Smithsonian Institution
National Air and Space Museum

Construct Integrated Bezos Learning Center

Commission of Fine Arts:

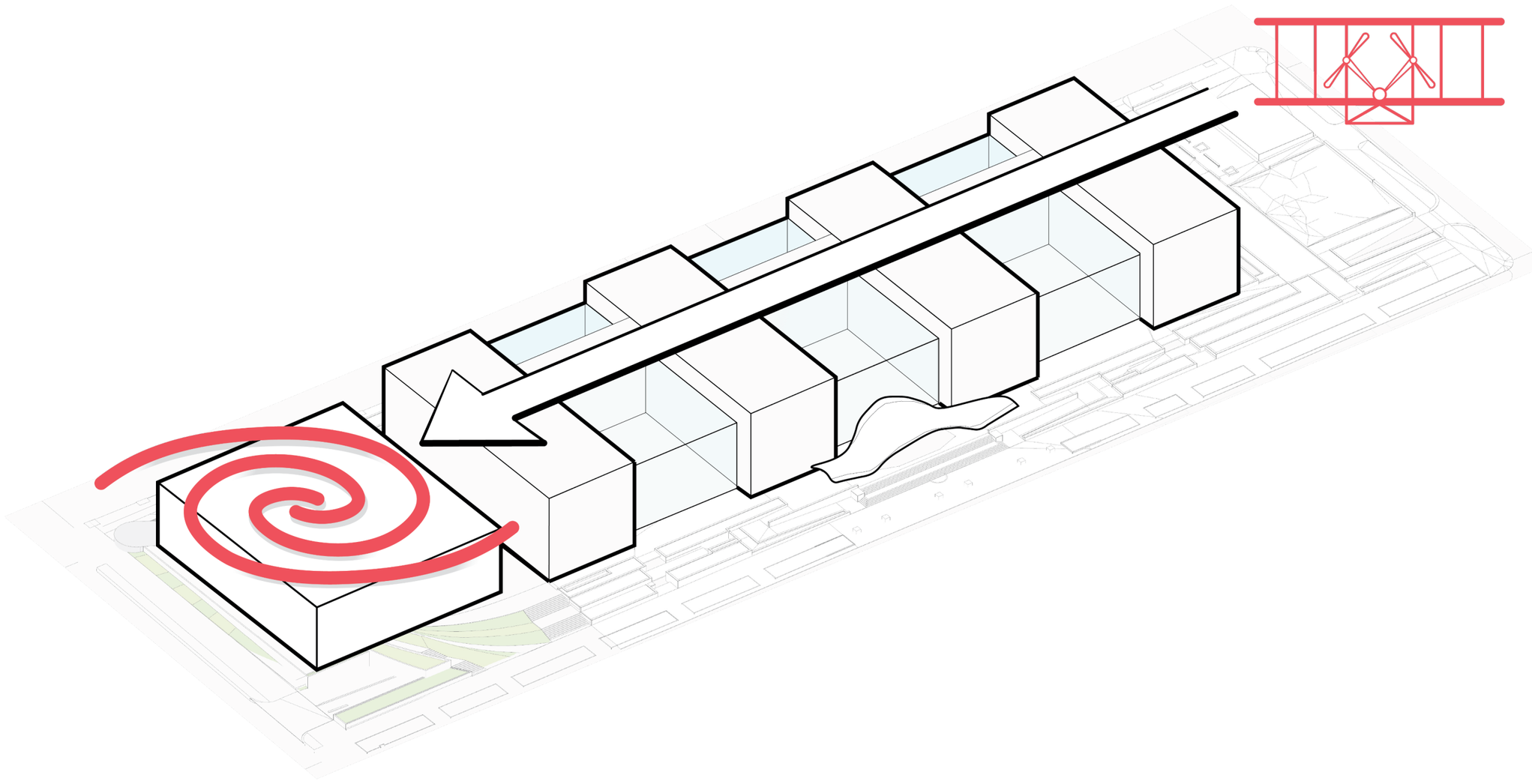
Final Phase Project Presentation

Smithsonian Institution | Perkins&Will

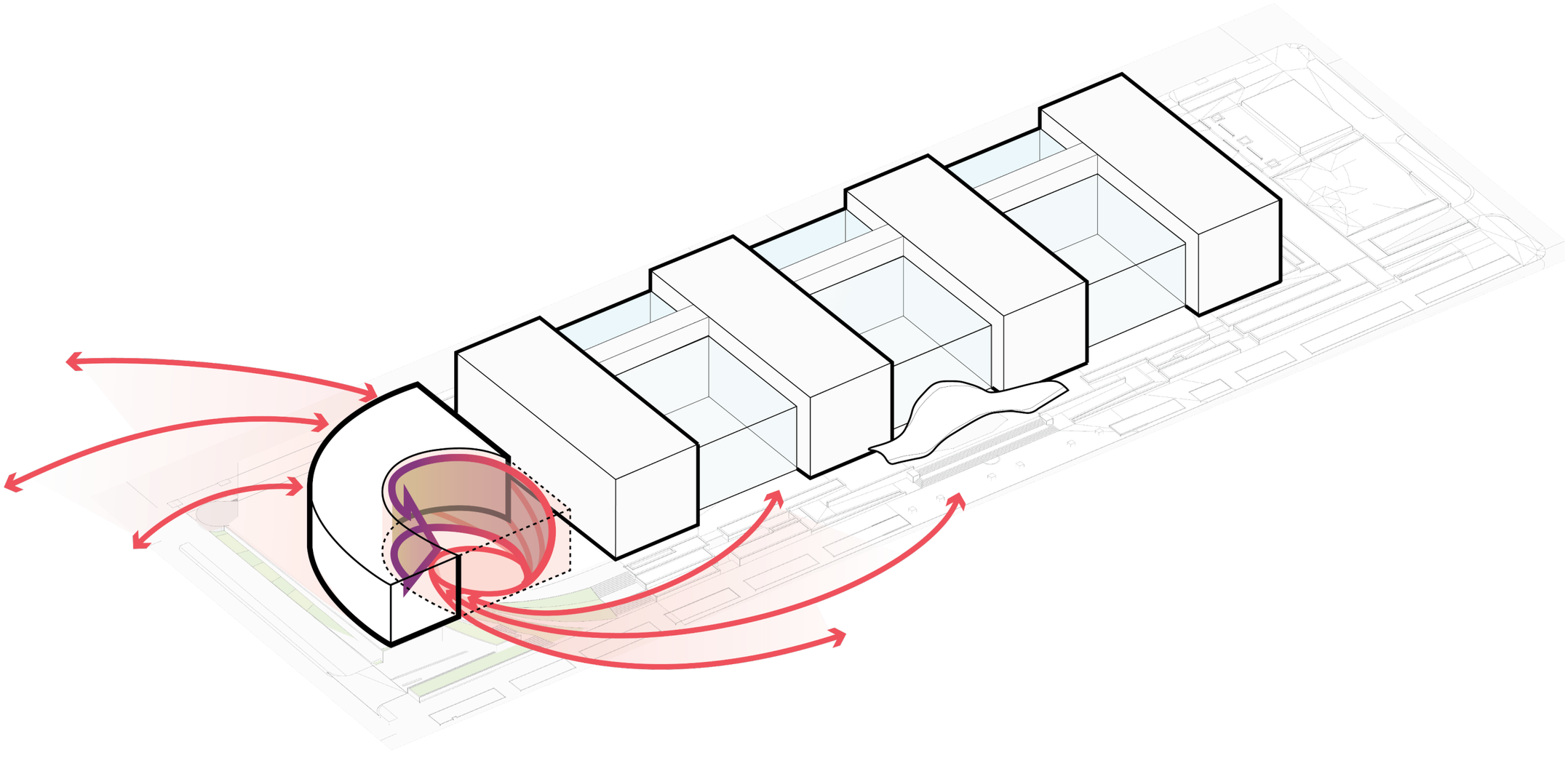
Aerial View

NASM-NMB and BLC Site

NASM Sequence



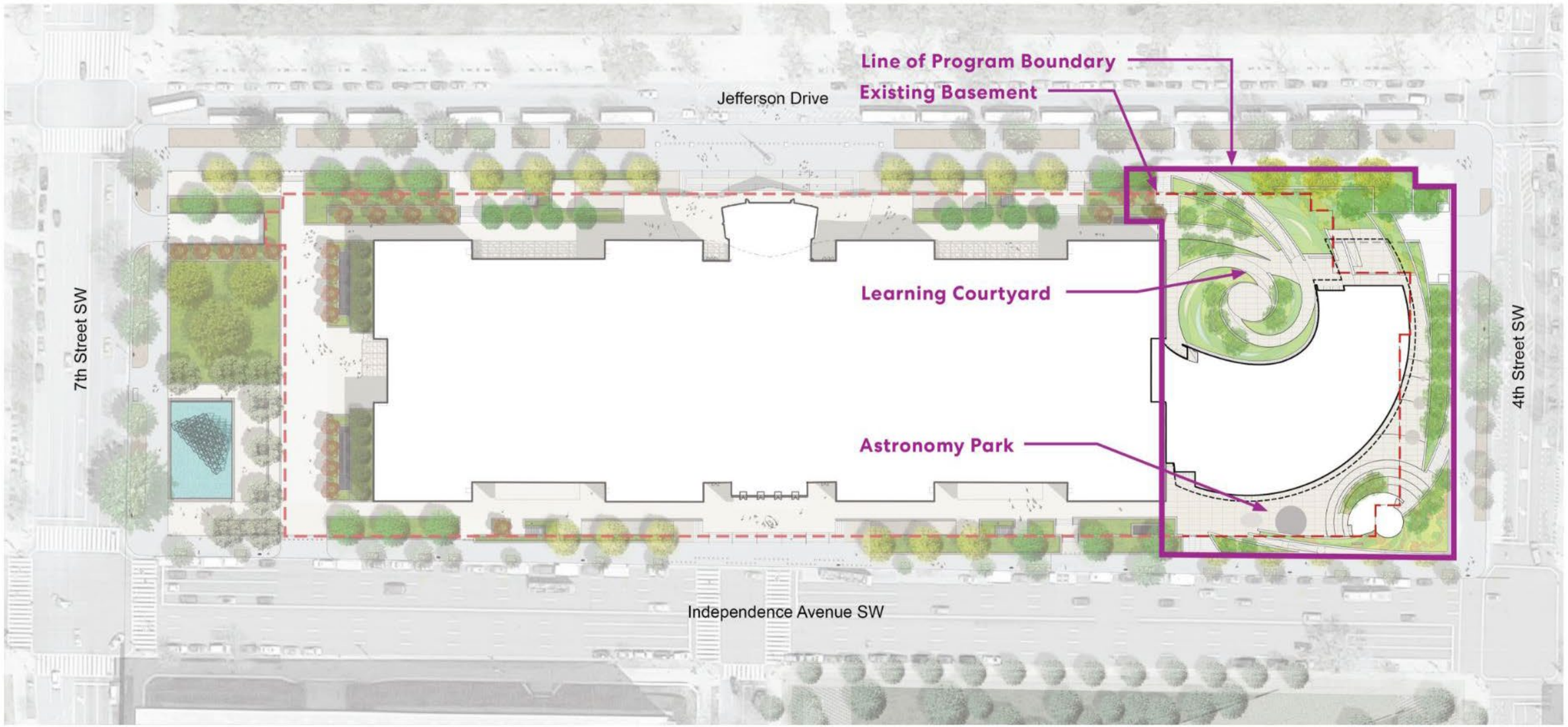
Parti Diagram



Landscape Design

Overall Site Plan

The spiral landscape extends the Learning Courtyard north to Jefferson Drive and the National Mall; the Phoebe Waterman Haas Astronomy Park opens south to Independence Avenue, connecting to Dwight D. Eisenhower Memorial and extends east to the NMAI landscape.



Landscape Design

Enlarged Site Plan

The site design's parti reconfigures the geometry of the NASM Revitalization perimeter to express the galactic spiral, and introduces slopes and topography that are reminiscent of Gyo Obata's design for the East Terrace and Restaurant. The spiral concept shapes the paving design, ramps, new plantings, and program elements in the Learning Courtyard and Astronomy Park. The landscape shall be constructed over existing and new structural decks as hardscape and vegetated roof overburden systems.

Extending the spiral voids north and south to overlay the revitalized landscape opens the Learning Courtyard and Phoebe Waterman Haas Astronomy Park to broader public participation in open space programming per the Smithsonian Institution's mission to share knowledge.

The planting concept builds upon Horticulturist Patrick Cullina's palette, implemented under the NASM Revitalization, which uses clusters of plantings.

Landscape Planting Concept

Overall Palette

The NASM Revitalization planting palette and oak tree line are extended along Jefferson Drive and Independence Avenue, transitioning to species and varieties specifically selected to highlight horticultural and arboricultural themes, including plantings that symbolically refer to national landscapes along Route 66 that offer dark skies, pollinator species particularly vulnerable to atmospheric changes monitored through air and space programs, and night blooming plants surrounding the Phoebe Waterman Haas Astronomy Park to further enhance evening use of the terrace space. Planting patterns within the Learning Courtyard also reinforce the geometry of the galactic spiral, and are arranged to account for the seasonal availability of natural light.

The “Moon Trees” are of special note: four hardwood cuttings (100% genetics) and one seed-grown sycamore (50% genetics) from the Apollo 14 Moon Tree at NASA Goddard and one “new generation” Moon Tree from the Artemis program will be planted in deep soils adjacent to the Astronomy Park along 4th Street, where their positioning serves as an exhibit in its own right.

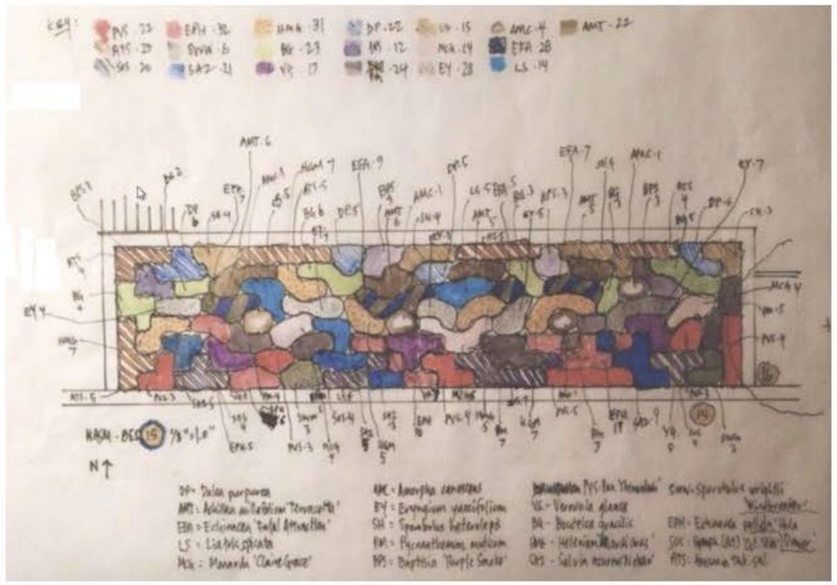


Image of Patrick Cullina sketch for planting concepts, December 2023 Image courtesy of SI

NASM Revitalization Perennials

Perennials

Reed Grass
Calamagrostis brachytricha

Black Cohosh
Actaea racemosa

Japanese Shield Fern
Dryopteris erythrosora 'Brilliance'

Terra Cotta Yarrow
Achillea millefolium 'Terra Cotta'

Blue Wood Aster
Symphyotrichum cordifolium

Sneezeweed
Helenium 'Mardi Gras'

Red Switch Grass
Panicum virgatum

Coral Bells
Heuchera 'Plum Pudding'

Blazing Star
Liatris aspera

Culver's Root
Veronicastrum virginicum

Trees

Flowering Dogwood
Cornus florida 'Cloud Nine'

Sycamore Tree
Platanus occidentalis

Magnolia
Magnolia virginiana 'Moonglow'

Shumard Oak
Quercus shumardi

Scarlet Oak
Quercus coccinea

Prairie Plants

Perennials

Blazing Star
Liatris spicata

Wild Bergamot
Monarda fistulosa

Redtwig Dogwood
Cornus sericea

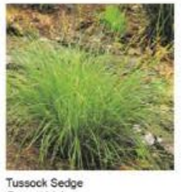
Purple Coneflower
Echinacea 'Purple Emperor'

New England aster
Symphyotrichum novae-angliae

Grasses

Creek Sedge
Carex amphibola

Plaintain-leaved Sedge
Carex plantaginea



Tussock Sedge
Carex stricta

Moon Garden

Starry Campion
Silene Stellata

Rattlesnake Master
Eryngium Yuccifolium

Foamflower
Tiarella

Swamp Milkweed
Asclepius incarnata

Redring Milkweed
Asclepias variegata

Purple Milkweed
Asclepias purpurascens

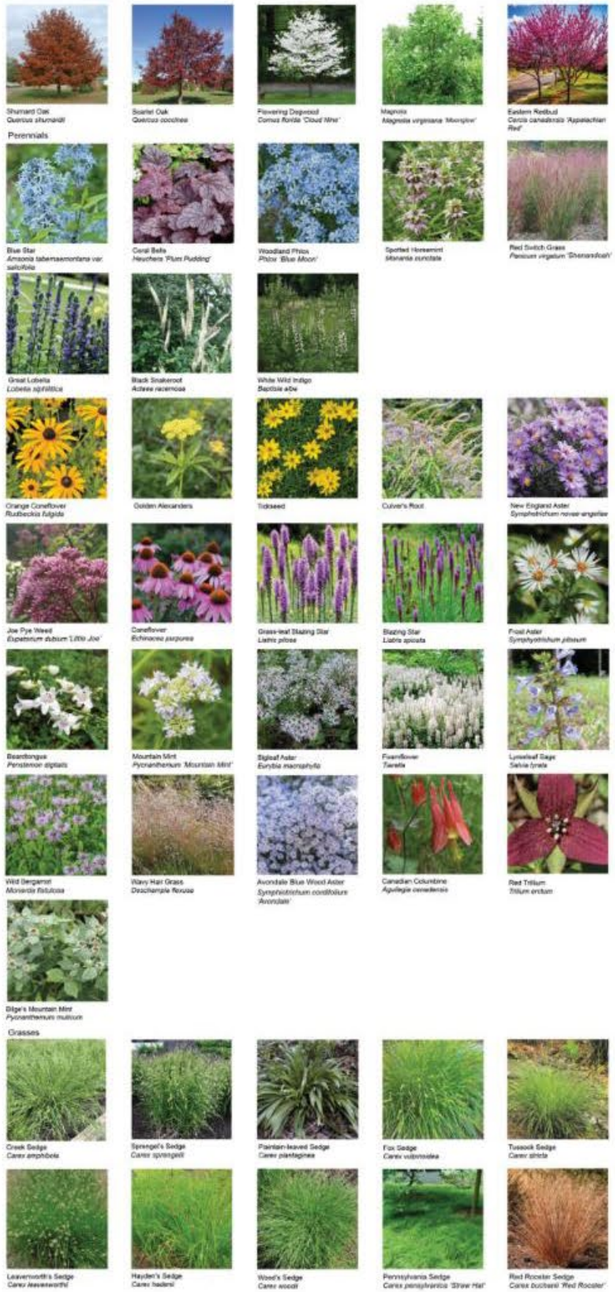
Landscape Planting Concept

Ties to the National Landscape

Drawing inspiration from the broader national landscape and regional environments along Route 66, known for the country's darkest skies and numerous observatories, the planting concept highlights plant species and varieties from the Cullina Revitalization palette to enact this concept.

Planting Palette

North Planters and Learning Courtyard



Night-blooming Palette

Astronomy Park and East Planters

Trees

Common Serviceberry
Amelanchier arborea

Night Blooming Perennials

Spotted Beebalm
Monarda punctata

Rattlesnake Master
Eryngium yuccifolium

Culver's Root
Veronicastrum virginicum

Fall Phlox
Phlox paniculata

Smooth Hydrangea
Hydrangea arborescens

Starry Campion
Silene Stellata

Blazing Star Gayfeather
Liatris Spicata

Foamflower
Tiarella

Butterfly Plant
Asclepias tuberosa

Common Milkweed
Asclepias syriaca

Swamp Milkweed
Asclepius incarnata

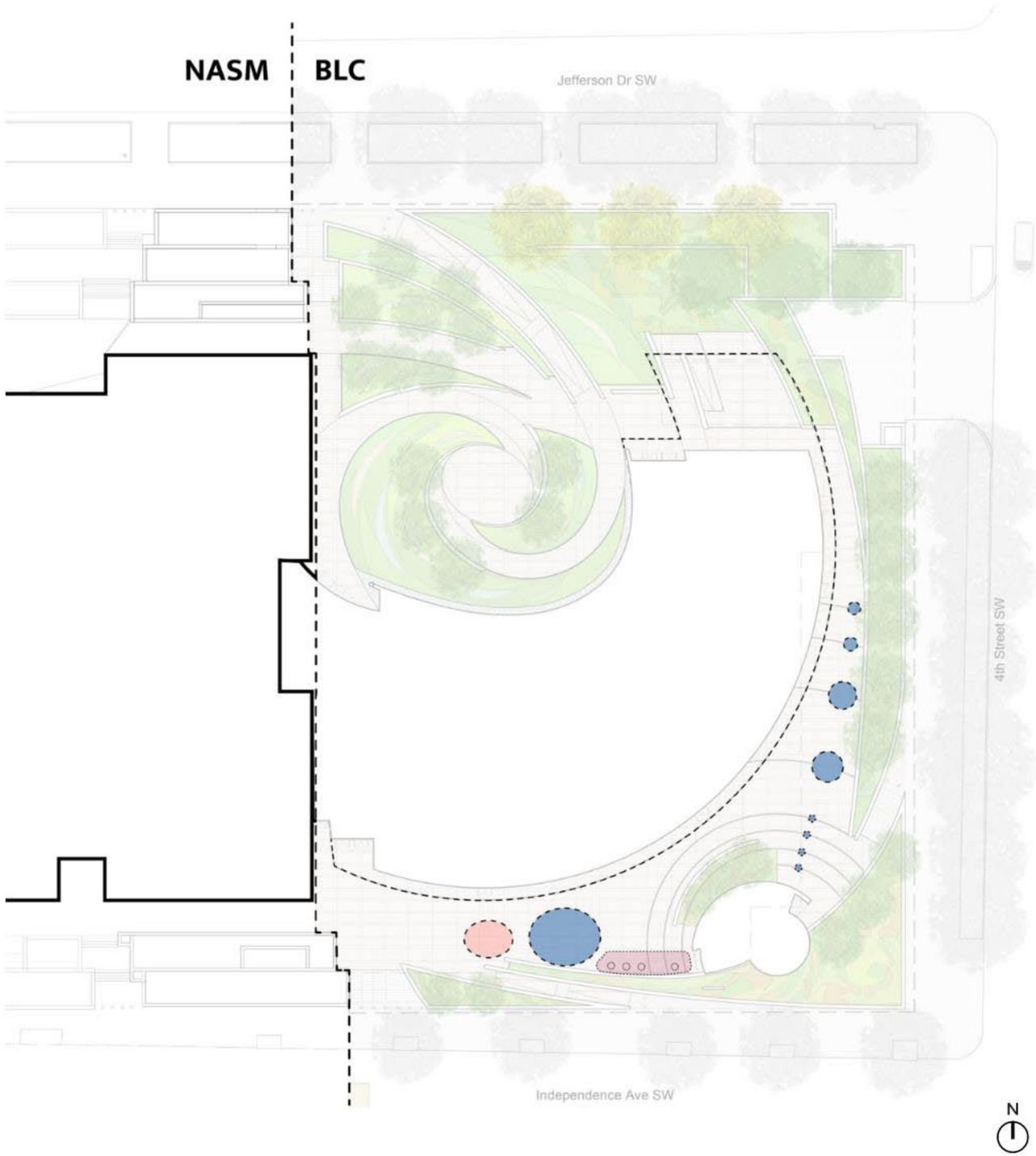
Redring Milkweed
Asclepias variegata

Purple Milkweed
Asclepias purpurascens

Landscape Design

Astronomy Park Programming

The programming for the Phoebe Waterman Haas Astronomy Park includes removable educational installations. The locations of these elements are shown in the plan on this page. The overall size of the Astronomy Park is determined by the program area and includes these installations as well as space for outdoor telescopes.



Legend

- 3-D Proposed Education Installation
- 2-D Proposed Education Installation
- Zone for Portable Telescopes

Landscape Design

Hardscape Materials

The concrete field will be finished and scored to match the color and joint pattern of the revitalized NASM plaza. To satisfy accessibility requirements, educational installations will be provided with an accent concrete or detectable gravel material change within the larger concrete field.

Typical landscape walls will be clad with Colonial Rose Granite with a rub-and-sand finish to match existing NASM materials. Exterior stairs will be Chelmsford Granite, thermal finish to match existing NASM materials. Pre-cast concrete will be used for the Spiral Benches. The finish of the pre-cast will serve as a contrasting yet complementary finish that lends dynamism to these elements.

Colonial Rose, Rub & Sand Finish

Typical Landscape Walls *(Match Existing)*

Chelmsford Granite, Thermal Finish

Typical Exterior Stairs *(Match Existing)*

Pre-cast Concrete

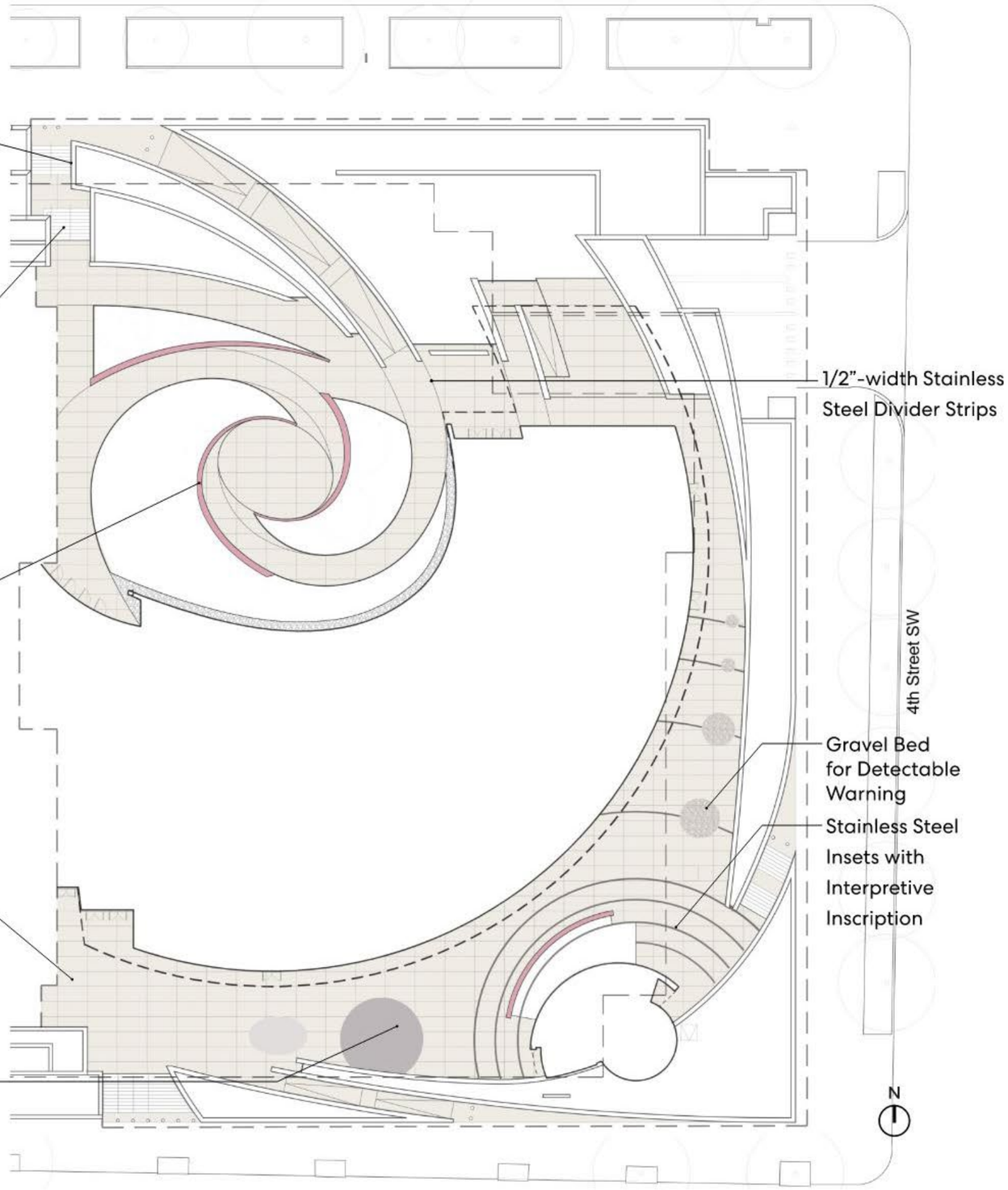
Pre-cast Concrete Benches *(Highlighted in Red)*

Concrete Paving, Chaps Color

Field Concrete, Scored and Finished *(Match Existing)*

Concrete Paving, Charcoal Gray

Accent Concrete



Illustrative Aerial View

NASM-NMB and BLC Site

Aerial View

North Looking South

Aerial View

North Looking Southwest - Night

Learning Courtyard

Looking East

Trees removed from Learning Courtyard planter for clarity.

East Guardhouses

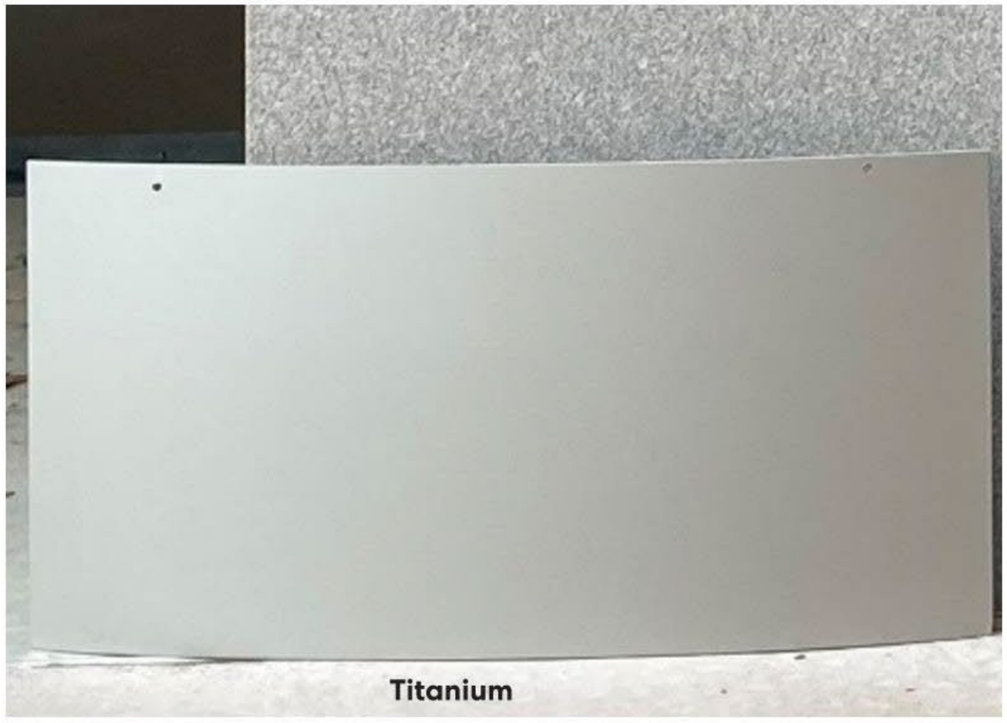
4th Street and Jefferson Drive

Exterior Signage

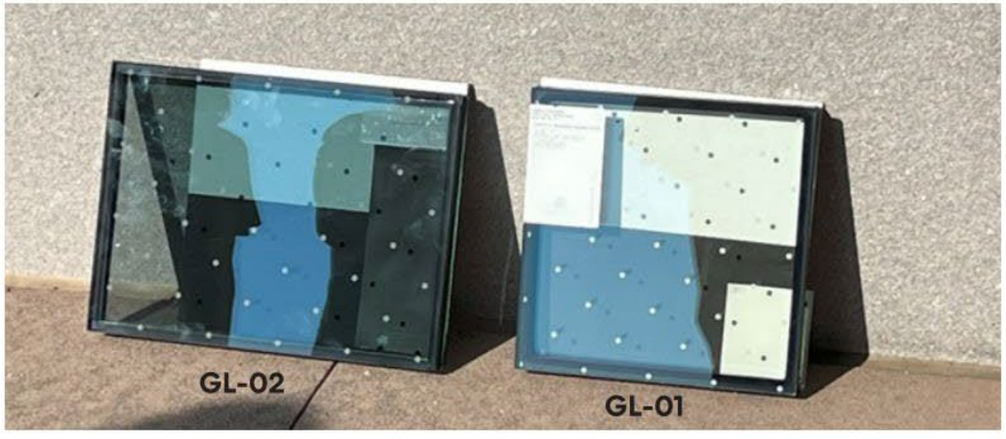
Landscape and Building-Mounted Signage at North Entry

Overall Exterior Materiality

ALUMINUM PLATE AND FINS - PHYSICAL SAMPLE



EXTERIOR GLASS - PHYSICAL SAMPLE



The physical samples shown above were reviewed by Consulting Parties at CP meeting 4A.

East-South-West Systems (Typical Enclosure)

ALUMINUM PLATE AND FINS

PPG UC 146816F Duranar Sunstorm Titanium
(See Enlarged Image)

SOFFIT

White Plaster or Cement Board
(Match Existing)

MULLIONS, DOOR FRAMES

Brown Sugar
Benjamin Moore
2112-20
(Match Existing)

DARK GLASS

GL-02
BOD: Interpane
(See Enlarged Image)

Spiral Concourse (North)

SUN-SHADING FINS, COLUMNS, MULLIONS, DOOR FRAMES

On the Rocks
Sherwin Williams
7671
(Match Existing)

CLEAR GLASS WITH BIRD FRIT

GL-01
BOD: Viracon
(See Enlarged Image)

Hardscape

PLAZA PAVING

Field Concrete Chaps Color
(Match Existing)

ACCENT

Inlaid Metal Strips
(Stainless Steel)

DETECTABLE WARNING

Gravel
(Resin-bound)

TYPICAL PLANTER WALLS

Colonial Rose Granite, Rub and Sand Finish
(Match Existing)

ACCENT SEAT WALLS

Precast Concrete
Color to match Chaps Tone

Eye Level View

4th St. Looking West - Night

Existing Conditions

NASM from Mall – North Snapshots
(All images augmented by construction lighting)

East End

Typical Gallery

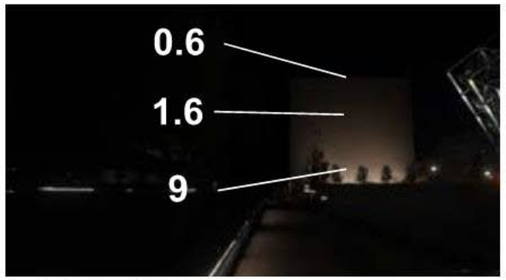
North Entry

Existing Conditions

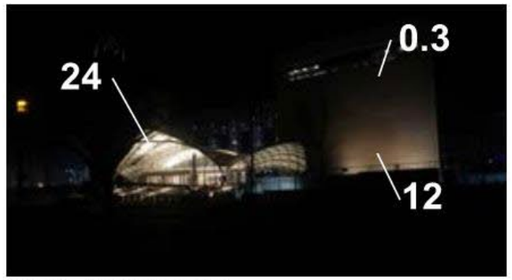
4th Street with Eisenhower Memorial
(NASM augmented by construction lighting)

Light Level Study

(*All NASM images augmented by construction lighting*)



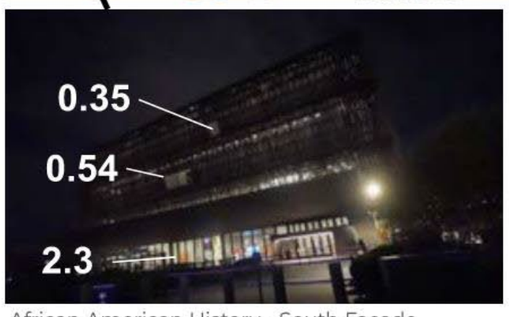
NASM - West Facade



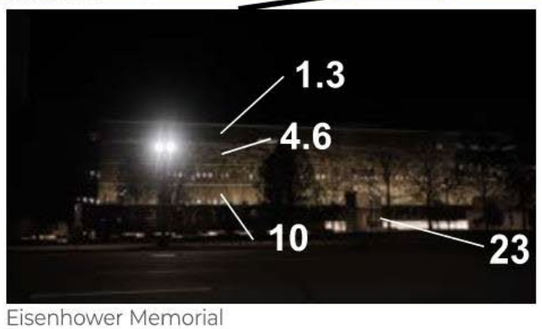
NASM - North Facade

American Indian Museum - NW Corner

Washington Monument



African American History - South Facade



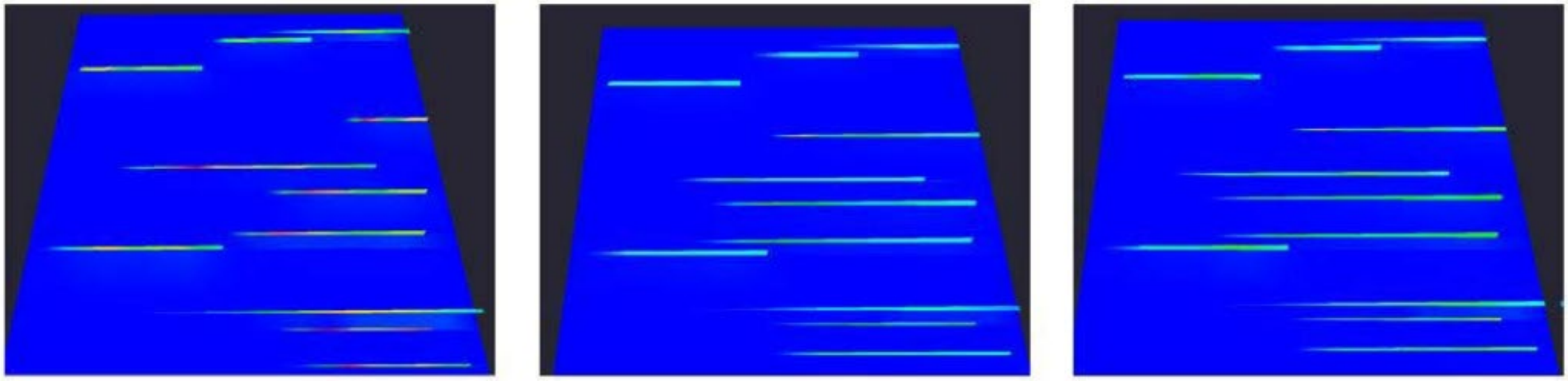
Eisenhower Memorial

American Indian Museum - West Facade

Numbers shown on pictures are measured in candela per square meter (cd/m²).

Illuminance Analysis

Computer Calculation Analysis of BLC integrated Façade Lighting Design



Full Power

Low Power

Gradient

Interior View

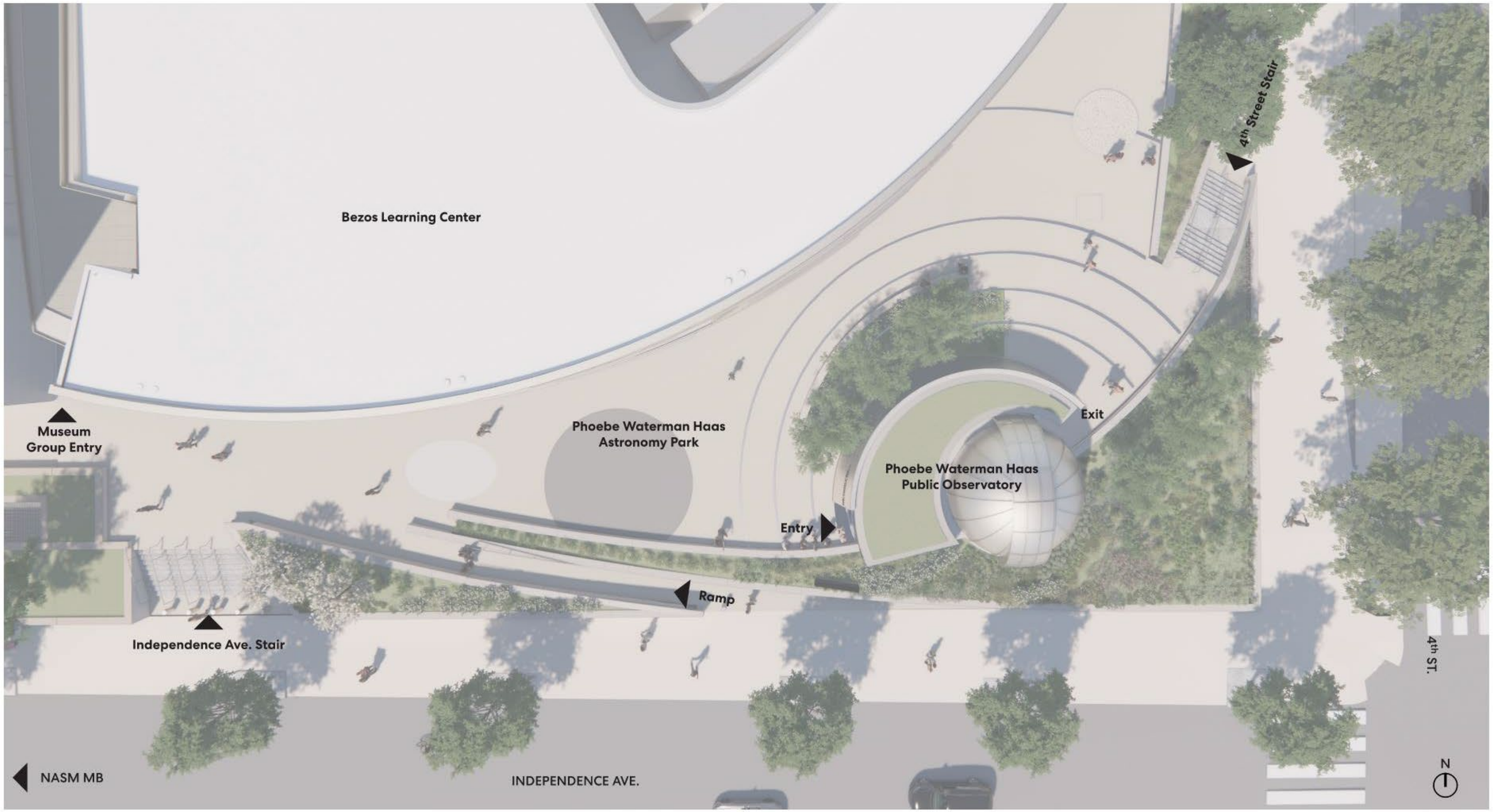
BLC to NASM Connection Looking South

BLC to NASM Connection

Interior View from NASM Looking East

Phoebe Waterman Haas Astronomy Park

Site Plan



Eye Level View

Independence Ave. Looking Northwest

Eye Level View

Eisenhower Memorial Looking North

Eye Level View

Eisenhower Memorial Looking North - Night

Thank you!

Floor Plans

Level 1

Legend

1 Security / Screening
2 BLC Lobby
3 NASM Circulation
4 Dining
5 Servery
6 Multi-Purpose / School Group Seating Area
7 Restrooms

Feet

0 25 50 100

North

See Landscape Plan for Paving and Planting Design.

Floor Plans

Level 2

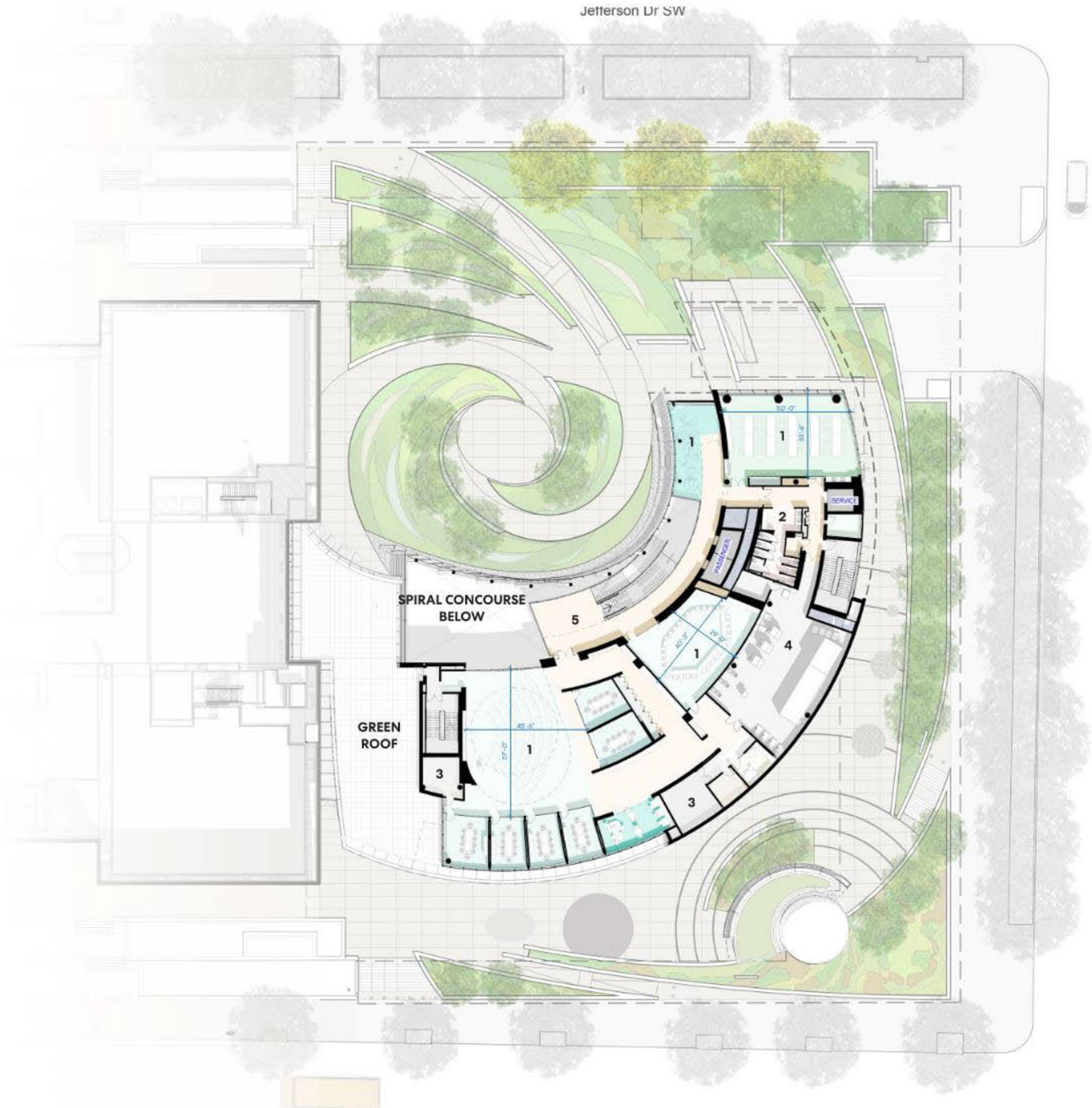
Legend

1 BLC Program and Staff

2 Restrooms

3 Storage

4 MEP Space



Feet

0 25 50 100

See Landscape Plan for Paving and Planting Design.

North

Floor Plans

Level 3

Legend

1. Educational Programming and Special Events Space
2. BLC Staff Office and Support
3. Storage
4. Restrooms
5. Circulation
6. Exterior MEP Well

Feet

0 25 50 100

North

See Landscape Plan for Paving and Planting Design.

Roof Plan

Legend

1. Mechanical Equipment Concealed in Well
2. White Membrane Roof
3. Low Screen Wall for Exhaust Fans at Parapet Elevation
4. Pavers on Roof Assembly
5. Vegetated Roof Assembly

Feet

0 25 50 100

See Landscape Plan for Paving and Planting Design.

North

Overall Section

BLC North-South Section through Spiral Concourse

Key Plan