National Aeronautics and
Space Administration

Lyndon B. Johnson Space Center
2101 NASA Parkway
Houston, Texas 77058-3696

July 25, 2025

Reply to Attn of: JE-25-048

Mr. Brad Patterson
State Historic Preservation Office
Texas Historical Commission
P.O. Box 12276
Austin, TX 78711-2276

Subject: Initiation of Section 106 Consultation Project Review
Building 31 Renewal for Astromaterials Research & Exploration Science

Dear Mr. Patterson:

The National Aeronautics and Space Administration (NASA), Lyndon B. Johnson Space Center (JSC) is proposing to construct the B31 Renewal for Astromaterials Research and Exploration Science (ARES). The Project is located on Federal Property administered by NASA JSC and, as such, has been determined to be a Federal undertaking subject to consultation under Section 106. Please see the attached enclosures for additional information. JSC is proposing a determination of "No Adverse Effect" for this project. JSC welcomes your comments on this project and the proposed determination.

If you have any questions or need additional information, please contact me at 346-686-5332 or by email at jennifer.l.morrison@nasa.gov.

Sincerely,
Jennifer Morrison
Digitally signed by Jennifer Morrison
Date: 2025.07.22 16:40:20 -05'00'
Jeni Morrison
JSC Cultural Resources Manager
JSC Environmental Management Office

Enclosures:
1. Project Description
2. Site Map and Proposed Project Area
3. Design Drawings
4. APE Viewshed Analysis – Photos and Renderings
5. Additional Photos

cc:
Ms. Miranda Grieder
Historic Preservation Project Reviewer
Federal and State Review Program
Division of Architecture
Texas Historical Commission
P.O. Box 12276
Austin, Texas 78711-2276

Ms. Emily Dylla
Program Coordinator
Archeology Review and Compliance
Texas Historical Commission
P.O. Box 12276
Austin, Texas 78711-2276

ENCLOSURE 1
Project Description

Project Description

The National Aeronautics and Space Administration (NASA), Lyndon B. Johnson Space Center (JSC) is proposing to construct the B31 Renewal for Astromaterials Research and Exploration Science (ARES), consisting of demolition and reconstruction of the West wing of the Planetary and Earth Sciences Laboratory (B31), constructing a Link between all wings of the building, and renovation of the East wing.

B31 houses most of the laboratory and office spaces for the ARES Division, which supports JSC's core planetary science and curation capabilities. The B31 Renewal project consolidates many of ARES' capabilities, currently spread across multiple JSC buildings, into a single facility and upgrades major infrastructure systems and egress structures. While portions of the building and systems have been renovated, B31 has never had a holistic optimization and systems update. Many spaces and systems are beyond their useful life. For example, the spaces in B31W feature low ceiling heights, noncompliant circulation, and a combination of structural systems from different interventions over time. The building's foundation also poses structural concerns for existing facilities. Despite the conditions, programs that utilize the building are doing important work and could do more with building upgrades. The project will update these facilities with modern, sustainable, flexible laboratory and administrative spaces to support ARES' ongoing mission and provide space to accommodate future astromaterials samples from new missions, such as Artemis. In addition, the project will address foundation issues to ensure support for existing and proposed structures. JSC needs space for the curation, analysis, preliminary examination, and allocation of these materials to the scientific community.

B31 Renewal began with a validation of existing conditions and future needs for the ARES program, including review of existing B31 documentation, user interviews, laboratory planning exercises, and a site survey of existing conditions and spaces occupied by ARES at JSC (B9, B31, B36, and B267). Following the existing conditions assessment, the planning effort evaluated available space and future needs for the program, then used these studies as the Basis of Design to create blocking and stacking schemes for ARES Division leadership to determine a path forward. NASA selected the alternative that demolishes the existing West wing and builds a new three-story (plus penthouse) wing in its place to house state-of-the-art labs, cleanrooms, and administrative support spaces. The selected scheme also:

1. Builds a new second floor connector structure to connect the B31 East wing (B31E), the new West wing, and the B31 Astromaterials Curation Annex (B31X) together at the same elevation for improved occupant and workspace collaboration;
2. Upgrades the remaining areas in B31E that haven't yet been renovated, including asbestos abatement and abandoned building systems demolition; and
3. Upgrades the outdated building systems in B31E and the existing first floor connector.

This holistic update to the facility effectively resets it for the next 50 years and provides flexibility if future mission needs require additional modifications. The B31 Renewal and new work will combine the existing two-story B31 North wing (B31N), the two-story B31E,

and the two-story B31X, currently under construction, with a new three-story B31 West wing and mechanical penthouse into one cohesive B31 complex. At approximately 141,000 gross square feet (GSF), the project includes approximately 49,000 GSF of new work, 25,000 GSF of renovation, and 14,000 GSF of mechanical penthouse space.

Constructing a new West wing will align the second floor of the new wing with B31X and B31E to provide ease of access between each portion of the building. Additionally, a stronger foundation will be poured for the new West wing, enabling vertical expansion to include a third floor and a mechanical penthouse. A new exposed exterior wall will be built on the northern and partially on the eastern and western sides of the new B31 West wing, as well as above B31X, with rated shaft walls built against the existing B31X walls.

A new second floor Link will be built above the existing historic B31 complex lobby to connect the new West wing to B31E and B31X. The Link will have a combination of both single and double-height spaces to provide physical and visual connections between the wings. A new feature stair connecting the B31 West wing third floor to the B31E second floor and Link will bring the language of the existing historic stair in B31E into the Link and provide an open, physical connection between the spaces. Acting as the literal and symbolic connection between buildings, the Link will feature double-height glazing, emphasizing openness and transparency and framing views of the campus.

B31E will be renovated to accommodate code-compliant restrooms and egress stairs, as well as refreshed offices, workstations, common support spaces, phone rooms, conference rooms, and other breakout spaces. Due to its historic nature, the facades of B31E will remain largely out of scope, with the egress stairs and tie-in to the new Link impacting the existing façade as minimally as possible. The roof will be replaced in-kind over the entire wing. B31N will also remain largely untouched and out of scope except for an in-kind roof replacement.

The design of the visible northern, western, and eastern façades of the new B31 West wing and the B31 Link will respect the historic campus and its design guidelines, while highlighting the scientific activities happening within. The new B31 West wing exposed façade will feature white vertically corrugated metal panel with integral louvers, similar to that found on some of the nearby high-bay facilities, and a polished dark concrete masonry unit block at the base aligning with B31X to pay homage to the dark stone-clad columns found at the lower levels of B31E and adjacent buildings, while providing a durable material for the loading and service areas. The new Link will feature low-iron glazing to highlight the Link space and provide a contrast to the darker glass throughout the existing B31E and B31X buildings. Horizontal sunshades will be located on the southern façade of the glass link to mitigate solar heat gain. The mullions will be modulated to draw datum lines and spacing from the adjacent existing building wings.

The imaging suite and cleanroom block drive the floor heights, layout, and structure of the B31 West wing (First Floor: 15’-6”, Second Floor: 18’-0”, Third Floor: 15’-6”, and Mechanical Penthouse: 20’-0”). To highlight that on the façade of the building and allude to the scientific mission of the facility, the building parti is reflected in a material change aligned

with the vertically stacked imaging and cleanroom blocks. Glass is used at the corridor and stair of the West wing to bring light into the corridors adjacent to the imaging and cleanroom blocks. Windows are spaced throughout the third-floor area to bring light into office and workstation spaces. At the penthouse level, vertical slotted metal panels obscure louvers needed for air intake.

To preserve the historic nature of the B31 complex, the lobby finishes will be carefully protected. This approach includes protection in place, removal and reinstallation, or in-kind replacement of the existing brick flooring and removal, protection, and reinstallation of the paneled wood veneer wall at the entry and historic stair. The new feature stair between the second and third floors draws inspiration from the historic stair, modernized with terrazzo treads and a monolithic wooden railing. Positioned within the Link, it serves as a vertical anchor and symbolic connection between old and new. The interior design will also take cues from the existing historic elements, incorporating touches of terrazzo to reference the historic stair's treads and warm wood veneer to tie in with historic finishes throughout the interior. To further echo ARES's mission, the design will integrate ARES artifacts, such as HVIT test assemblies, into select spaces. The existing lobby's asbestos-containing popcorn ceiling and insulation, along with the downlights, will need to be removed as part of the asbestos abatement process. The new ceiling will incorporate similar downlights into an updated, asbestos-free ceiling material. The renovation will also remove exposed utility cable trays that were added during previous modifications and covered some of the historic wall and ceiling.

The B31 complex is located on Fourth Street due south (of Plant North) of the site of the former B37 and adjacent to B9. The existing facility is eligible for listing on the NRHP under Criterion A (space exploration and significant historic events), Criterion B (historically significant individuals associated with the building), Criterion C (engineering, i.e. historic materials characteristic of a type, period, or method of construction), and Criteria Consideration G, for the significance of work achieved within the past 50 years.

The B31 complex currently includes three wings totaling approximately 69,000 GSF. Two wings were completed in 1966: B31E and B31W. Major improvements to the building include the 13,563 square-foot addition of B31N in 1978, extension of the B31E mezzanine level in 1989, and multiple equipment modifications and construction of new laboratory and cleanroom spaces throughout the building to accommodate evolving mission needs. Construction of B31X is currently nearing completion, adding a 20,000 square-foot wing to the southwest corner of the building. A new backup generator was also added to support B31X. JSC consulted the construction of B31X and the backup generator with the Texas Historical Commission and developed a Memorandum of Agreement (MOA), executed January 26, 2022. Mitigation in accordance with this MOA has been completed, including construction monitoring, HAER Level II Recordation, and 3D laser scanning.

The proposed new B31 Renewal would lie within the National Register of Historic Places (NRHP)-eligible JSC Historic District and within the viewshed of eligible buildings B7, B8, B9, B10, B27, and B29 and, as such, NASA JSC has undertaken significant efforts to reduce,

minimize, or eliminate potential adverse effects to historic properties in the identified Area of Potential Effect (APE). Major architectural elements of the proposed design were developed to be compatible with the historic architecture that defines the nature of the JSC Historic District and its contributing historic properties. Specifically, the new design incorporates size, scale, massing, modular construction, muted colors, and orientation that are compatible with the existing JSC Historic District.

B7 is located on Fourth Street due north from B4N and was constructed in 1964. B7 is eligible for listing on the NRHP under Criterion A (space exploration and significant historic events), Criterion B (historically significant individuals associated with the building), Criterion C (engineering and historic materials characteristic of a type, period, or method of construction), and Criteria Consideration G (the facility has achieved significance within the past 50 years). The new B31 Renewal would be visible from the north façade of B7, but mostly obscured by B31X, an equipment yard, and mature trees that run along Beta Link. The current view is that of Beta Link, scattered mature trees, parked cars, parking lots, and the current B31 complex. The proposed project would retain that view and feel, but with B31 having a modern but conforming reconstructed West wing and Link that blends in with the existing complex.

B8 is located on Fourth Street due south of B10 in the northern portion of the Central Mall and was constructed in 1964. B8 is eligible for listing on the NRHP under Criterion A, Criterion B, and Criterion C. The new B31 Renewal would be visible from the east façade of B8, but mostly obscured by B10, B31X, and mature trees that run along Fourth Street. The current view is that of Fourth Street, scattered mature trees, parked cars, parking lots, and the current B31 complex. The proposed project would retain that view and feel, but with B31 having a modern but conforming reconstructed West wing and Link that blends in with the existing complex.

B9 is located on Fourth Street adjacent to B31 and was constructed in 1966. B9 is eligible for listing on the NRHP under Criterion A, Criterion B, Criterion C, and Criteria Consideration G. The new B31 Renewal would be visible from the east façade of B9 and partially obscured by existing equipment and B31X. The new construction would not be visible from any of the primary entrances to B9. The current view is that of Fourth Street, parked cars, parking lots, and the current B31 complex. The proposed project would retain that view and feel, but with B31 having a modern but conforming reconstructed West wing and Link that blends in with the existing complex.

B10 is located on Fourth Street due north of B8 and was constructed in 1964. B10 is eligible for listing on the NRHP under Criterion A, Criterion C, and Criteria Consideration G. The new B31 Renewal would be visible from the east façade of B10, but mostly obscured by B31X and mature trees that run along Fourth Street. The current view is that of Fourth street, scattered mature trees, parked cars, parking lots, and the current B31 complex. The proposed project would retain that view and feel, but with B31 having a modern but conforming reconstructed West wing and Link that blends in with the existing complex.

B27 is located on Fifth Street south of B26 and was constructed in 2005. B27 is eligible for listing on the NRHP under Criterion A, Criterion B, and Criteria Consideration G. The new B31 Renewal would be visible from the northwest corner of B27, but mostly obscured by B31E and mature trees that run along Fifth Street. The current view is that of Fifth Street, scattered mature trees, parked cars, parking lots, and the current B31 complex. The proposed project would retain that view and feel, but with B31 having a modern but conforming reconstructed West wing and Link that blends in with the existing complex.

B29 is located at the intersection of Link Four and Beta Link adjacent to B34 and was constructed in 1964. B29 is eligible for listing on the NRHP under Criterion A, Criterion B, Criterion C, and Criteria Consideration G. The new B31 Renewal would be visible from the north façade of B29, but mostly obscured by mature trees that run along Beta Link. The current view is that of Beta Link, scattered mature trees, a small parking overhang structure, parked cars, parking lots, and the current B31 complex. The proposed project would retain that view and feel, but with B31 having a modern but conforming reconstructed West wing and Link that blends in with the existing complex.

Photos and renderings were taken from historic buildings located in the identified visual APE to better demonstrate potential impacts to the current viewshed in the JSC Historic District (Enclosure 4: APE Viewshed Analysis – Photos and Renderings). The B31 Renewal would be minimally visible from buildings B7, B8, B10, B27, and B29, and would not pose an adverse effect due to the mature trees and buildings that adequately suppress views in the direction of the newly proposed construction. The B31 Renewal would be fully visible at ground level from only B9. Buildings B26 and B28 are also within the visual APE but are ineligible and were excluded from analysis. Based on a visual analysis of the renderings and photos included in Enclosure 4, the new B31 Renewal will have no adverse effect to historic properties or the JSC Historic District in the indirect (visual) APE.

Regarding potential adverse effects in the direct APE, the existing B31W will be demolished and replaced with a new West wing, and a new Link will be constructed to connect the wings of the building. This demolition and alteration to the NRHP-eligible B31 complex will have an adverse effect to the historic property in the direct APE. To mitigate this impact, NASA has already completed a HAER Level II report and 3D laser scans of the historic building.

Regarding impacts to archaeological resources, in 2013, NASA JSC conducted a 100 percent pedestrian and reconnaissance archaeological survey of the approximately 1,670-acre campus. Additionally, in 2017, NASA JSC completed the Historic and Architectural Survey and Evaluation of Facilities, identifying and making recommendations of significance on all 459 of JSC's assets. Based on the findings of these studies, there are no known archaeological sites in the direct APE.

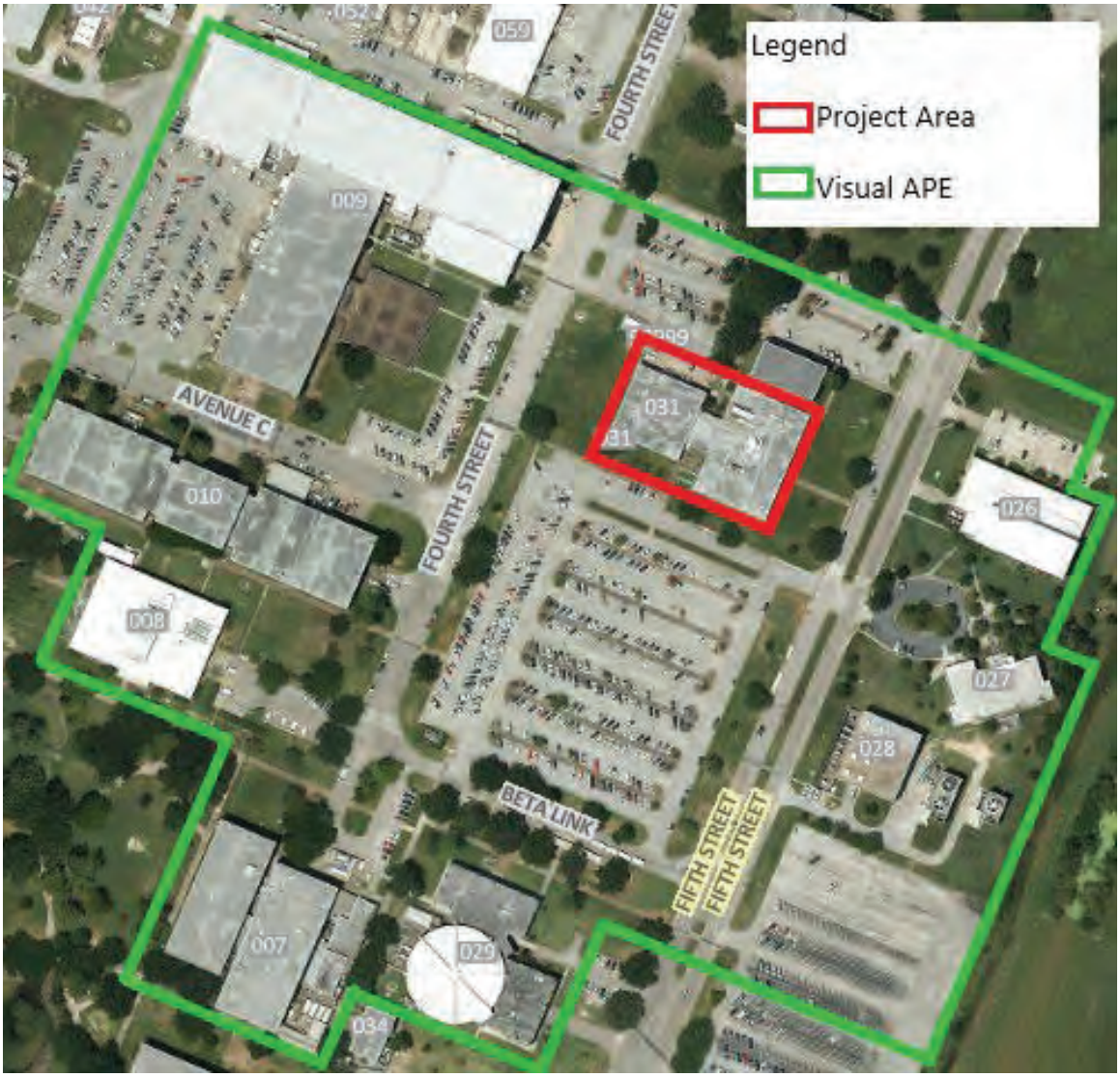
Regarding cumulative effects to the JSC Historic District, the new B31 Renewal, like other additions within the District that have occurred since the original development of the Center, would be constructed in a manner that preserves the anticipated continuity of the growth of the space program since the 1960s and conforms to JSC's buildings, whereby structures

remain well spaced, uncluttered, and along an existing grid with no new access roads. Therefore, NASA determines the proposed new B31 Renewal would not pose a cumulative adverse effect to the JSC Historic District.

Consistent with the obligations under Section 106 of the National Historic Preservation Act (NHPA), NASA JSC will seek input from interested parties and the public on this project. NASA JSC requests your approval of the previously completed mitigation and concurrence to proceed with finalizing the design and construction of the B31 Renewal project. Thank you for your attention to this consultation.

ENCLOSURE 2
Site Map and Proposed Project Area

Site Map and Proposed Project Area



ENCLOSURE 3
Design Drawings

Building 31 Renewal
Astromaterials Research & Exploration Science (ARES)

Johnson Space Center (JSC)
Houston, TX

50% Intermediate Design Submission
06 June 2025

NOT FOR CONSTRUCTION

AECOM

PROJECT

NASA B31
JOHNSON SPACE CENTER
2102 NASA PARKWAY
HOUSTON, TX

AECOM
3101 Wilson Blvd. Suite 900
Arlington, VA 22201

REGISTRATION

ISSUE/REVISION

NR	DATE	DESCRIPTION
1	06/06/2025	50% INTERMEDIATE DESIGN

PROJECT NUMBER
60696659

SHEET TITLE
COVER SHEET

NASA DRAWING NUMBER
G-31-1

SHEET NUMBER
G-000

Project Management Initials:
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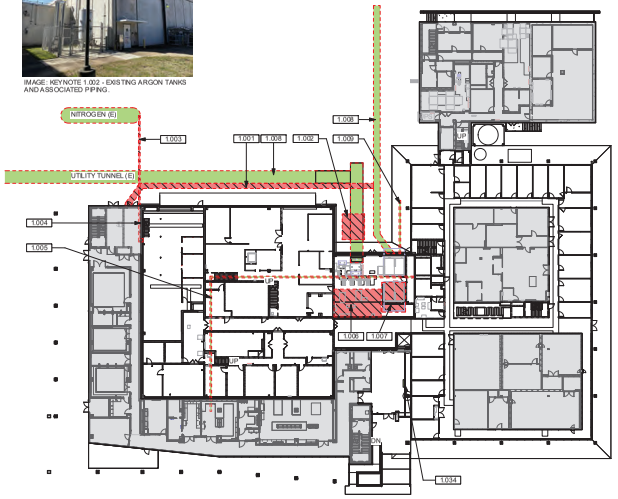
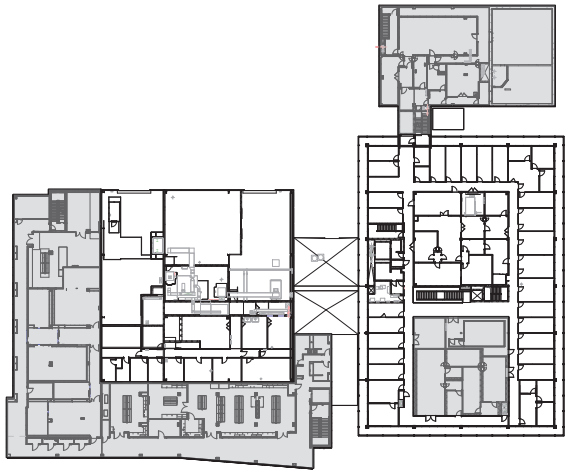
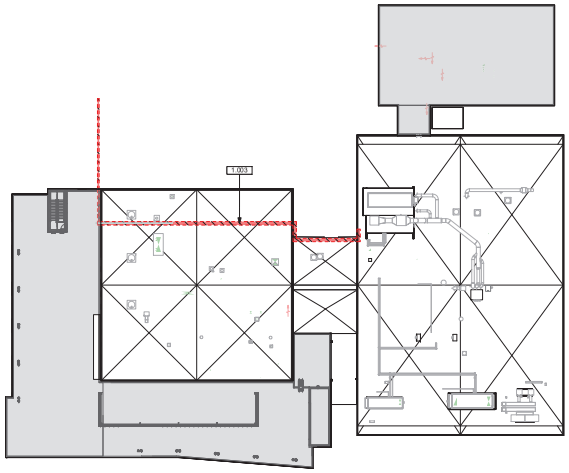
IMAGE: KEYNOTE 1.002 - EXISTING ARGON TANKS AND ASSOCIATED PIPING.



1 G-011 FIRST FLOORPLAN - PHASE 1
Scale: 1" = 30'-0"



2 G-011 SECOND FLOORPLAN - PHASE 1
Scale: 1" = 30'-0"



3 G-011 THIRD FLOORPLAN - PHASE 1
Scale: 1" = 30'-0"

NOTE:

THIS SHEET IS INTENDED TO PROVIDE A HIGH LEVEL SUMMARY OF THE CONSTRUCTION PHASING APPROACH FOR THE RENEWAL OF THE B31 COMPLEX. ALL SYSTEMS TO BE REMOVED OR MAINTAINED DURING CONSTRUCTION MAY NOT BE REPRESENTED IN THEIR ENTIRETY ON THE PHASING DIAGRAMS BELOW. REFER TO INDIVIDUAL DISCIPLINE DOCUMENTS FOR SPECIFICS ON SYSTEM DETAILS, REQUIREMENTS, AND EXTENTS OF DEMOLITION.

PHASE 1:

- UTILITY RELOCATION

SHEET KEYNOTE

1.001 RELOCATE EXISTING DUCTBANK CONNECTING ANNEX POWER TO EMERGENCY GENERATOR. FINAL LOCATION TO BE DETERMINED WITH NASA.

1.002 RELOCATE EXISTING ARGON TANKS AND ASSOCIATED PIPING.

1.003 RELOCATE EXISTING NITROGEN LINE TO MAINTAIN SERVICE TO EAST AND NORTH BUILDINGS DURING CONSTRUCTION.

1.004 PROVIDE STRUCTURAL SUPPORT FOR ALL ANNEX UTILITIES ATTACHED TO EXISTING WEST BUILDING EXTERIOR WALL.

1.005 MAINTAIN 4" SANITARY PIPING FROM EAST BUILDING UNDER CONSTRUCTION AREA OF WEST BUILDING. RELOCATE PIPING AROUND PROPOSED FOUNDATIONS IF REQUIRED.

1.006 PROVIDE TEMPORARY MAIN ELECTRICAL EQUIPMENT TO FEED EAST AND NORTH BUILDINGS.

1.007 PROVIDE TEMPORARY AIR HANDLERS TO SUPPLY EAST BUILDING DURING CONSTRUCTION.

1.008 PROTECT AND MAINTAIN ALL EXISTING UTILITIES FEEDING EAST AND NORTH BUILDINGS.

1.009 PROTECT EXISTING INCOMING COLD WATER PIPING.

1.034 MAIN FIRE ALARM PANEL SERVING ANNEX BUILDING. PANEL IS REQUIRED TO REMAIN ACTIVE FOR DURATION OF CONSTRUCTION. PROTECT IN PLACE, AND PROVIDE ACCESS AT ALL TIMES.

- ACTIVE PHASE - SEQUENCE A
- ACTIVE PHASE - SEQUENCE B
- MAINTAIN CONTINUITY OF OPERATION
- TEMPORARY EXTERIOR ENCLOSURE ABOVE GRADE / SHEETING AND SHORING BELOW GRADE
- COMPLETED WORK
- AREA NOT IN SCOPE (MAINTAIN OPERATIONS)
- FUTURE PHASE

NOT FOR CONSTRUCTION

AECOM

PROJECT

NASA B31
JOHNSON SPACE CENTER
2102 NASA PARKWAY
HOUSTON, TX

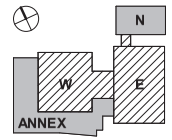
AECOM
3101 Wilson Blvd. Suite 900
Arlington, VA 22201

REGISTRATION

ISSUE/REVISION

NR	DATE	DESCRIPTION
	06/06/2025	50% INTERMEDIATE DESIGN

KEY PLAN



PROJECT NUMBER
60696659

SHEET TITLE
PHASING PLANS - PHASE 1

NASA DRAWING NUMBER
G-31-4

SHEET NUMBER
G-011

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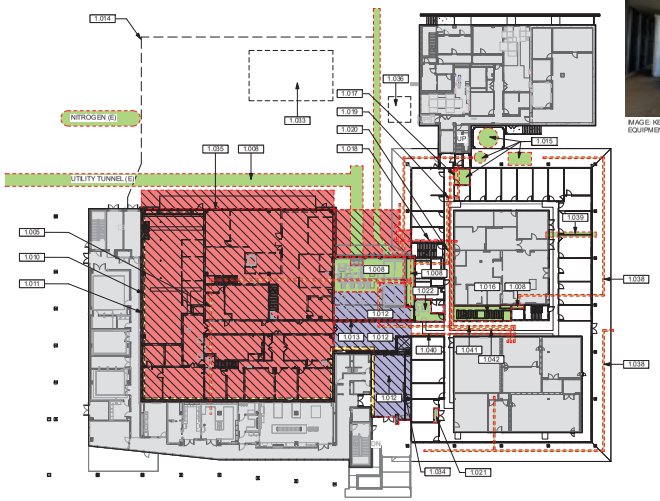
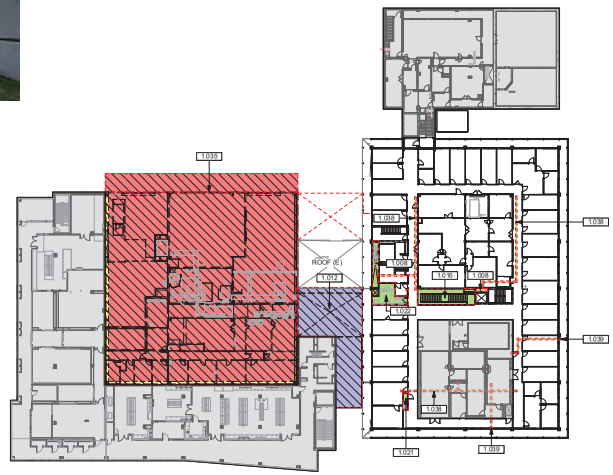
IMAGE: KEYNOTE 1.015 - EXISTING ULTRA PURE WATER EQUIPMENT, PUMPS AND TANKS.



1 G-012 **FIRST FLOORPLAN - PHASE 2**

Scale: 1" = 30'-0"



2 G-012 **SECOND FLOORPLAN - PHASE 2**

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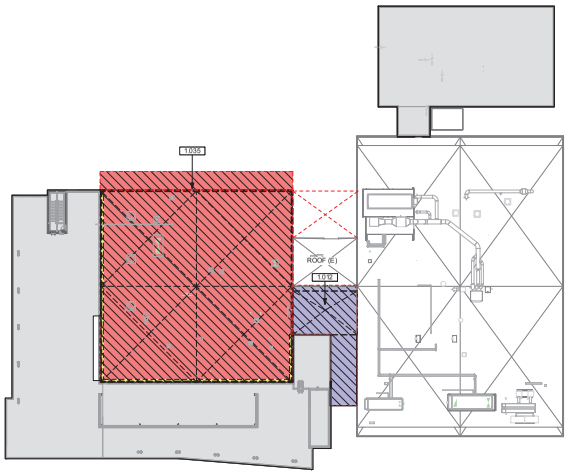

3 G-012 **THIRD FLOORPLAN - PHASE 2**

Scale: 1" = 30'-0"

PHASE 2:

- DEMO WEST BUILDING
- BUILD NEW WEST BUILDING
- BUILD NEW LINK

SHEET KEYNOTE

1.005 MAINTAIN 4" SANITARY PIPING FROM EAST BUILDING UNDER CONSTRUCTION AREA OF WEST BUILDING. RELOCATE PIPING AROUND PROPOSED FOUNDATIONS IF REQUIRED.

1.008 PROTECT AND MAINTAIN ALL EXISTING UTILITIES FEEDING EAST AND NORTH BUILDINGS.

1.010 INSTALL WEATHER TIGHT TEMPORARY EXTERIOR ENCLOSURE OVER EXPOSED ANNEX WALL. CONCURRENTLY AS WEST BUILDING IS DEMOLISHED.

1.011 INSTALL SHEETING AND SHORING AS REQUIRED TO FULLY SUPPORT ANNEX BUILDING DURING CONSTRUCTION OF WEST BUILDING FOUNDATIONS.

1.012 DEMOLISH EXISTING LOBBY, PARTIAL MECHANICAL ROOM, AND ANNEX LOBBY ROOF STRUCTURES. PROVIDE TEMPORARY AIR HANDLERS ON SITE TO SUPPLY EAST BUILDING DURING CONSTRUCTION.

1.013 CAREFULLY REMOVE AND STORE HISTORIC TILE FLOORING IN LOBBY AND WOOD VENEER WALL WITH NASA SIGNAGE FOR REINSTALLATION UPON PROJECT COMPLETION.

1.014 RELOCATED DUCTBANK, FINAL LOCATION TO BE COORDINATED WITH NASA.

1.015 EXISTING ULTRA PURE WATER (UPW) EQUIPMENT, PUMPS, AND TANKS.

1.016 EXISTING HISTORIC STAIR TO REMAIN ACTIVE BY NASA EMPLOYEES ONLY DURING CONSTRUCTION. STAIR SHALL NOT BE USED BY CONTRACTORS. PROTECT ADJACENT TWO-STORY WOOD PANELED WALL IN PLACE.

1.017 PROTECT AND MAINTAIN ACTIVE EXISTING FIRE ALARM PANEL THROUGH ALL PHASES OF CONSTRUCTION.

1.018 PROVIDE NEW FIRE WATER SUPPLY FEED OFF EXISTING 8" FIRE WATER SUPPLY LINE TO NEW FIRE PUMP ROOM.

1.019 PROTECT AND MAINTAIN FIRE WATER SUPPLY LINE TO RISER MAINFOLD IN CENTRAL MECHANICAL ROOM.

1.020 DEMOLISH EXISTING PORTION OF FIRE WATER SUPPLY LINE AFTER NEW WATER LINE IS INSTALLED AND COMMISSIONED.

1.021 EXISTING MAIN ELECTRICAL RISER TO REMAIN ACTIVE.

1.022 EXISTING TELECOM ROOM TO REMAIN ACTIVE.

1.033 TEMPORARY ELECTRICAL AND MECHANICAL EQUIPMENT YARD TO MAINTAIN OPERATIONS OF EAST AND NORTH BUILDINGS DURING CONSTRUCTION. LOCATION TO BE COORDINATED WITH NASA.

1.034 MAIN FIRE ALARM PANEL SERVING ANNEX BUILDING. PANEL IS REQUIRED TO REMAIN ACTIVE FOR DURATION OF CONSTRUCTION. PROTECT IN PLACE, AND PROVIDE ACCESS AT ALL TIMES.

1.035 DEMOLISH EXISTING WEST BUILDING IN ITS ENTIRETY AND BUILD NEW.

1.036 RELOCATED ARGON TANKS TO NEW PERMANENT LOCATION. CONFIRM FINAL LOCATION WITH NASA.

1.038 EXISTING EAST BUILDING STORM PIPING TO REMAIN, REFER TO PLUMBING DRAWINGS FOR EXTENTS.

1.039 EXISTING EAST BUILDING GAS VENTS FROM EXISTING CLEAN ROOMS TO REMAIN ACTIVE.

1.040 EXISTING EAST BUILDING GAS VENTS. RELOCATE DISCHARGE AT NEW LINK INTERFACE, REFER TO PLUMBING.

1.041 EXISTING NITROGEN PIPING TO CLEAN ROOMS TO REMAIN ACTIVE.

1.042 EXISTING UPW PIPING TO BE RELOCATED ABOVE NEW CEILING, MAIN CONTINUITY.

- ACTIVE PHASE - SEQUENCE A
- ACTIVE PHASE - SEQUENCE B
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- COMPLETED WORK
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- FUTURE PHASE

NOT FOR CONSTRUCTION

AECOM

PROJECT

NASA B31
JOHNSON SPACE CENTER
2102 NASA PARKWAY
HOUSTON, TX

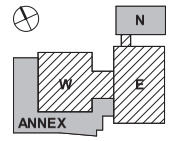
AECOM
3101 Wilson Blvd. Suite 900
Arlington, VA 22201

REGISTRATION

ISSUE/REVISION

NR	DATE	DESCRIPTION
	06/06/2025	50% INTERMEDIATE DESIGN

KEY PLAN



PROJECT NUMBER

60696659

SHEET TITLE

PHASING PLANS - PHASE 2

NASA DRAWING NUMBER

G-31-5

SHEET NUMBER

G-012

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Project Management Initials:
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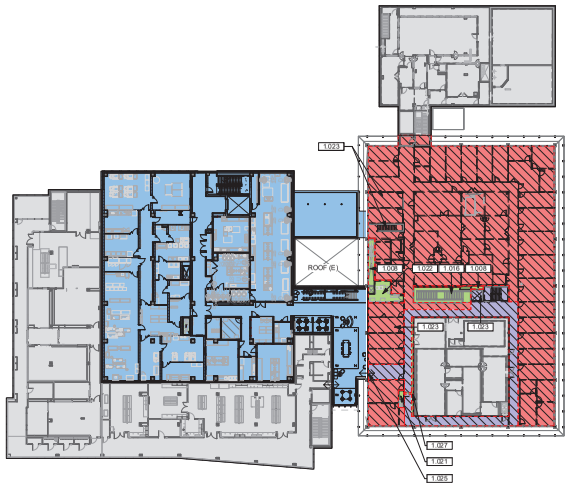
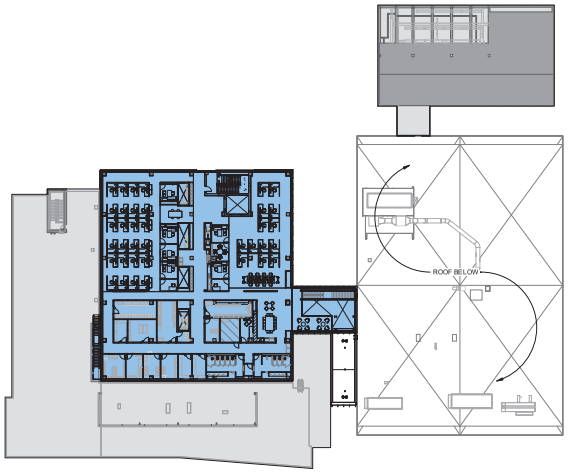
NOTE:

THIS SHEET IS INTENDED TO PROVIDE A HIGH LEVEL SUMMARY OF THE CONSTRUCTION PHASING APPROACH FOR THE RENEWAL OF THE B31 COMPLEX. ALL SYSTEMS TO BE REMOVED OR MAINTAINED DURING CONSTRUCTION MAY NOT BE REPRESENTED IN THEIR ENTIRETY ON THE PHASING DIAGRAMS BELOW. REFER TO INDIVIDUAL DISCIPLINE DOCUMENTS FOR SPECIFICS ON SYSTEM DETAILS, REQUIREMENTS, AND EXTENTS OF DEMOLITION.

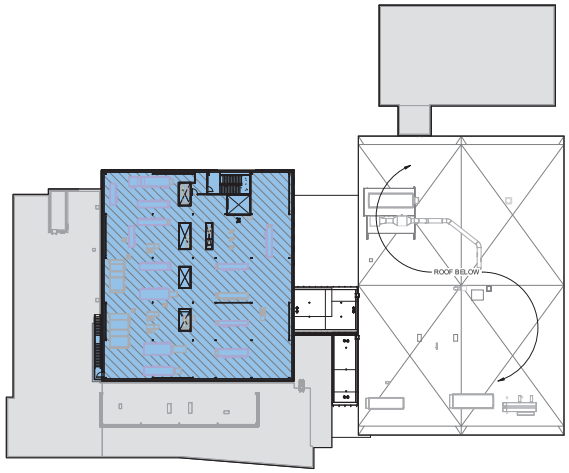
1 G-013 **FIRST FLOORPLAN - PHASE 3**
Scale: 1" = 30'-0"



2 G-013 **SECOND FLOORPLAN - PHASE 3**
Scale: 1" = 30'-0"



3 G-013 **THIRD FLOORPLAN / EAST ROOF - PHASE 3**
Scale: 1" = 30'-0"



4 G-013 **PENTHOUSE PLAN - PHASE 3**
Scale: 1" = 30'-0"

PHASE 3:

- RENOVATE EAST BUILDING INTERIOR (EXTERIOR FACADE UPGRADE NOT IN SCOPE).
- PERFORM ASBESTOS ABATEMENT ON ALL EXISTING ASBESTOS ABOVE CEILING. REFER TO HAZMAT DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- SEQUENCE CONSTRUCTION TO MAINTAIN CONTINUITY OF OPERATION AND TWO MEANS OF EGRESS AT ALL TIMES FROM EXISTING CLEAN ROOMS.
- REFER TO LIFE SAFETY PHASING PLANS FOR ADDITIONAL REQUIREMENTS REGARDING EGRESS DURING CONSTRUCTION.
- SEQUENCES A & B ARE INTENDED TO INDICATE SUB-PHASING AS REQUIRED BY THE CONTRACTOR WITHIN THE ACTIVE PHASE TO FACILITATE EGRESS REQUIREMENTS AND TO MAINTAIN OPERATIONS OF EXISTING SPACES. SPECIFICS TO HOW THESE AREAS ARE DIVIDED IS CONSIDERED MEANS AND METHODS OF THE CONTRACTOR AND COORDINATION WITH NASA AND INDIVIDUAL LAB USERS AT THE TIME OF CONSTRUCTION.

SHEET KEYNOTE

1.008 PROTECT AND MAINTAIN ALL EXISTING UTILITIES FEEDING EAST AND NORTH BUILDINGS.

1.015 EXISTING ULTRA PURE WATER (UPW) EQUIPMENT, PUMPS, AND TANKS.

1.016 EXISTING HISTORIC STAIR TO REMAIN ACTIVE BY NASA EMPLOYEES ONLY DURING CONSTRUCTION. STAIR SHALL NOT BE USED BY CONTRACTORS. PROTECT ADJACENT TWO-STORY WOOD PANELED WALL IN PLACE.

1.017 PROTECT AND MAINTAIN ACTIVE EXISTING FIRE ALARM PANEL THROUGH ALL PHASES OF CONSTRUCTION.

1.019 PROTECT AND MAINTAIN FIRE WATER SUPPLY LINE TO RISER MAINFOLD IN CENTRAL MECHANICAL ROOM.

1.021 EXISTING MAIN ELECTRICAL RISER TO REMAIN ACTIVE.

1.022 EXISTING TELECOM ROOM TO REMAIN ACTIVE.

1.023 SELECTIVE STRUCTURAL DEMOLITION AND CONSTRUCTION OF STAIRS AND ELEVATORS.

1.024 REPLACE AIR HANDLERS IN CENTRAL MECHANICAL ROOM FEEDING EAST BUILDING.

1.025 SELECTIVE DEMOLITION OF EXISTING WINDOW SYSTEM TO CONNECT EAST BUILDING TO ANNEX STAIR AND LINK AT SECOND FLOOR.

1.026 EXISTING MAIN POWER FEED TO EAST AND NORTH BUILDINGS TO REMAIN ACTIVE.

1.027 EXISTING FIRE WATER SUPPLY PIPING TO CLEANROOMS TO REMAIN ACTIVE.

1.034 MAIN FIRE ALARM PANEL SERVING ANNEX BUILDING. PANEL IS REQUIRED TO REMAIN ACTIVE FOR DURATION OF CONSTRUCTION. PROTECT IN PLACE, AND PROVIDE ACCESS AT ALL TIMES.

- ACTIVE PHASE - SEQUENCE A
- ACTIVE PHASE - SEQUENCE B
- MAINTAIN CONTINUITY OF OPERATION
- TEMPORARY EXTERIOR ENCLOSURE ABOVE GRADE / SHEETING AND SHORING BELOW GRADE
- COMPLETED WORK
- AREA NOT IN SCOPE (MAINTAIN OPERATIONS)
- FUTURE PHASE

NOT FOR CONSTRUCTION

AECOM

PROJECT

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3101 Wilson Blvd. Suite 900
Arlington, VA 22201

REGISTRATION

ISSUE/REVISION

NR	DATE	DESCRIPTION
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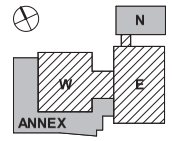
KEY PLAN



PROJECT NUMBER
60696659

SHEET TITLE
PHASING PLANS - PHASE 3

NASA DRAWING NUMBER
G-31-6

SHEET NUMBER
G-013

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Project Management Initials:
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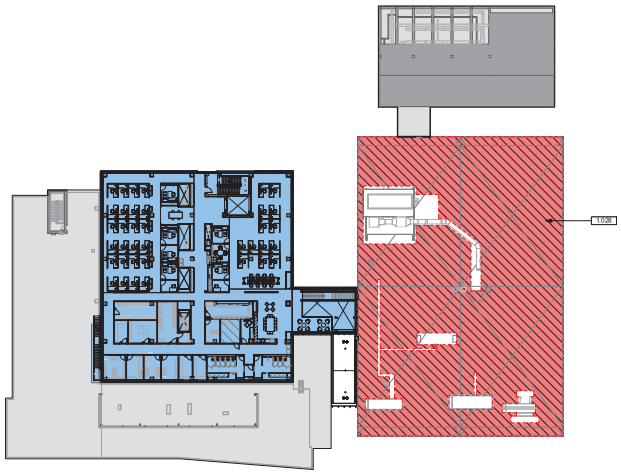
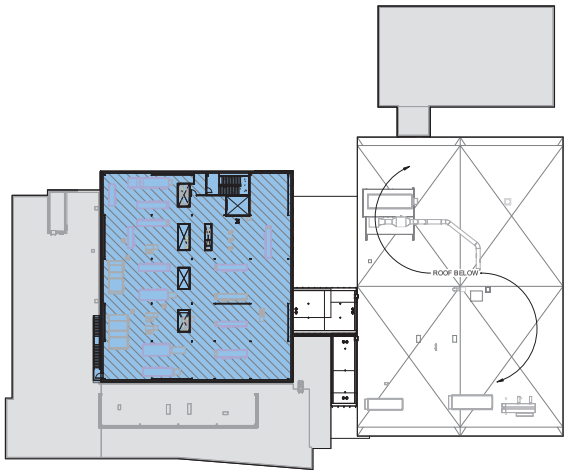
1 G-014 **FIRST FLOORPLAN - PHASE 4**
Scale: 1" = 30'-0"

2 G-014 **SECOND FLOORPLAN - PHASE 4**
Scale: 1" = 30'-0"



3 G-014 **THIRD FLOORPLAN / EAST ROOF - PHASE 4**
Scale: 1" = 30'-0"



4 G-014 **PENTHOUSE PLAN- PHASE 4**
Scale: 1" = 30'-0"

PHASE 4:

- ROOF REPLACEMENT (EAST & LINK)
- FINAL UTILITY SWITCHOVER AND REMOVAL OF TEMPORARY UTILITIES
- FINAL SITE WORK

SHEET KEYNOTE

1.008 PROTECT AND MAINTAIN ALL EXISTING UTILITIES FEEDING EAST AND NORTH BUILDINGS.

1.016 EXISTING HISTORIC STAIR TO REMAIN ACTIVE BY NASA EMPLOYEES ONLY DURING CONSTRUCTION. STAIR SHALL NOT BE USED BY CONTRACTORS. PROTECT ADJACENT TWO-STORY WOOD PANELED WALL IN PLACE.

1.025 SELECTIVE DEMOLITION OF EXISTING WINDOW SYSTEM TO CONNECT EAST BUILDING TO ANNEX STAIR AND LINK AT SECOND FLOOR.

1.028 FULL ROOF REPLACEMENT, ACCOMMODATE EXISTING EQUIPMENT AND ALL NEW ROOF PENETRATIONS.

1.029 BUILD OUT FINAL UTILITIES AND SWITCHOVER TO NEW SYSTEMS.

1.030 SELECTIVE DEMOLITION OF EXISTING WINDOW SYSTEM TO CONNECT EAST BUILDING TO NEW LINK AT SECOND FLOOR.

1.031 REMOVE ALL TEMPORARY UTILITIES AND COMPLETE FINAL SITE WORK.

1.032 REMOVE UPW TANK UPON COMPLETION OF INSTALLATION AND COMMISSIONING OF NEW UPW SYSTEM.

1.034 MAIN FIRE ALARM PANEL SERVING ANNEX BUILDING. PANEL IS REQUIRED TO REMAIN ACTIVE FOR DURATION OF CONSTRUCTION. PROTECT IN PLACE, AND PROVIDE ACCESS AT ALL TIMES.

1.037 EXISTING UPW TANK, PUMP SKID, AND OZONE SHED TO REMAIN.

- ACTIVE PHASE - SEQUENCE A
- ACTIVE PHASE - SEQUENCE B
- MAINTAIN CONTINUITY OF OPERATION
- TEMPORARY EXTERIOR ENCLOSURE ABOVE GRADE / SHEETING AND SHORING BELOW GRADE
- COMPLETED WORK
- AREA NOT IN SCOPE (MAINTAIN OPERATIONS)
- FUTURE PHASE

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AECOM

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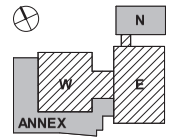
KEY PLAN



PROJECT NUMBER
60696659

SHEET TITLE
PHASING PLANS - PHASE 4

NASA DRAWING NUMBER
G-31-7

SHEET NUMBER
G-014

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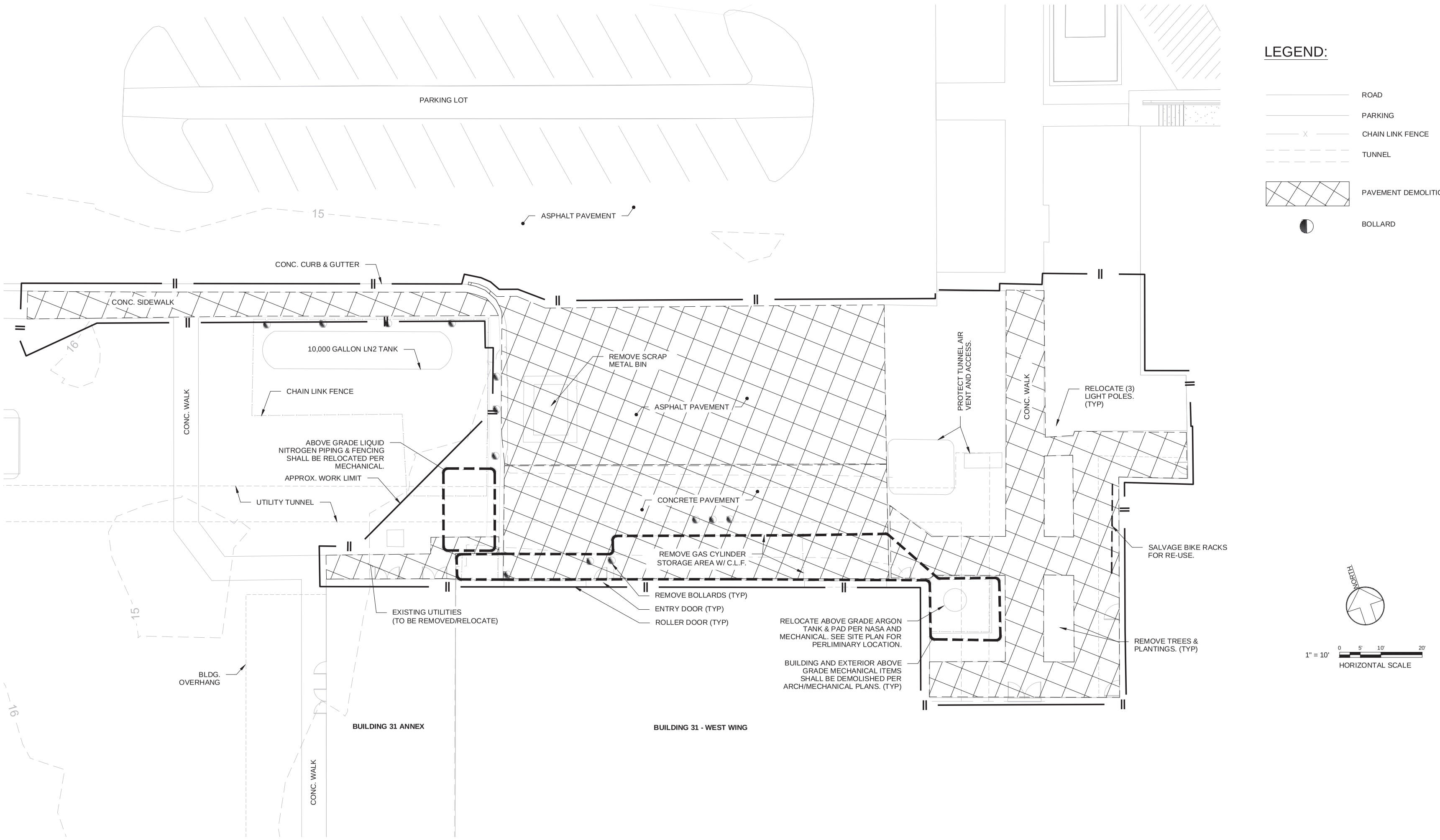

1 | CD-101 — EXISTING CONDITIONS AND DEMOLITION PLAN

LEGEND:

- ROAD
- PARKING
- CHAIN LINK FENCE
- TUNNEL
- PAVEMENT DEMOLITION
- BOLLARD

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KEY PLAN

N
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E
ANNEX

PROJECT NUMBER
60696659

SHEET TITLE
EXISTING CONDITIONS AND DEMOLITION PLAN

NASA DRAWING NUMBER
C-31-2

SHEET NUMBER
CD-101

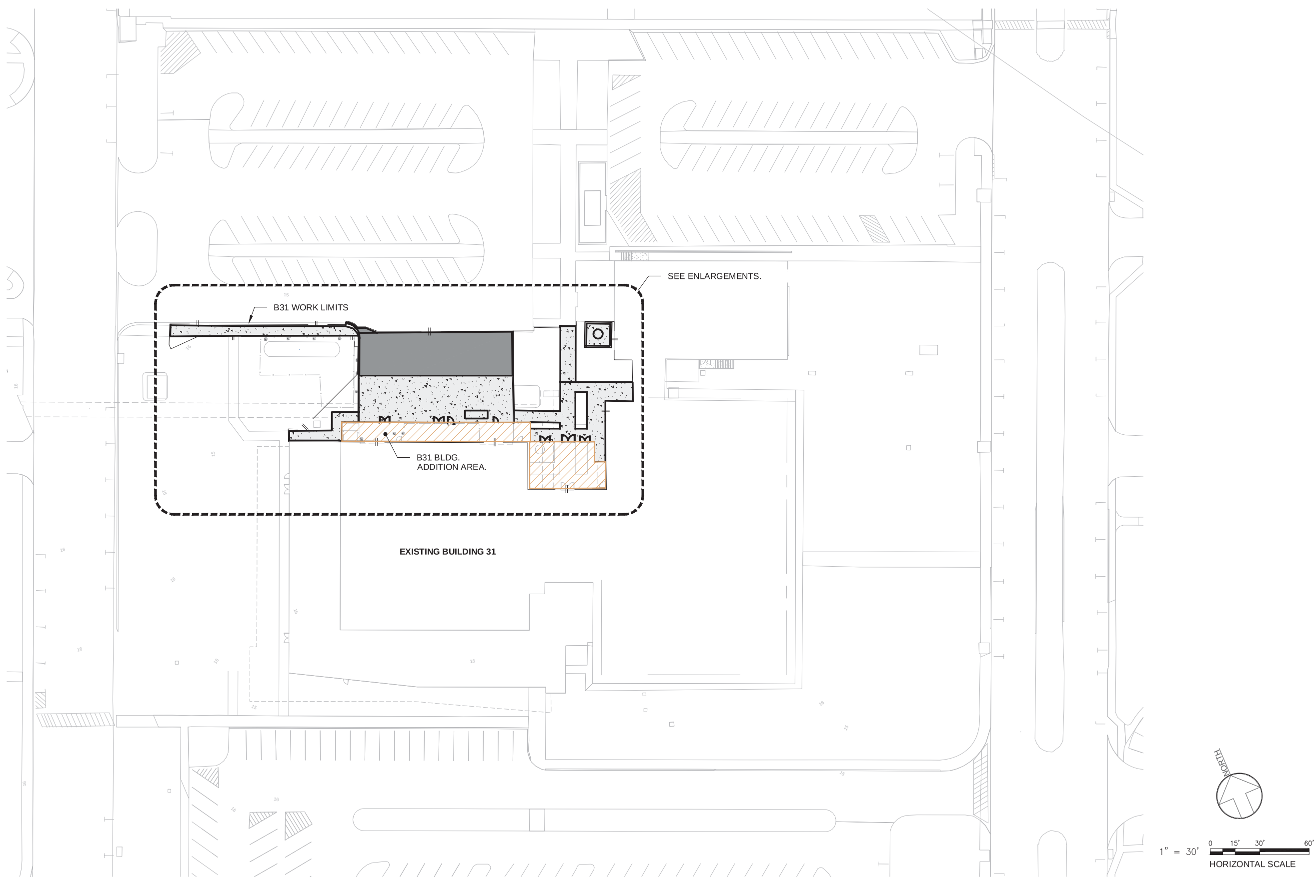
Project Management Initials: Designer: Checked: Approved: ARCH E1 30"x42"

Last Plotted: Filename:

1 C-101 OVERALL VIEW - JSC SITE PLAN

LEGEND:

- FACILITY BOUNDARY
- HAUL ROUTE



2 C-101 OVERALL VIEW - B31 EXISTING & PROPOSED

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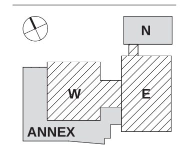
KEY PLAN

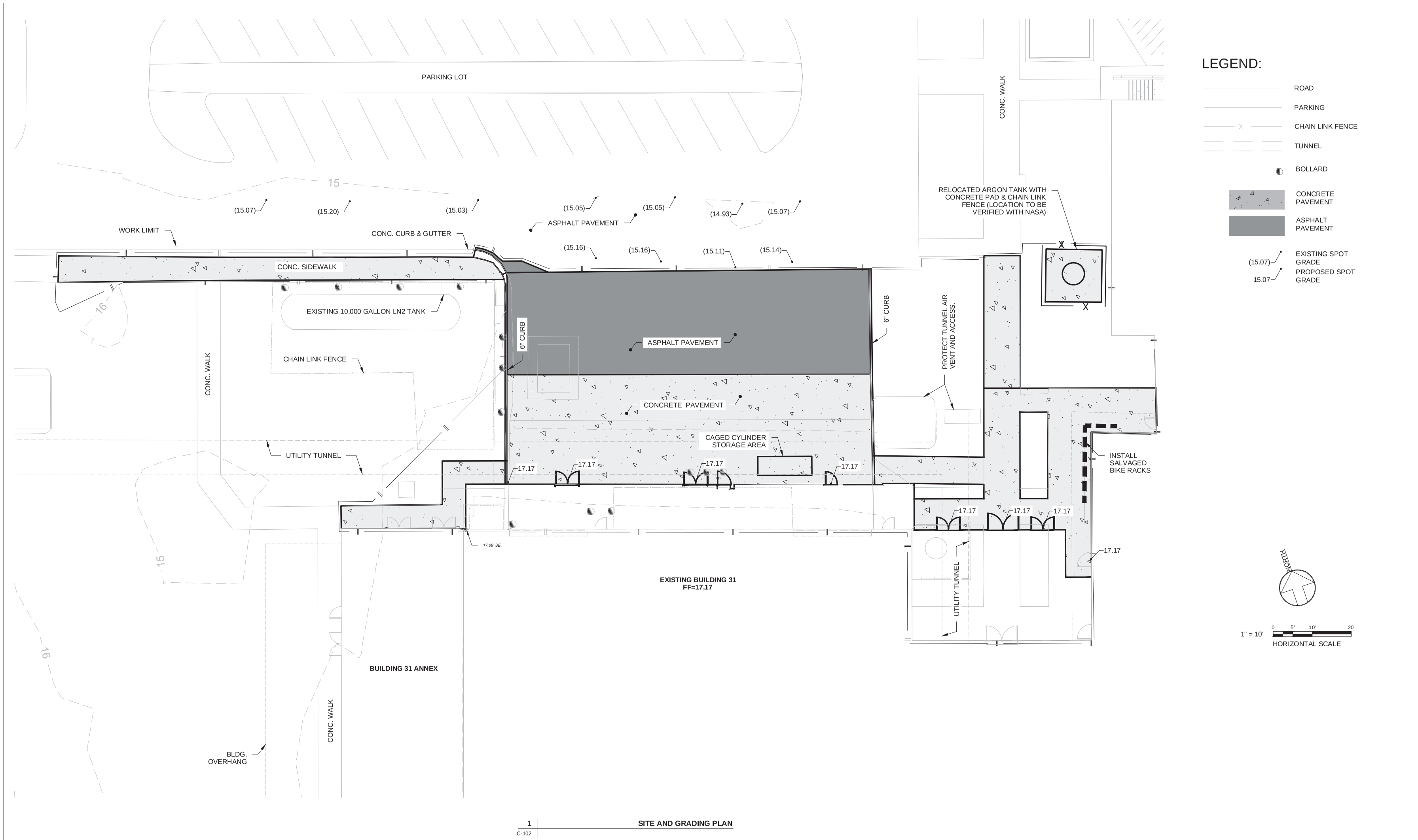


PROJECT NUMBER
60696659

SHEET TITLE
OVERALL SITE PLAN

NASA DRAWING NUMBER
C-31-3

SHEET NUMBER
C-101



1 SITE AND GRADING PLAN
C-102

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	06/06/2025	50% INTERMEDIATE DESIGN

KEY PLAN

N
W
E
ANNEX

PROJECT NUMBER
60696659

SHEET TITLE
SITE AND GRADING PLAN

NASA DRAWING NUMBER
C-31-4

SHEET NUMBER
C-102

Project Management Initials: Designer: Checked: Approved: ARCH E1 30"x42"

Last Plotted:
Filename:

GENERAL SHEET NOTES

1. REFER TO ARCHITECTURAL DRAWINGS FOR EXTENT OF DEMOLITION.
2. REFER TO MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR EQUIPMENT DEMOLITION.
3. REFER TO THE PHASING DRAWINGS FOR THE SEQUENCE OF DEMOLITION AND LOCATION OF TEMPORARY INTERIOR AND EXTERIOR ENCLOSURES.
4. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING WORK.
5. THE DESIGN OF ALL TEMPORARY SUPPORT REQUIRED FOR DEMOLITION AND CONSTRUCTION INCLUDING SHEETING, SHORING, UNDERPINNING, ETC SHALL BE PREPARED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF TEXAS.
6. REFER TO THE GENERAL NOTES ON SHEETS S-001 THRU S-003 FOR FURTHER INFORMATION.

SHEET KEYNOTE

2.S01 DEMOLISH EXISTING CONCRETE FLOOR SLAB, EQUIPMENT PADS, CURBS, PITS. DEMOLISH EXISTING FOUNDATIONS AS REQUIRED TO INSTALL NEW PILE CAPS, GRADE BEAMS AND NEW SLAB-ON-GRADE.

2.S02 DEMOLISH EXISTING SLAB-ON-GRADE AND EXTERIOR GRADE BEAMS.

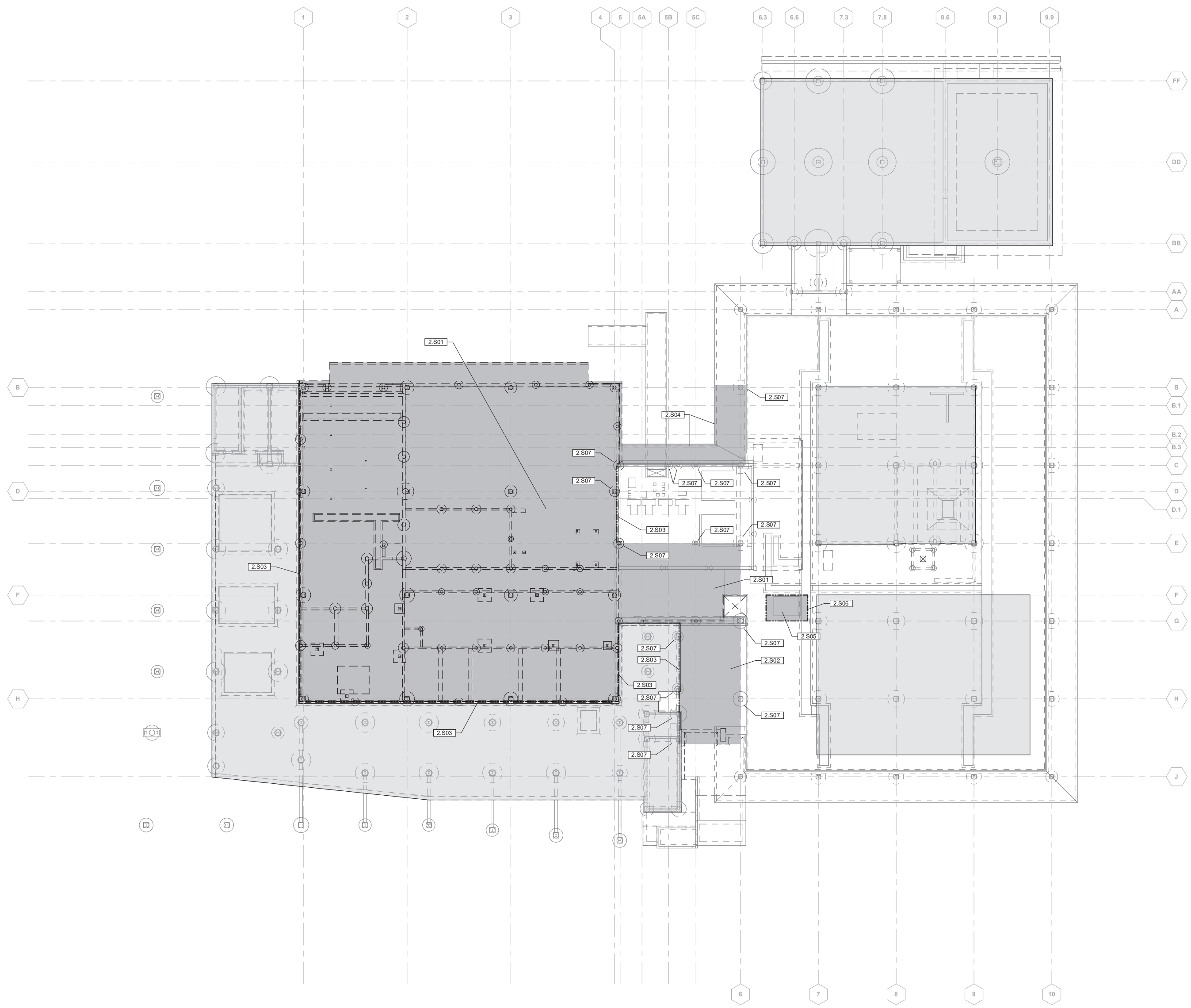
2.S03 PROVIDE CONTINUOUS SUPPORT OF EXISTING STRUCTURE TO REMAIN INCLUDING SHEETING, SHORING, UNDERPINNING, ETC, AS REQUIRED TO INSTALL NEW FOUNDATIONS.

2.S04 DEMOLISH EXISTING SLAB AND PERIMETER FOUNDATION AS REQUIRED TO INSTALL NEW ADDITION.

2.S05 DEMOLISH EXISTING SLAB-ON-GRADE AS REQUIRED TO INSTALL NEW ELEVATOR PIT.

2.S06 PROVIDE SUPPORT FOR EXCAVATION AS REQUIRED TO INSTALL NEW ELEVATOR PIT AND ITS FOUNDATIONS.

2.S07 EXISTING FOUNDATION TO REMAIN.



1 SD101 FIRST FLOOR/FOUNDATION DEMOLITION PLAN
Scale: 1/16" = 1'-0"

0 8' 16' 32'
SCALE: 1/16"=1'-0
GRAPHIC SCALES

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PROJECT

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REGISTRATION

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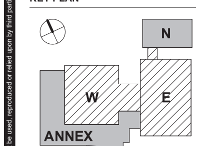
I/R	DATE	DESCRIPTION
	06/06/2025	50% INTERMEDIATE DESIGN

KEY PLAN



PROJECT NUMBER
60696659

SHEET TITLE
FIRST FLOOR/FOUNDATION DEMOLITION PLAN

NASA DRAWING NUMBER
S-31-8

SHEET NUMBER
SD101

Project Management Initials: Designer: JPA Checked: SPC Approved: Approver ARCH E1 30"x42"
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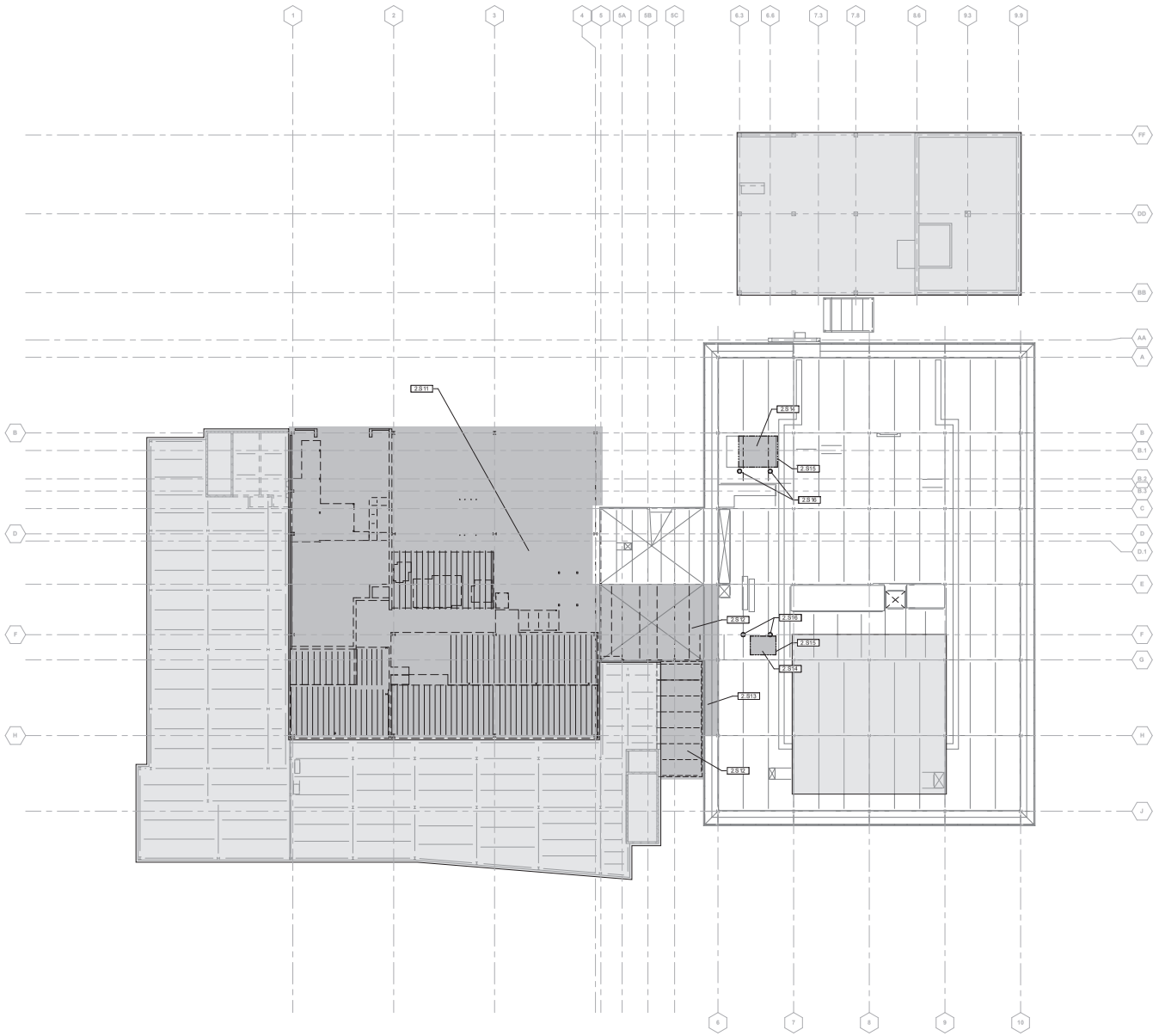


1 SD102 **SECOND FLOOR DEMOLITION PLAN**
Scale: 1/16" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO ARCHITECTURAL DRAWINGS FOR EXTENT OF DEMOLITION.
2. REFER TO MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR EQUIPMENT DEMOLITION.
3. REFER TO THE PHASING DRAWINGS FOR THE SEQUENCE OF DEMOLITION AND LOCATION OF TEMPORARY INTERIOR AND EXTERIOR ENCLOSURES.
4. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING WORK.
5. THE DESIGN OF ALL TEMPORARY SUPPORT REQUIRED FOR DEMOLITION AND CONSTRUCTION INCLUDING SHEETING, SHORING, UNDERPINNING, ETC SHALL BE PREPARED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF TEXAS.
6. REFER TO THE GENERAL NOTES ON SHEETS S-001 THRU S-003 FOR FURTHER INFORMATION.

SHEET KEYNOTE

2.S11 DEMOLISH EXISTING FLOOR SLAB, STEEL FLOOR AND MEZZANINE FRAMING AND COLUMNS IN EXISTING WEST BUILDING.

2.S12 DEMOLISH EXISTING ROOF DECK AND STEEL ROOF FRAMING AT EXISTING LINK AND ANNEX BUILDINGS.

2.S13 DEMOLISH EXISTING STEEL TRUSS AND ROOF DECK AT EXISTING EAST BUILDING.

2.S14 DEMOLISH EXISTING FLOOR SLAB AND STEEL BEAMS AS REQUIRED TO INSTALL NEW STAIR AND ELEVATOR SHAFTS.

2.S15 PROVIDE TEMPORARY SUPPORT AS REQUIRED TO SUPPORT EXISTING FLOOR SLAB UNTIL NEW STEEL FRAMING IS FULLY INSTALLED.

2.S16 PROVIDE TEMPORARY SUPPORT AS REQUIRED TO SUPPORT EXISTING STEEL FRAMING UNTIL NEW STEEL FRAMING IS FULLY INSTALLED.

0 8" 16" 32"
SCALE: 1/16"=1'-0
GRAPHIC SCALES

NOT FOR CONSTRUCTION

AECOM
PROJECT
NASA B31
JOHNSON SPACE CENTER
2102 NASA PARKWAY
HOUSTON, TX

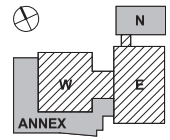
AECOM
3101 Wilson Blvd. Suite 900
Arlington, VA 22201

REGISTRATION

ISSUE/REVISION

NR	DATE	DESCRIPTION
	06/06/2025	50% INTERMEDIATE DESIGN

KEY PLAN



PROJECT NUMBER
60696859

SHEET TITLE
SECOND FLOOR
DEMOLITION PLAN

NASA DRAWING NUMBER
S-31-9

SHEET NUMBER
SD102

07_07.10_STRUCTURAL_SD102

Project Management Initials: Designer: JPA Checked: SRC Approved: ApprovedARCH E1 30"x42"

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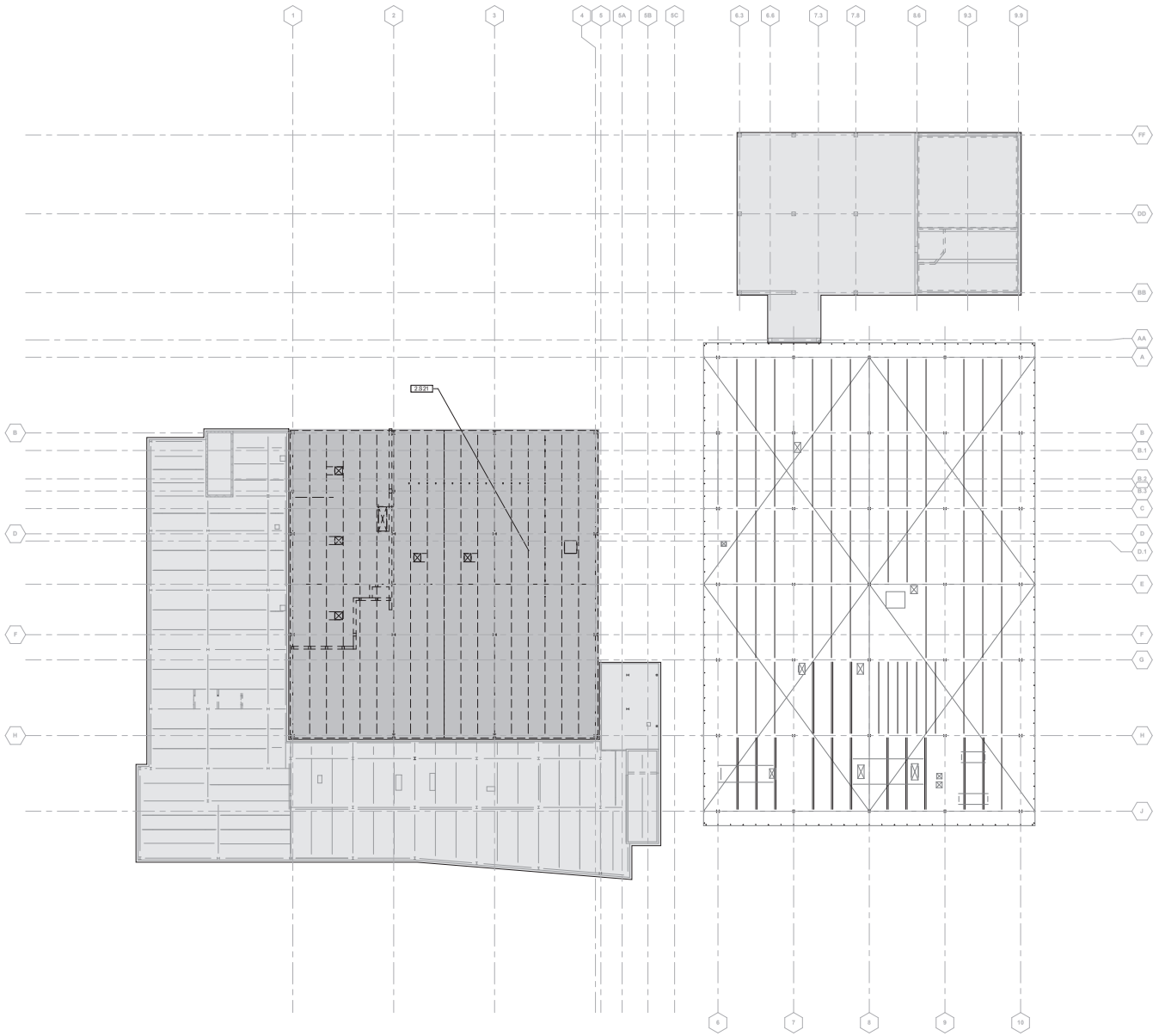

1 SD103 THIRD FLOOR DEMOLITION PLAN
Scale: 1/16" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO ARCHITECTURAL DRAWINGS FOR EXTENT OF DEMOLITION.
2. REFER TO MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR EQUIPMENT DEMOLITION.
3. REFER TO THE PHASING DRAWINGS FOR THE SEQUENCE OF DEMOLITION AND LOCATION OF TEMPORARY INTERIOR AND EXTERIOR ENCLOSURES.
4. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING WORK.
5. THE DESIGN OF ALL TEMPORARY SUPPORT REQUIRED FOR DEMOLITION AND CONSTRUCTION INCLUDING SHEETING, SHORING, UNDERPINNING, ETC SHALL BE PREPARED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF TEXAS.
6. REFER TO THE GENERAL NOTES ON SHEETS S-001 THRU S-003 FOR FURTHER INFORMATION.

SHEET KEYNOTE

2.S21 DEMOLISH EXISTING ROOF DECK AND STEEL ROOF FRAMING AT EXISTING WEST BUILDING.

0 8' 16' 32'
SCALE: 1/16"=1'-0
GRAPHIC SCALES

NOT FOR CONSTRUCTION

AECOM

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NASA B31
JOHNSON SPACE CENTER
2102 NASA PARKWAY
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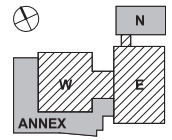
3101 Wilson Blvd. Suite 900
Arlington, VA 22201

REGISTRATION

ISSUE/REVISION

NR	DATE	DESCRIPTION
	06/06/2025	50% INTERMEDIATE DESIGN

KEY PLAN



PROJECT NUMBER
60696859

SHEET TITLE
THIRD FLOOR DEMOLITION PLAN

NASA DRAWING NUMBER
S-31-10

SHEET NUMBER
SD103

07_ 07.10_ STRUCTURAL_ SD103

Project Management Initials: Designer: JPA Checked: SPC Approved: ApprovedARCH E1 30"x42"

Last Plotted: 6/5/2025 11:14:27 AM
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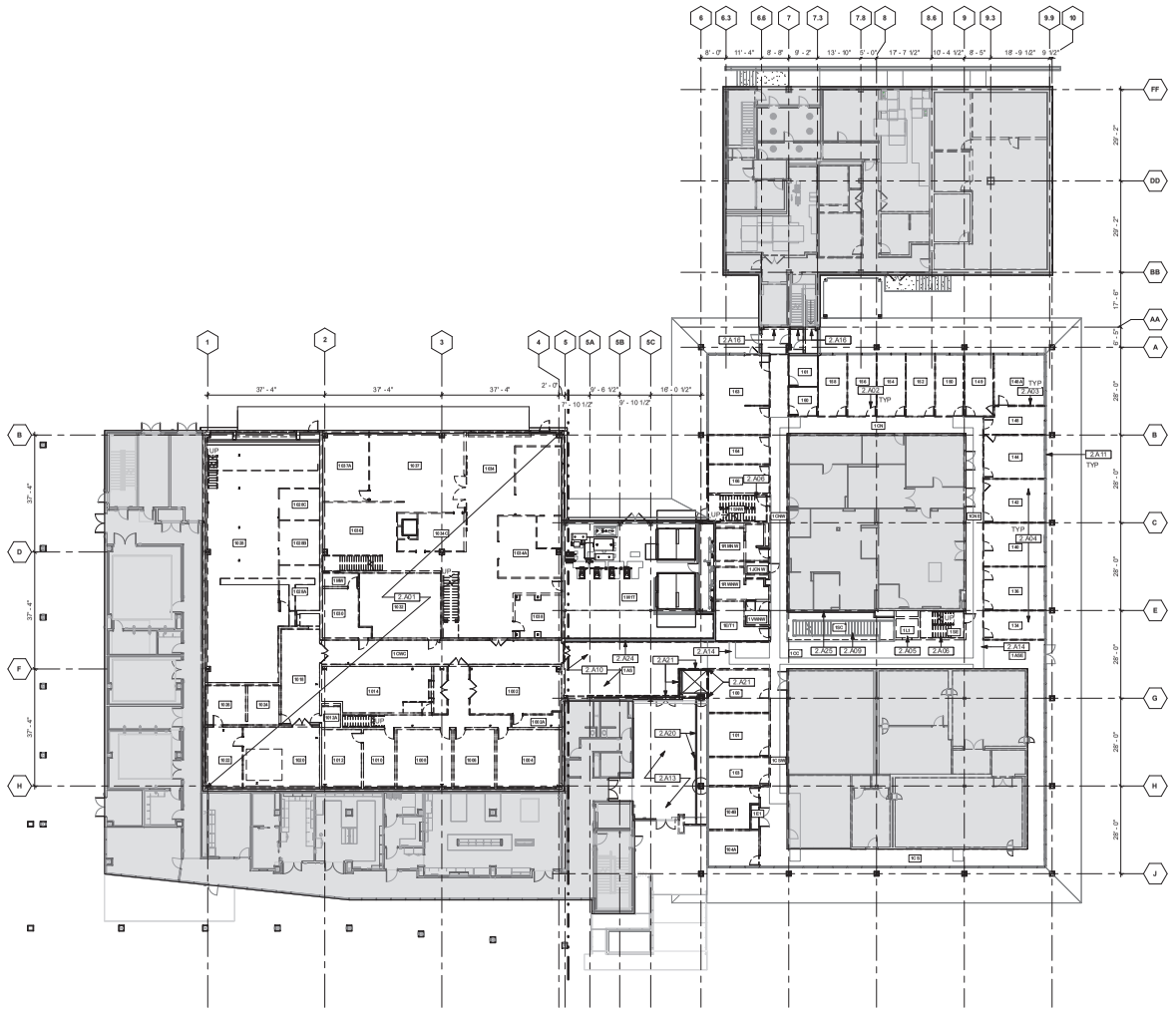

1A AD101 FIRST FLOOR DEMOLITION PLAN - OVERALL
Scale: 1/16" = 1'-0"

GENERAL SHEET NOTES

A. REFER TO SHEET G-003 FOR ABBREVIATIONS, INDICATION OF MATERIALS, SYMBOLS, AND GENERAL NOTES.
B. PROTECT EXISTING FINISHES WHEN DEMOLITION OCCURS WITHIN EXISTING AREAS TO REMAIN.
C. REQUIRED DEMOLITION IS NOT LIMITED TO THAT WHICH IS GRAPHICALLY SHOWN IN THESE CONTRACT DOCUMENTS. ALL WORK REQUIRED TO ACCOMPLISH THE DESIGN INTENT OF THE CONTRACT DOCUMENTS SHALL BE INCLUDED IN THE SCOPE OF WORK, INCLUDING DEMOLITION WORK REQUIRED TO COMPLETE NEW CONSTRUCTION WORK.
D. ALL EXISTING LAB EQUIPMENT, CLEAN ROOM SYSTEMS, AND FURNITURE IN THE WEST BUILDING THAT IS INTENDED TO BE SALVAGED, WILL BE REMOVED BY NASA PRIOR TO THE COMMENCEMENT OF WORK BY THE CONTRACTOR.

DEMOLITION PLAN LEGEND

- EXISTING DOOR AND FRAME TO REMAIN
- EXISTING DOOR AND FRAME TO BE DEMOLISHED
- EXISTING WALL ASSEMBLY TO REMAIN
- EXISTING WALL ASSEMBLY TO BE DEMOLISHED
- AREA IN SCOPE
- AREA NOT IN SCOPE

SHEET KEYNOTE

2.A01 DEMOLISH WEST BUILDING IN ITS ENTIRETY. REFER TO DISCIPLINES' DRAWINGS FOR ALL UTILITIES REQUIRED TO REMAIN TO MAINTAIN CONTINUITY.

2.A02 REMOVE EXISTING DOOR, FRAME AND ALL ASSOCIATED HARDWARE AND ACCESSORIES.

2.A03 REMOVE ALL PARTITIONS, TRIM AND ASSOCIATED COMPONENTS IN THEIR ENTIRETY TO INCLUDE GYPSUM BOARD AND METAL FRAMING SYSTEMS AND CMU. SEE GENERAL NOTES AND COORD WITH OTHER DISCIPLINES.

2.A04 REMOVE ALL CARPET AND WALL BASE IN THEIR ENTIRETY.

2.A05 REMOVE ELEVATOR CAB, DOORS, RAILS, AND ALL ASSOCIATED EQUIPMENT.

2.A06 REMOVE STAIR STRUCTURE, TREADS, RISERS, STRINGERS, HANDRAILS AND GUARDRAILS.

2.A09 EXISTING HISTORIC STAIR TO REMAIN ACTIVE BY NASA EMPLOYEES ONLY DURING CONSTRUCTION. STAIR SHALL NOT BE USED BY CONTRACTORS.

2.A10 CAREFULLY REMOVE AND STORE HISTORIC TILE FLOORING IN LOBBY FOR REINSTALLATION UPON PROJECT COMPLETION.

2.A11 EXISTING EAST BUILDING WINDOW SYSTEM TO REMAIN, PROTECT IN PLACE, UNLESS OTHERWISE NOTED FOR PORTIONS OF GLASS IN THE FIRST FLOOR LOBBY AND SECOND FLOOR WEST WALL.

2.A13 DEMOLISH ENTRANCE STOREFRONT SYSTEMS, LOBBY FLOORS, FINISHES, STRUCTURE, AND ROOF ASSEMBLY.

2.A14 EXISTING SHALLOW UTILITY TRENCH IN CONCRETE SLAB THROUGHOUT CORRIDOR, COVER TO BE DEMOLISHED AND TRENCH TO BE INFILLED AS PART OF NEW WORK SCOPE.

2.A16 REPLACE EXISTING EXPANSION JOINT COVER IN KIND. REPLACE EXISTING ADJACENT FINISHES AS INDICATED ON NEW WORK DRAWINGS.

2.A20 EXISTING BUILDING FIRE ALARM SYSTEM AND SUPPORTING WALL TO REMAIN AND PROTECTED IN PLACE THROUGH DURATION OF CONSTRUCTION

2.A21 DEMOLISH PORTION OF WINDOW SYSTEM NORTH OF COLUMN LINE H.

2.A24 CAREFULLY REMOVE AND STORE HISTORIC WOOD VENEER WALL WITH NASA SIGNAGE FOR REINSTALLATION UPON PROJECT COMPLETION.

2.A25 HISTORIC TWO-STORY WOOD PANELED WALL, PROTECT IN PLACE.

SCALE: 1/16"=1'-0
GRAPHIC SCALES

NOT FOR CONSTRUCTION

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PROJECT
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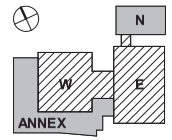
3101 Wilson Blvd. Suite 900
Arlington, VA 22201

REGISTRATION

ISSUE/REVISION

NR	DATE	DESCRIPTION
	06/06/2025	50% INTERMEDIATE DESIGN

KEY PLAN



PROJECT NUMBER
60696659

SHEET TITLE
FIRST FLOOR DEMOLITION PLAN - OVERALL

NASA DRAWING NUMBER
A-31-1

SHEET NUMBER
AD101

Designer: Designer: Checked: Checker: Approved: Approver
Project Management Initials:
Last Plotted: 6/5/2025 2:42:18 PM
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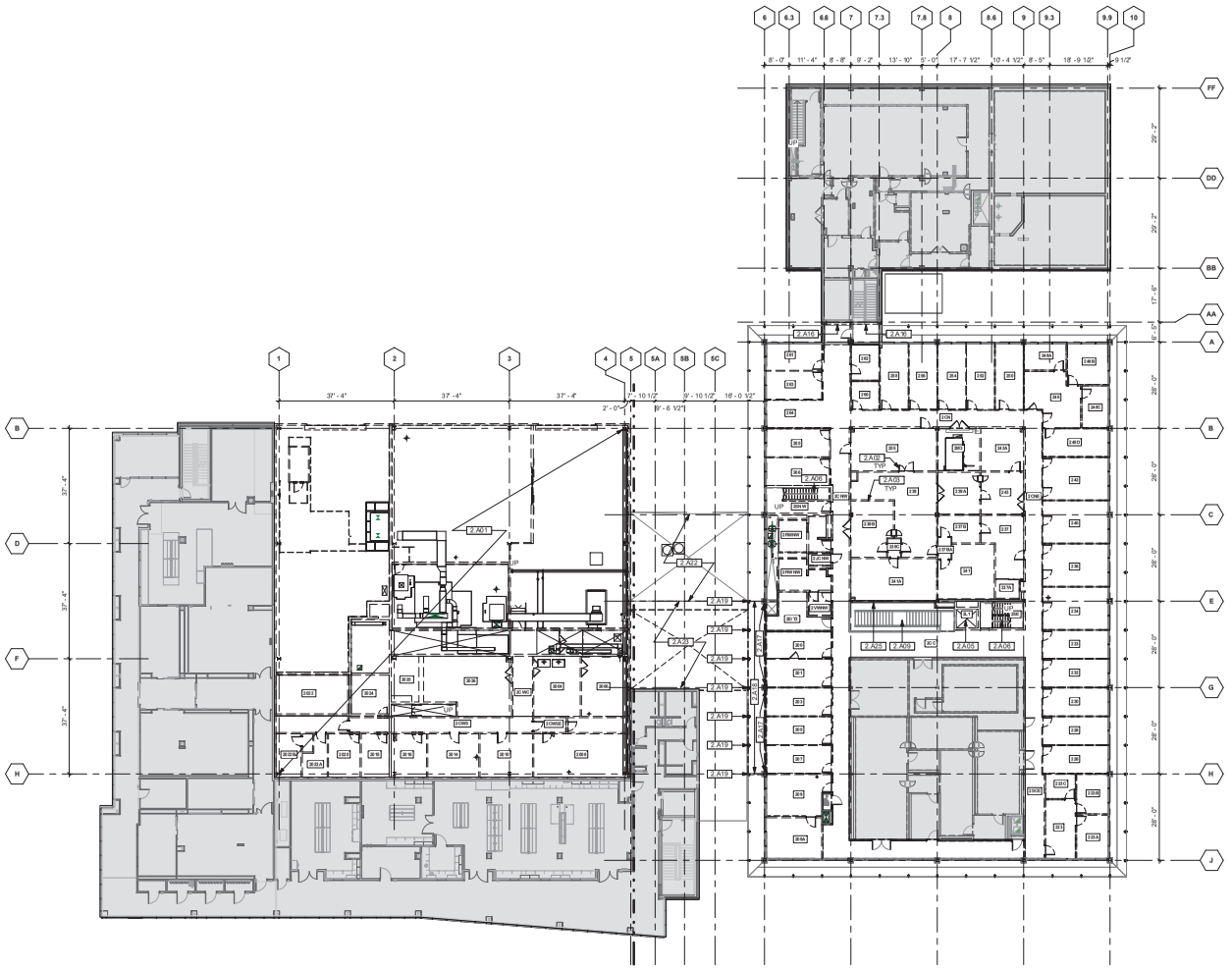

1A | SECOND FLOOR DEMOLITION PLAN - OVERALL
AD102 | Scale: 1/16" = 1'-0"

GENERAL SHEET NOTES

A. REFER TO SHEET G-003 FOR ABBREVIATIONS, INDICATION OF MATERIALS, SYMBOLS, AND GENERAL NOTES.
B. PROTECT EXISTING FINISHES WHEN DEMOLITION OCCURS WITHIN EXISTING AREAS TO REMAIN.
C. REQUIRED DEMOLITION IS NOT LIMITED TO THAT WHICH IS GRAPHICALLY SHOWN IN THESE CONTRACT DOCUMENTS. ALL WORK REQUIRED TO ACCOMPLISH THE DESIGN INTENT OF THE CONTRACT DOCUMENTS SHALL BE INCLUDED IN THE SCOPE OF WORK, INCLUDING DEMOLITION WORK REQUIRED TO COMPLETE NEW CONSTRUCTION WORK.
D. ALL EXISTING LAB EQUIPMENT, CLEAN ROOM SYSTEMS, AND FURNITURE IN THE WEST BUILDING THAT IS INTENDED TO BE SALVAGED, WILL BE REMOVED BY NASA PRIOR TO THE COMMENCEMENT OF WORK BY THE CONTRACTOR.

DEMOLITION PLAN LEGEND

- EXISTING DOOR AND FRAME TO REMAIN
- EXISTING DOOR AND FRAME TO BE DEMOLISHED
- EXISTING WALL ASSEMBLY TO REMAIN
- EXISTING WALL ASSEMBLY TO BE DEMOLISHED
- AREA IN SCOPE
- AREA NOT IN SCOPE

SHEET KEYNOTE

2.A01 DEMOLISH WEST BUILDING IN ITS ENTIRETY. REFER TO DISCIPLINES' DRAWINGS FOR ALL UTILITIES REQUIRED TO REMAIN TO MAINTAIN CONTINUITY.

2.A02 REMOVE EXISTING DOOR, FRAME AND ALL ASSOCIATED HARDWARE AND ACCESSORIES.

2.A03 REMOVE ALL PARTITIONS, TRIM AND ASSOCIATED COMPONENTS IN THEIR ENTIRETY TO INCLUDE GYPSUM BOARD AND METAL FRAMING SYSTEMS AND CMU. SEE GENERAL NOTES AND COORD WITH OTHER DISCIPLINES.

2.A05 REMOVE ELEVATOR CAB, DOORS, RAILS, AND ALL ASSOCIATED EQUIPMENT.

2.A06 REMOVE STAIR STRUCTURE, TREADS, RISERS, STRINGERS, HANDRAILS AND GUARDRAILS.

2.A09 EXISTING HISTORIC STAIR TO REMAIN ACTIVE BY NASA EMPLOYEES ONLY DURING CONSTRUCTION. STAIR SHALL NOT BE USED BY CONTRACTORS.

2.A16 REPLACE EXISTING EXPANSION JOINT COVER IN KIND. REPLACE EXISTING ADJACENT FINISHES AS INDICATED ON NEW WORK DRAWINGS.

2.A17 DEMOLISH WINDOW SYSTEM AND CONCRETE CURB FROM COLUMN TO COLUMN

2.A18 DEMOLISH SECOND FLOOR PORTION OF ROOF AND STRUCTURE FROM COLUMN LINES E TO H, ROOF ABOVE TO REMAIN.

2.A19 DEMOLISH STEEL RODS WITH ARCHITECTURAL PRECAST ENCLOSURE.

2.A22 PORTION OF MECH/ELEC ROOM STRUCTURE IN IT NORTH OF COLUMN LINE E TO REMAIN, REFER TO STRUCTURAL FOR EXTENTS. PROVIDE TEMPORARY WEATHER ENCLOSURE AS REQUIRED TO MAINTAIN OPERATION OF EQUIPMENT DURING CONSTRUCTION. EXISTING ROOF ASSEMBLY TO BE REMOVED AND FULLY REPLACED UPON PROJECT COMPLETION.

2.A23 DEMOLISH LOBBY AND PORTION OF MECH/ELEC ROOM 1M1T ROOF AND STRUCTURE SOUTH OF COLUMN LINE E, REFER TO STRUCTURAL FOR EXTENTS.

2.A25 HISTORIC TWO-STORY WOOD PANELED WALL, PROTECT IN PLACE.

0 8' 16' 32'
SCALE: 1/16"=1'-0
GRAPHIC SCALES

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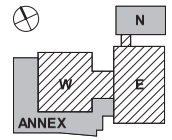
KEY PLAN



PROJECT NUMBER
60696659

SHEET TITLE
SECOND FLOOR DEMOLITION PLAN - OVERALL

NASA DRAWING NUMBER
A-31-2

SHEET NUMBER
AD102

Project Management Initials:
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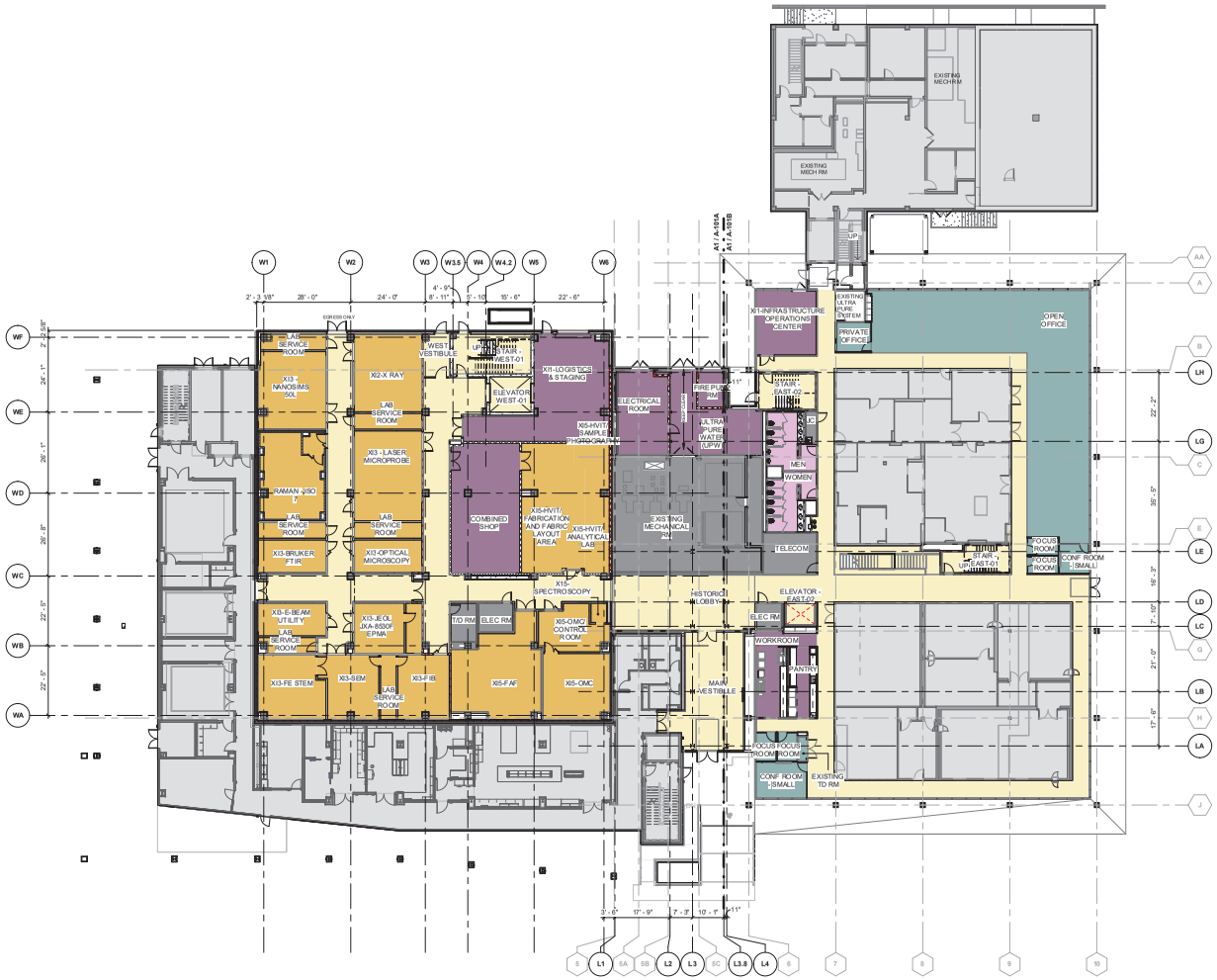

A1 | FIRST FLOOR PLAN - OVERALL
A-101 | Scale: 1/16" = 1'-0"

FLOOR PLAN GENERAL NOTES:

1. REFER TO 1/IF FLOOR PLANS AND PARTITION TYPES A-601 DRAWING FOR PARTITION INFORMATION.

DEPARTMENT LEGEND

- CIRCULATION
- LAB
- STORAGE/EQUIPMENT/UTILITY
- SUPPORT
- WORKPLACE

SCALE: 1/16"=1'-0
GRAPHIC SCALES

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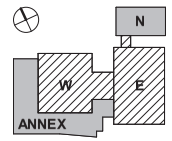
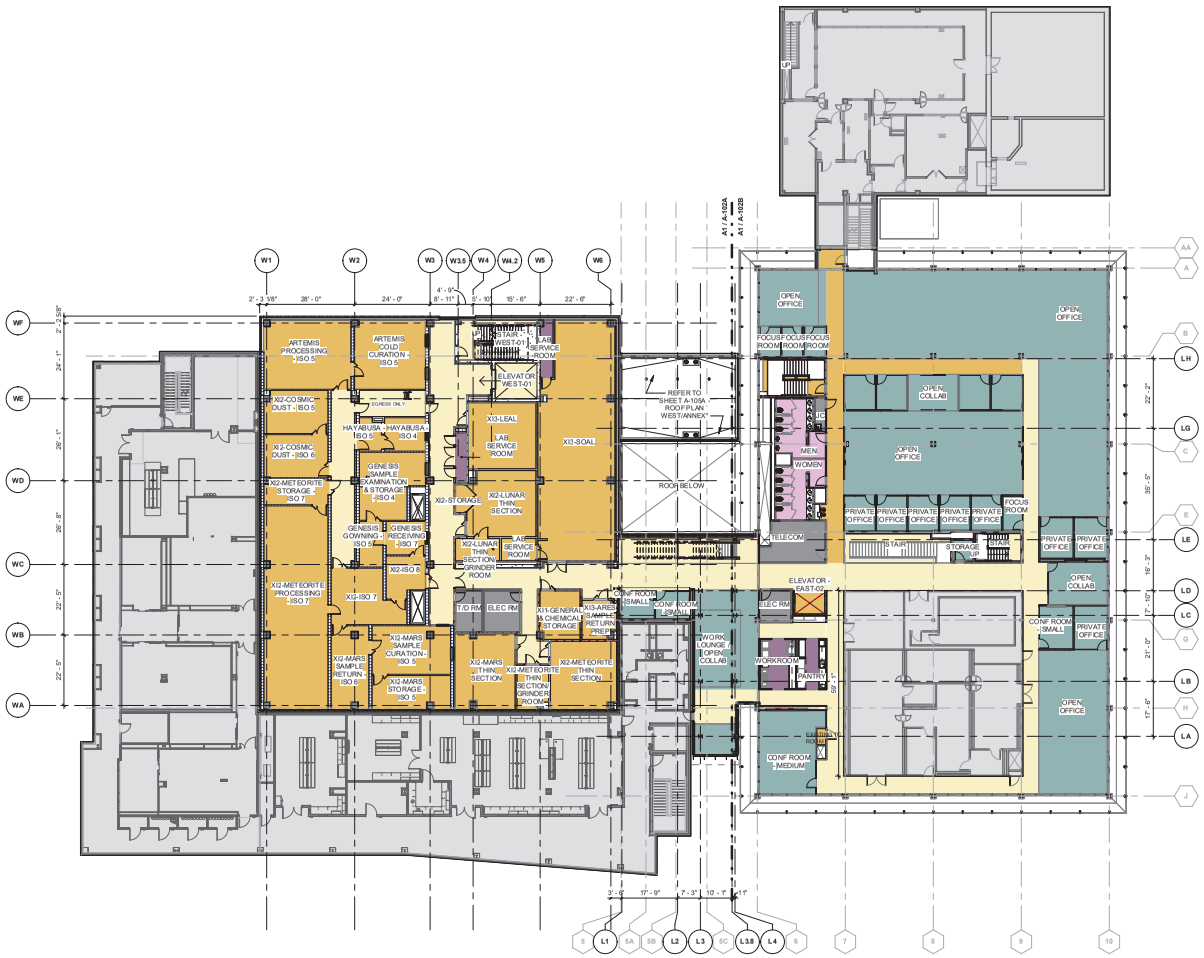


PROJECT NUMBER
60696659

SHEET TITLE
FIRST FLOOR PLAN - OVERALL

NASA DRAWING NUMBER
A-31-5

SHEET NUMBER
A-101



A1 | SECOND FLOOR PLAN - OVERALL
A-102 | Scale: 1/16" = 1'-0"

FLOOR PLAN GENERAL NOTES:

1. REFER TO 1/IF FLOOR PLANS AND PARTITION TYPES A-601 DRAWING FOR PARTITION INFORMATION.

DEPARTMENT LEGEND

- CIRCULATION
- LAB
- STORAGE/EQUIPMENT/UTILITY
- SUPPORT
- WORKPLACE

SCALE: 1/16"=1'-0
GRAPHIC SCALES

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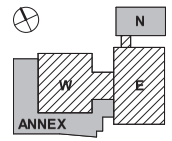

PROJECT NUMBER
60696659

SHEET TITLE
SECOND FLOOR PLAN - OVERALL

NASA DRAWING NUMBER
A-31-8

SHEET NUMBER
A-102

01_18.10_ARCHITECTURE_A-102

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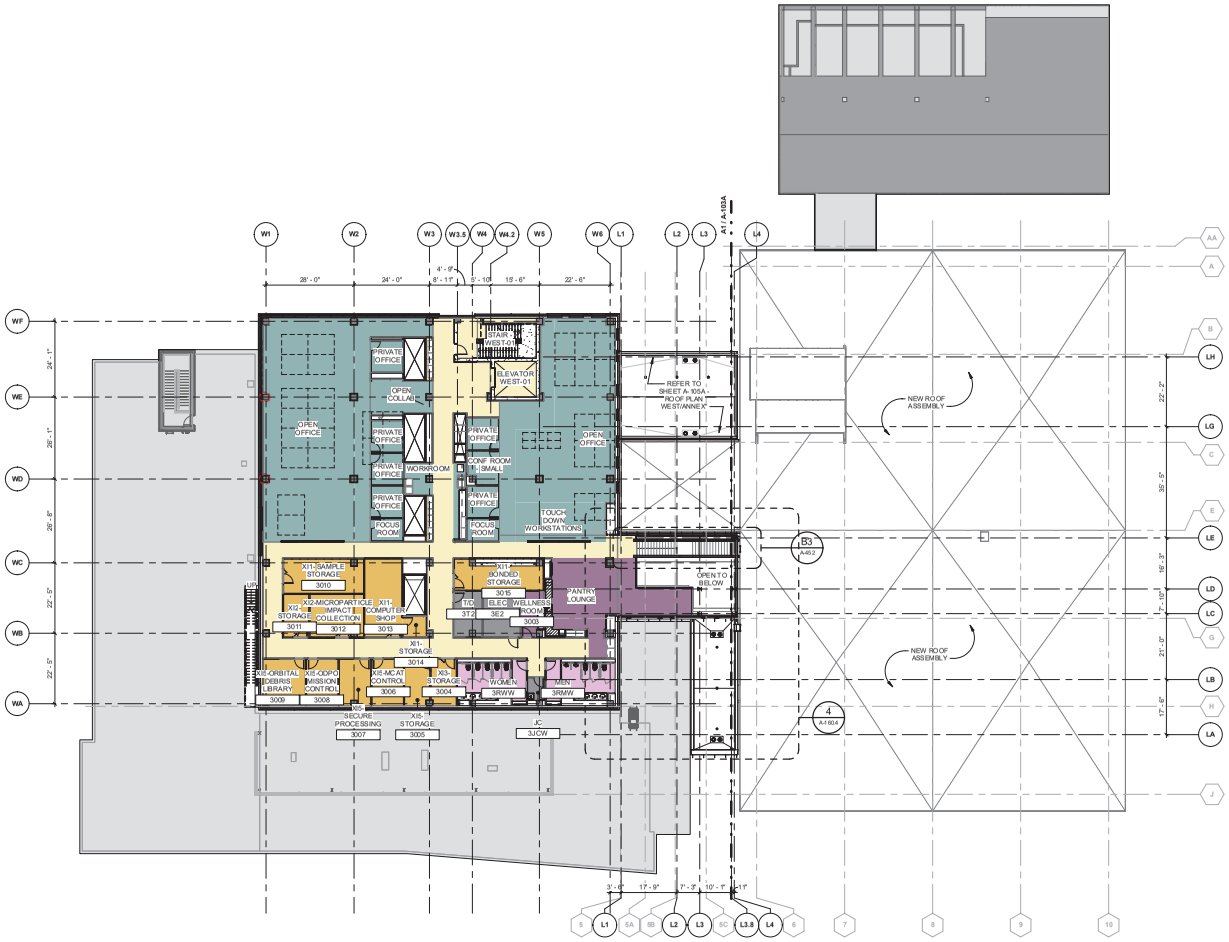

A1 | A-103 — THIRD FLOOR PLAN - OVERALL

Scale: 1/16" = 1'-0"

FLOOR PLAN GENERAL NOTES:

1. REFER TO 1/IF FLOOR PLANS AND PARTITION TYPES A-601 DRAWING FOR PARTITION INFORMATION.

DEPARTMENT LEGEND

- CIRCULATION
- LAB
- STORAGE/EQUIPMENT/UTILITY
- SUPPORT
- WORKPLACE

SCALE: 1/16"=1'-0

GRAPHIC SCALES

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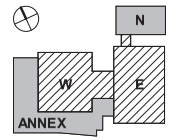
KEY PLAN



PROJECT NUMBER

60696659

SHEET TITLE

THIRD FLOOR PLAN - OVERALL

NASA DRAWING NUMBER

A-31-12

SHEET NUMBER

A-103

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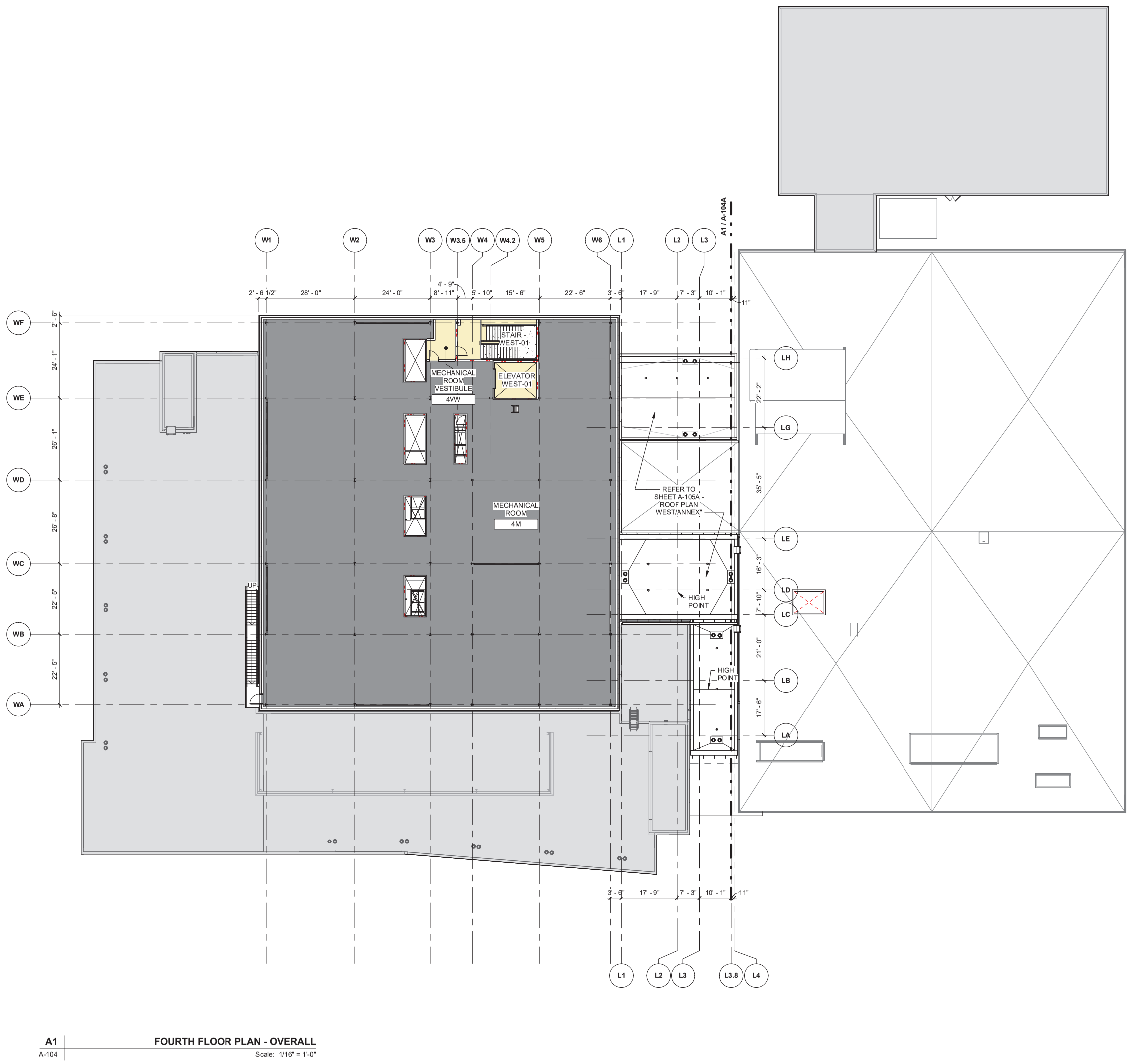

A1
A-104

FOURTH FLOOR PLAN - OVERALL

Scale: 1/16" = 1'-0"

FLOOR PLAN GENERAL NOTES:

1. REFER TO 1/8" FLOOR PLANS AND PARTITION TYPES A-601 DRAWING FOR PARTITION INFORMATION.

DEPARTMENT LEGEND

- CIRCULATION
- LAB
- STORAGE/EQUIPMENT/UTILITY
- SUPPORT
- WORKPLACE

0 8' 16' 32'
SCALE: 1/16"=1-0

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KEY PLAN

N
W
E
ANNEX

PROJECT NUMBER
60696659

SHEET TITLE
FOURTH FLOOR PLAN - OVERALL

NASA DRAWING NUMBER
A-31-14

SHEET NUMBER
A-104

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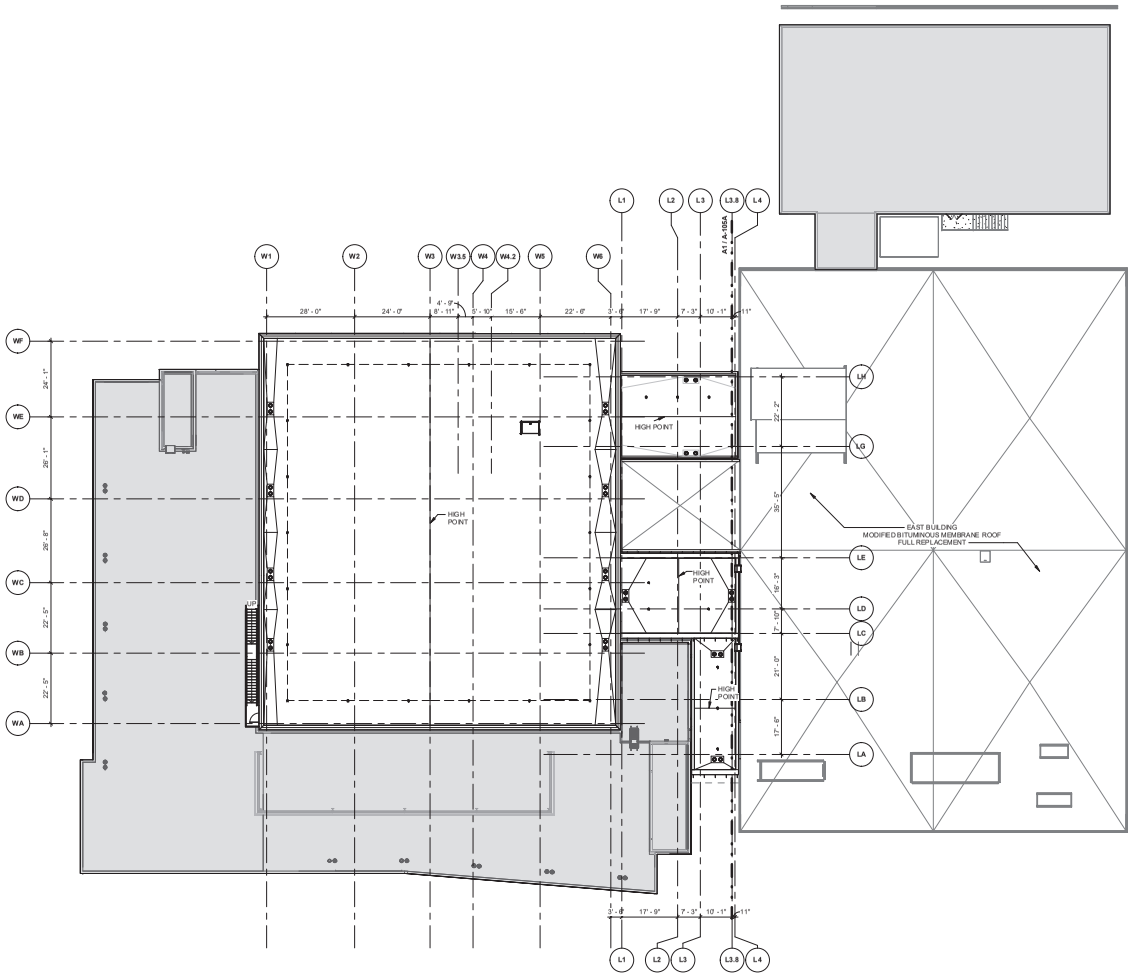

A1 | A-105 — ROOF PLAN - OVERALL
Scale: 1/16" = 1'-0"

SCALE: 1/16"=1'-0
GRAPHIC SCALES

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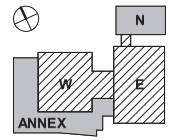
KEY PLAN



PROJECT NUMBER
60696659

SHEET TITLE
ROOF PLAN - OVERALL

NASA DRAWING NUMBER
A-31-16

SHEET NUMBER
A-105

Project Management Initials:
Designer: Designer Checked: Checker Approved: Approver ARCH E1 30"x42"
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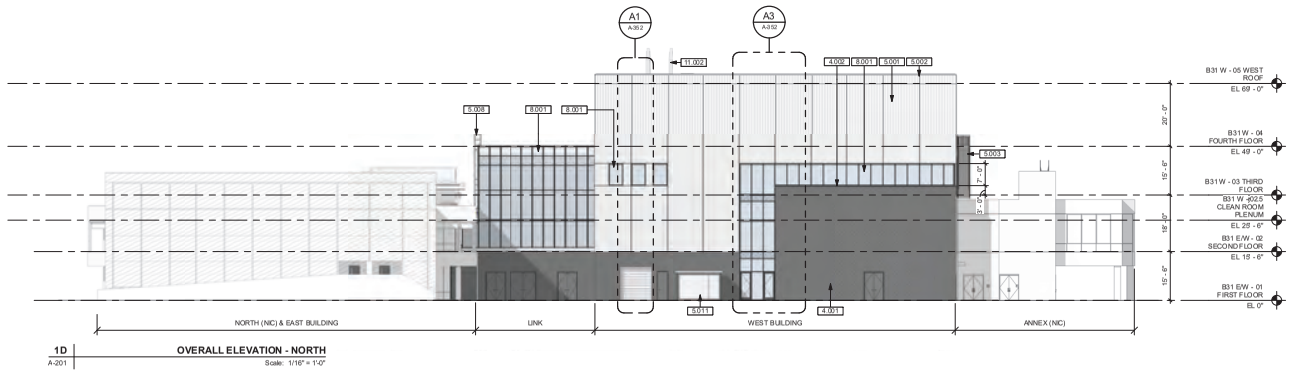
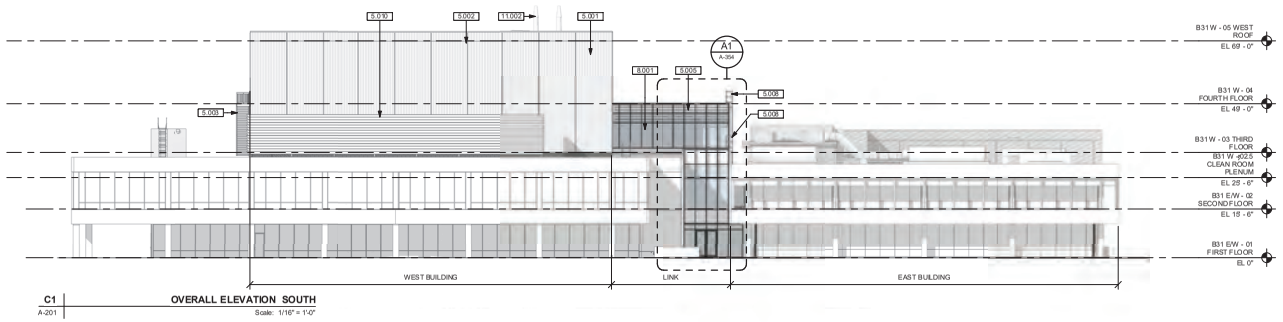
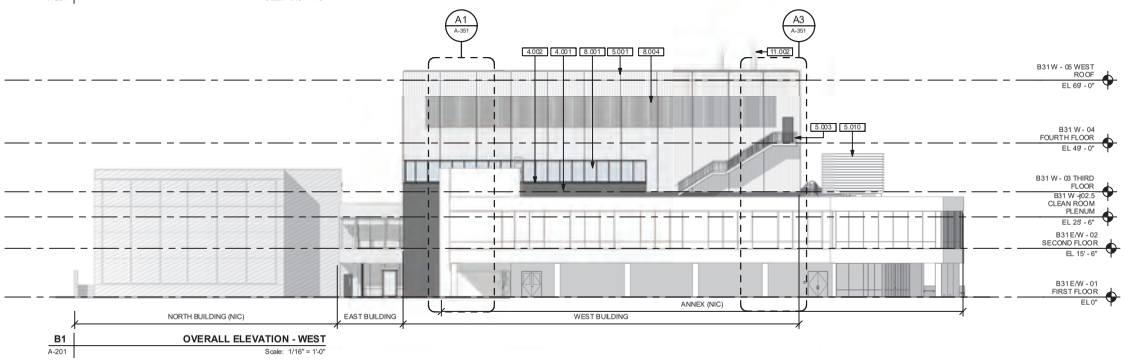


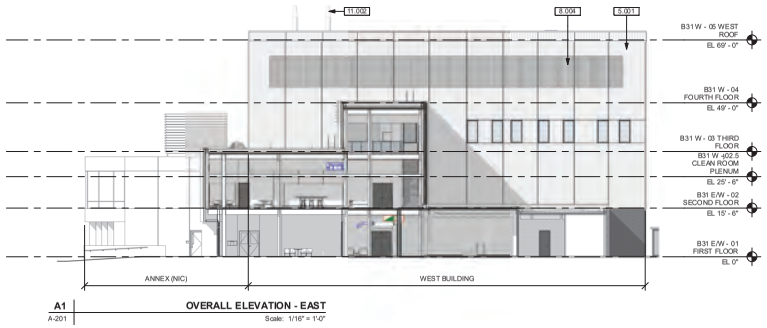
1D A-201 **OVERALL ELEVATION - NORTH**
Scale: 1/16" = 1'-0"



C1 A-201 **OVERALL ELEVATION SOUTH**
Scale: 1/16" = 1'-0"



B1 A-201 **OVERALL ELEVATION - WEST**
Scale: 1/16" = 1'-0"



A1 A-201 **OVERALL ELEVATION - EAST**
Scale: 1/16" = 1'-0"

GENERAL SHEET NOTES:

1. PROVIDE PROTECTION OF EXISTING WORK TO REMAIN.
2. REFER TO SHEET A-501 FOR EXTERIOR ASSEMBLY SYSTEMS AND MATERIAL SCHEDULE

SHEET KEYNOTE

4.001	CMU1, CONCRETE MASONRY UNIT
4.002	CST1, CAST STONE SILL
5.001	MPL1, VERTICAL PROFILE METAL PANEL
5.002	EXTRUDED METAL TRIM
5.003	METAL EGRESS STAIR, SUPPORTED FROM WEST BUILDING STRUCTURE
5.005	SH1, HORIZONTAL SUN SHADES
5.008	ALUMINUM LADDER, MAINTENANCE ACCESS TO LINK ROOF.
5.010	EXISTING ANNEX EQUIPMENT SCREEN.
5.011	CAGED AREA FOR GAS CYLINDER STORAGE WITH ROOF ENCLOSURE.
8.001	CW1, CURTAIN WALL - IMPACT RESISTANT
8.004	LV1, VERTICAL HURRICANE RESISTANT LOUVER
11.002	LAB EXHAUST FANS, REFER TO MECHANICAL.

0 8 16' 32'
SCALE: 1/16"=1'-0
GRAPHIC SCALES

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PROJECT NUMBER
60696659

SHEET TITLE
OVERALL ELEVATIONS

NASA DRAWING NUMBER
A-31-35

SHEET NUMBER
A-201

Designer: Designer: Checked: Checker Approved: Approver ARCH E1 30"x42"
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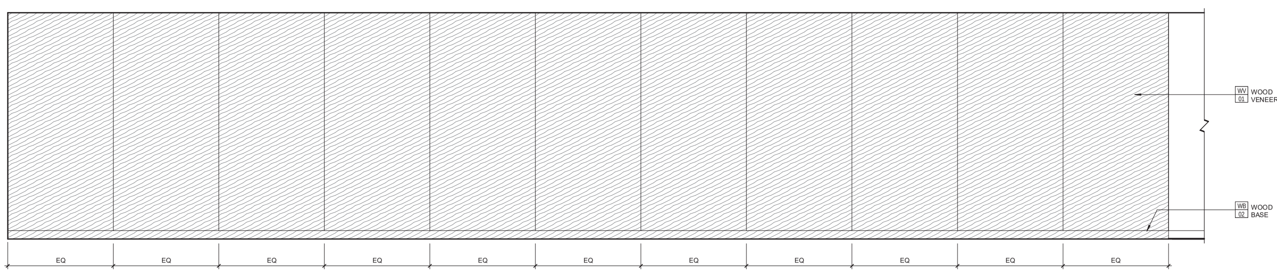
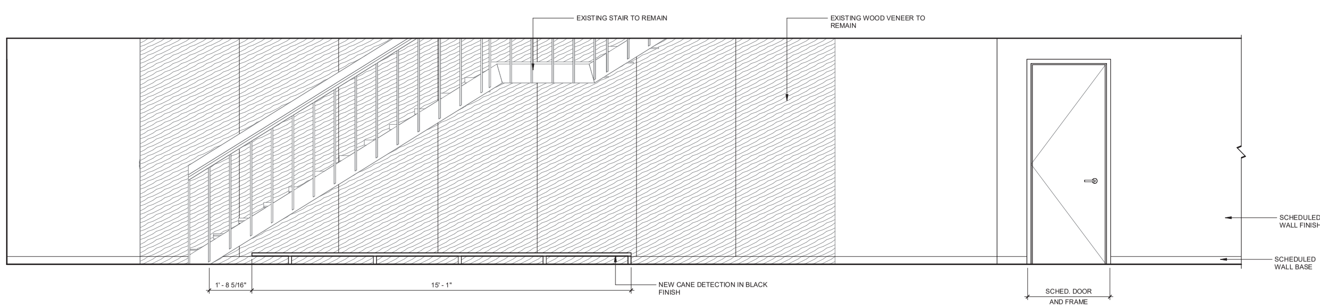
GENERAL NOTES - INTERIOR ELEVATIONS

A. REFER TO A-150 SERIES FOR REFLECTED CEILING PLANS AND GENERAL NOTES.
B. REFER TO A-160 SERIES FOR FINISH PLANS AND GENERAL NOTES.
C. REFER TO FINISH SCHEDULE ON SHEET A-651 FOR SCHEDULED FINISHES.
D. REFER TO EQUIMENT AND WINDOW SHADE SCHEDULES ON SHEET A-653 FOR SCHEDULED EQUIPMENT.
E. REFER TO ALL DISCIPLINES SHEETS FOR COORDINATION OF MEP RELATED EQUIPMENT.



B2 A-703 **ELEVATION - FIRST FLOOR - HISTORIC LOBBY - NORTH**
Scale: 1/2" = 1'-0"



A2 A-703 **ELEVATION - FIRST FLOOR - HISTORIC STAIR - NORTH**
Scale: 1/2" = 1'-0"

0 1' 2' 4'
SCALE: 1/2"=1'-0
GRAPHIC SCALES

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60696659
SHEET TITLE
INTERIOR ELEVATION - FIRST FLOOR
NASA DRAWING NUMBER
A-31-60
SHEET NUMBER
A-703

Project Management Initials:
Designer: Designer Checked: Checker Approved: Approver ARCH E1 30"x42"
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ENCLOSURE 4

APE Viewshed Analysis with Photos and Renderings

APE Viewshed Analysis with Photos and Renderings

APE Photos:

Looking southwest from proposed B31 Renewal toward B7 (visible; mostly obscured by mature trees)

Looking southwest from proposed B31 Renewal toward B8 (visible; mostly obscured by B10 and mature trees)

Looking west from proposed B31 Renewal toward B9 (visible; partially obscured by existing equipment)

Looking southwest from proposed B31 Renewal toward B10 (visible; mostly obscured by mature trees)

Looking southeast from proposed B31 Renewal toward B27 (visible; mostly obscured by mature trees)

Looking south from proposed B31 Renewal toward B29 (visible; mostly obscured by mature trees)

Looking northeast from B7 toward proposed B31 Renewal (visible; mostly obscured by B31X, equipment yard, and mature trees)

Looking northeast from B8 toward proposed B31 Renewal (visible; mostly obscured by B31X and mature trees)

Looking east from B9 toward proposed B31 Renewal (visible; partially obscured by existing equipment and B31X)

Looking northeast from B10 toward proposed B31 Renewal (visible; mostly obscured by B31X and mature trees)

Looking northwest from B27 toward proposed B31 Renewal (visible; mostly obscured by B31E and mature trees)

Looking north from B29 toward proposed B31 Renewal (visible; mostly obscured by mature trees)

Renderings:

South Entrance showing second floor Link and new West wing behind

South Façade showing second and third floor Link with new West wing behind

View from northeast showing new third floor Link with stairway and new West wing (right)

View from northwest showing new B31 West and B31X (right)

ENCLOSURE 5
Additional Photos

Additional Photos

South façade of B31W (left) before B31X construction

South façade of B31X (nearing construction completion) with B31W behind

B31E (front) and B31N (right) with B31W behind (left) before B31X construction

B31E (front) and B31N (right) with B31W and B31X, nearing construction completion, behind (left)

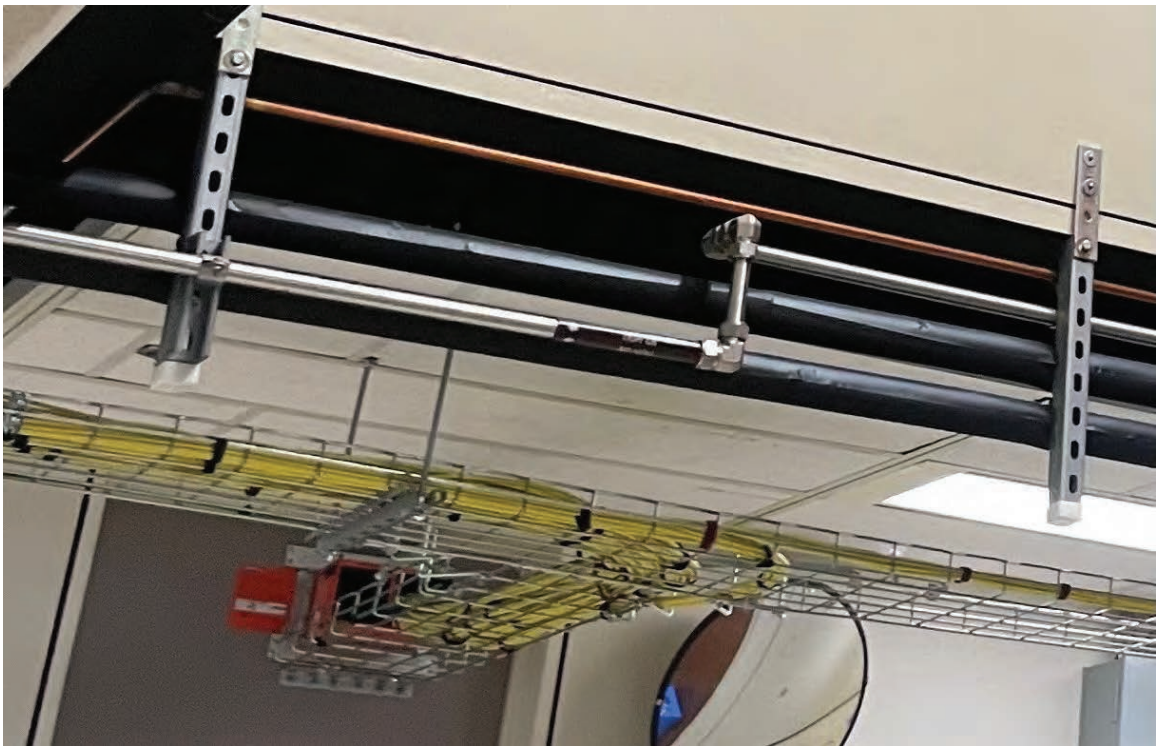
B31 original entrance

B31X new entrance, nearing construction completion

B31 representative interior laboratory space example

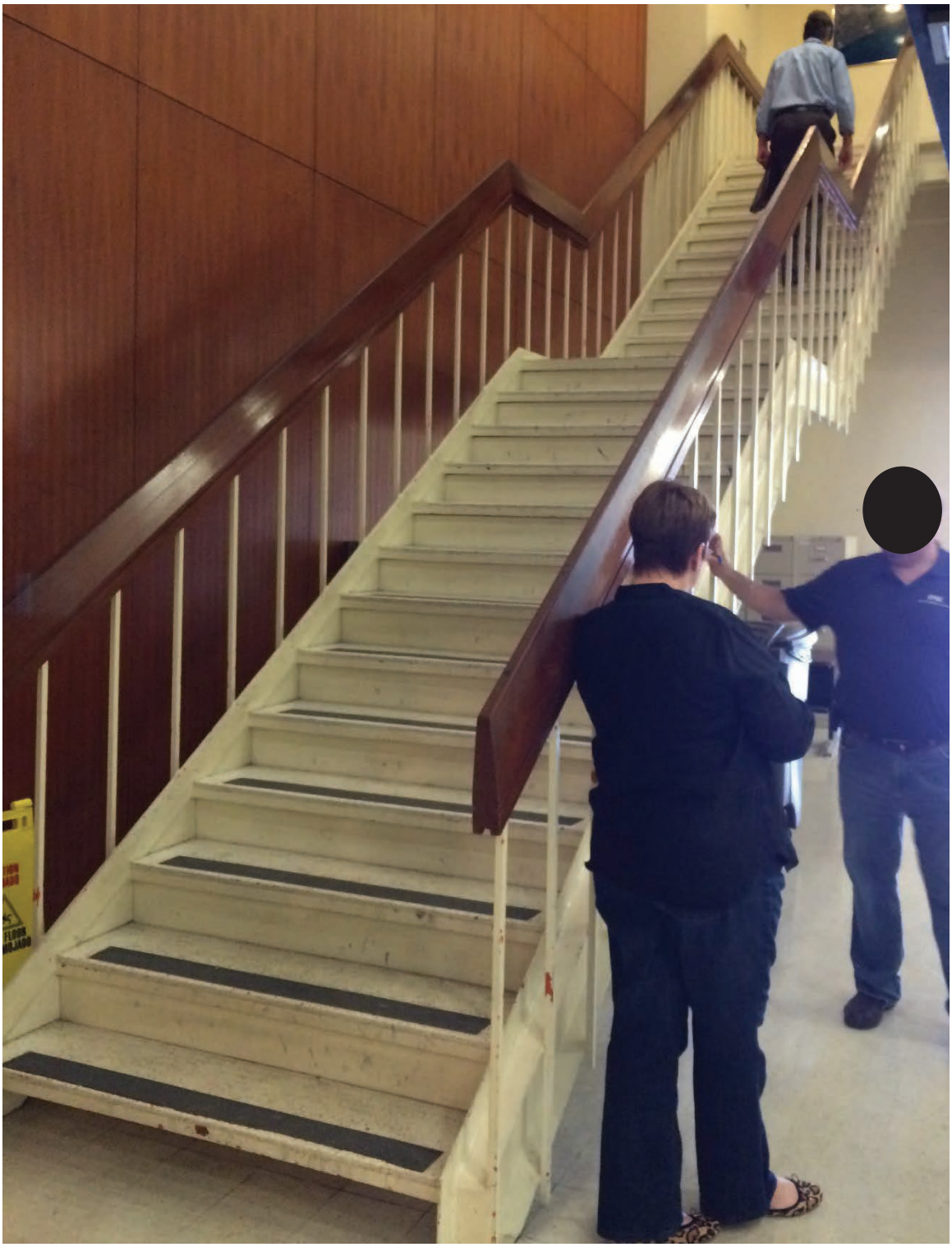
B31 representative interior laboratory space example

B31 representative interior laboratory space example



Example B31 utility trays from previous modifications to be removed

B31 original lobby finishes (brick floor, wood veneer wall) to be preserved



B31 original stairway with wood veneer wall to be preserved