movement upward, towards the sky and the acknowledgment of the sun.

Entrance and Orientation on Building Site

By understanding the solstices and locating the equinox across the site, paths and respectful directions are understood, critical in the design of this museum and the cultural perspective of the Native Americans. (illustration 17, at right)
The acknowledgment of the sun, as established, is a significant part of the Native American culture. This is demonstrated continuously in building organization and orientation on the earth’s surface. (illustration 18)

The visitor enters the site on the Northwest corner, moving east and then south into the building. (illustration 19; Drawing: large scale site plan) The experience is movement through a landscaped site; gradual and natural. It is a progressive landscape in which layers earth give way to a large entrance. This stepping in the earth and focus around an entrance or gathering place recalls the Inca’s stepped hillsides. (illustration 20) Or evoking on a large scale the earth’s rising and falling as seen in chaco canyon. (illustration 21)
The visitor moves against a heavy, dense wall and down, around into a large central gathering area at the heart and entrance, oriented due south. The entrance should be identifiable from a great distance and prominent in welcoming the visitor. (illustration 22)

The movement is circular on the outside of the building leading the visitor past the first grand wall (the larger program spaces occupy this location) eventually to lighter, more open gallery spaces. The circulation continues in a secular pattern upon entrance of the building in plan. The visitor moves around the gathering and performance space inside the museum and moves back into this public place in a circular movement in section as well. This movement and circulation pattern recalls the path of the sun's solar burn on the landscape. (illustration 23)

The significance of Shadow
As mentioned previously the sun's path over and around the site is also critical in the positioning of columns and walls as well as the stepping of the various floor planes. Essential too are the responding shadows created by the sun's movement against the rhythm of both wall and column. The pueblos of the southwest, with their stepping walls, give a sense of permanence in the very strong southern sun. (illustration 24 a & b) More ephemeral, minimal structures surround the Pueblos, functioning as a market, providing both temporary shelter from sun and rain. The shadows cast from the overwhelming sunlight are part of the Pueblo landscape. Identifiable the shadows work as a timekeeper for their inhabitants.
This application of sun movement is a significant part of the museum design. The shadows in the study model investigate the sun's influence on the man made. (illustration set 25)

Architectural Approach; the Walls

The building moves up and out. It's spaces invite light and simultaneously protect the interior. The large stone walls move from the ground, vertically to the sky. The majority of the walls are structural, but some contain vertical circulation and others contain space for the museum staff and administration. The walls are the more private elements of the museum; containing and protecting as much as they provide stability and protection themselves, as seen in the photographs of the study model. (illustration set 26)

They penetrate the slightly "arched" or curved ground floor which appears in the buildings central section is the most public datum of the building. The arch is formed by a wide stair which the visitor ascends from the performance space, below ground. The stair rises stepping gradually, leading the visitor on various levels of the museums major public spaces.
This curvature floor is the vehicle by which space throughout the building is engaged. The concave roof is in tension with this main convex floor. (illustration 27; section of building) The roof brings the sky and the light into the building. It serves as a deflecting plane as well as guiding a vertical system of columns into the buildings larger, more open spaces.

**Performance Space** The largest open, public space in the building is the central gathering and performance space. Theater, dance and singing will be a major part of the museum. (illustration 32; Drawing: plan below ground) This vertical space on the first public level of the museum will house performance. Visitors may surround the performance, as well as participate and in addition be able to observe from extended balconies on all six of the gallery and public resource levels. As a larger kiva, the space serves as a place of community and ritual. (illustration 29) Natural light in this space is critical and the shadows cast upon it will be indicative of both time and the spirituality involved with Native American ritual. It is important to contain light and direct the sunlight into the performance space, as it is a significant gathering area. (illustration 30 and 31)
Gallery Spaces The galleries are generally open. (illustration 32; drawing: plan 2 ground floor) The majority are located on the southwest side of the museum. Light wells in the gallery spaces allow vertical light in the otherwise dark exhibitions. The wells maintain the vertical sense of the spaces, the floors are cut away and removed from the walls. The floors are suspended around the freestanding walls, bringing light down into all levels of the galleries, much like a large skylight. (illustration 33 drawing; section B) Instead of support from the walls, the grid of columns function as the essential structure. (illustration 34; drawing ground plan) The column grid is
made up of a steel column to beam supportive and continuous relationship. The 2 x 2 foot columns are spaced 30' apart on center. This spacing was recommended as the most appropriate spacing for a museum of this size, by Douglas Cardinal architects (principal architect on the Smithsonian project). Temporary walls will increase openness in the gallery spaces and add flexibility for specific exhibitions. The physical relationship between the walls and the columns will maintain the ephemeral quality of a changing museum landscape. The gallery organization is a continuing struggle. Division by geographic region seems to be the simplest system. It is possible to divide the galleries by medium; pottery, painting, architecture, etc., however, observing a particular tribe, its culture in its entirety preserves clarity and interest within a given Native American community. The unification will occur in the Contemporary galleries.
The contemporary exhibits are a vital and progressive addition in the program. Current American Indian work must be a vigorous part of the museum. A generous portion of gallery spaces will be allotted for this purpose. Rotation of the exhibits will be encouraged, especially from different American regions. This is also essential for unification of all the Indian tribes, and might be the only space in the museum where the tribes are increasingly integrated. Support for these exhibits will be located one floor below ground with the performance space and entry into the auditorium. (Refer back to illustration 23 for plan.) The auditorium operates as a theater. It functions as a space for lectures and films. It also is designed, with lighting and space organization, for magical performances; illusionary and spiritual acts. Above the auditorium, on its "roof" is a public restaurant. This restaurant is accessed from the large stair which follows the curve of the performance space. The public resource and education centers are part of the entrance and orientation and initial circulation process. (Illustration 37 drawing: plan second floor)
All drawings were drafted at 1 inch equals 16 feet.

Illustration 35: floor plan 4)

Illustration 36a floor plan 5

Illustration 36b) Truss study: Two parallel Lenticular Trusses
They are located on the three floors against the back walls and in polar opposition to the gallery spaces in the far west of the building. Public service operates along these back walls as well as major vertical circulation. (illustration 36; section N-S)
The service area is relocated in the administration spaces at the far east of the building. The administration includes the staff, management, and the director of the museum. It also houses a library which operates on the six floors of the administrations southeast wing, against the back wall. (illustration 35 and 36 drawing; plan floor “4” and “5”) A large open space surrounds the floors on the eastern and northern sides (with the exception of the directors space open only on the eastern side necessary for more space). Sunlight reflects off the interior eastern wall into the administration wing from the space between it and the rear southern wall along Maryland Ave. At no corner in all of the building plan do walls meet to allow light into the building as well as to give the appearance of freestanding walls maintain the permanence of the original design intention.

The roof (illustration 39; drawing: roof plan, floor 6)

The roof is a cosmological place or ritual and performance. (illustration 40) In plan it very much addresses the site while simultaneously unifying the spaces underneath. The outdoor performance space is located directly above the circular gathering space below. It is supported by two parallel steel trusses. (illustration 36b & 41) drawing; truss section) The roof serves as a plane in which the column grid "hangs" from it, while supporting it, as seen in this temporary native structure. (illustration 42)

Memorial on the Mall. The museum serves as a memorial with suggestion for an additional memorial. The addition of a memorial for the devastation of Native Americans since the 15th century will be introduced during the proposed completion of the museum. The design will be a simple continuation of the original walls which comprise the museum's design. Freestanding walls of limestone create fragmented, irregular space; ephemeral spaces. The site will be on the central mall strip, directly in front of the museum engaging a permanence on the mall.
Conclusion

The major design intention of this thesis was to create a "place" of culture; an experiential museum. The most public, circular space within the museum; the performance space operates successfully as a communal, gathering, participation place. This cultural habitat is the vehicle by which the rest of the program for the museum functions as well as government over the major circulation in the building. Throughout the museum, the visitor can observe dancing at ritual festivals, can hear singing and smell foods cooking from the market place. The "interaction of the senses" is the critical element of this experiential museum design.

The openness within the building supports the ephemeral quality significant to the museum. The perimeter walls and four light-well walls illustrate the only sense of permanence in the building. By being free-standing the walls re-emphasize the vertical movement up and out of the museum. Therefore the smaller walls which divide and combine the program within the building are temporary and are closer to partitions, maintaining this ephemeral design. Flexibility within the museum is crucial in this particular design but also necessary for further possible changes in the future of the museum.

Study model C, above

Site Model, above
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Endnotes:

2 The Smithsonian, under the guidance of the Members for the Museum of the Native American Indian, have selected the architectural firm of Geddes Brecher Qualls Cunningham of Philadelphia in association with Douglas Cardinal Architect Ltd. of Ottawa, Ontario, Canada, to design the National Museum of the American Indian on the Mall in Washington D.C., scheduled to open in 2001. (Information provided by the Smithsonian, NMAI) Venturi, Scott, Brown designed the program for the Smithsonian Institute.

All information provided by the design construction office at the Smithsonian Institute at L’Enfant Plaza.
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